

APPENDIX I

Traffic Study and VMT Memo

APPENDIX I.1

Traffic Study

DRAFT Section 31 Specific Plan Transportation Impact Study

Prepared for:



March 2019

OC18-0555

FEHR  PEERS

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1. EXECUTIVE SUMMARY

Fehr & Peers prepared this transportation impact assessment for the Section 31 Specific Plan (Project) in Rancho Mirage, California. This Transportation Impact Analysis (TIA) was developed based on coordination with the City of Rancho Mirage. The Project proposes to develop approximately 650 acres of the Section 31 site to include 400 hotel rooms, 175,000 square feet of commercial use, 1,100 dwelling units of single family residential, and 832 dwelling units of multi-family residential.

As part of the TIA, and consistent with City of Rancho Mirage and Riverside County Congestion Management Plan (CMP) requirements, the following scenarios were analyzed:

- Existing (2018) Conditions: Existing traffic volumes and lane geometries were used to evaluate Existing (2018) Conditions
- Existing (2018) Plus Project Conditions: Project traffic generated by the buildout of the Specific Plan was added to existing traffic volumes to evaluate Existing (2018) Plus Project Conditions
- Cumulative Year (2040) Conditions: Cumulative (2040) Conditions traffic volumes were developed using the Rancho Mirage General Plan Model as specified later in this document
- Cumulative Year (2040) Plus Project Conditions: Project traffic generated by the Specific Plan was added to the Cumulative (2040) traffic volumes to evaluate Cumulative Year (2040) Plus Project Conditions

FINDINGS

The proposed Project results in impacts to study intersections as identified in **Table 1-1**. Feasible mitigation measures have been recommended for identified intersection and roadway impacts. A comprehensive description of these are provided in the report. No significant impacts have been determined for pedestrian, bicycle, and transit modes.

**TABLE 1-1
IMPACT SUMMARY TABLE**

Intersection	Scenario(s) Where Impact Occurs	Mitigation Measure
4. Bob Hope Drive & Ramon Road	Cumulative Year (2040) Plus Project (PM)	Add eastbound through lane; add overlap right-turn phase to northbound and eastbound direction
6. Monterey Avenue & Varner Road	Existing (2018) Plus Project (AM & PM)	Optimize Signal Timing
18. Bob Hope Drive/Ramon Road	Existing (2018) Plus Project (AM)	Optimize Signal Timing
27. Country Club Drive & Bob Hope Drive	Cumulative Year (2040) Plus Project (AM)	Add southbound right-turn lane; add overlap right-turn phase to westbound direction
29. Portola Avenue & Country Club Drive	Cumulative Year (2040) Plus Project (AM & PM)	Modify eastbound right-turn lane to a shared through-right lane; add northbound left-turn lane
31. Monterey Avenue & Fred Waring Drive	Cumulative Year (2040) Plus Project (PM)	Restripe northbound approach to two left-turn lanes, two through lanes, and one right-turn lane; add overlap right-turn phases to westbound, northbound, and southbound approaches

Source: Fehr & Peers, 2019

2. INTRODUCTION

Fehr & Peers conducted a transportation impact assessment for the Section 31 Specific Plan (Project) in Rancho Mirage, California. This report summarizes the methodology, findings, and conclusions of the analyses, including identification of recommended mitigation measures necessary for project impacts, where feasible. This chapter outlines the geographic scope of the transportation impact analysis, including the study area.

PROJECT DESCRIPTION

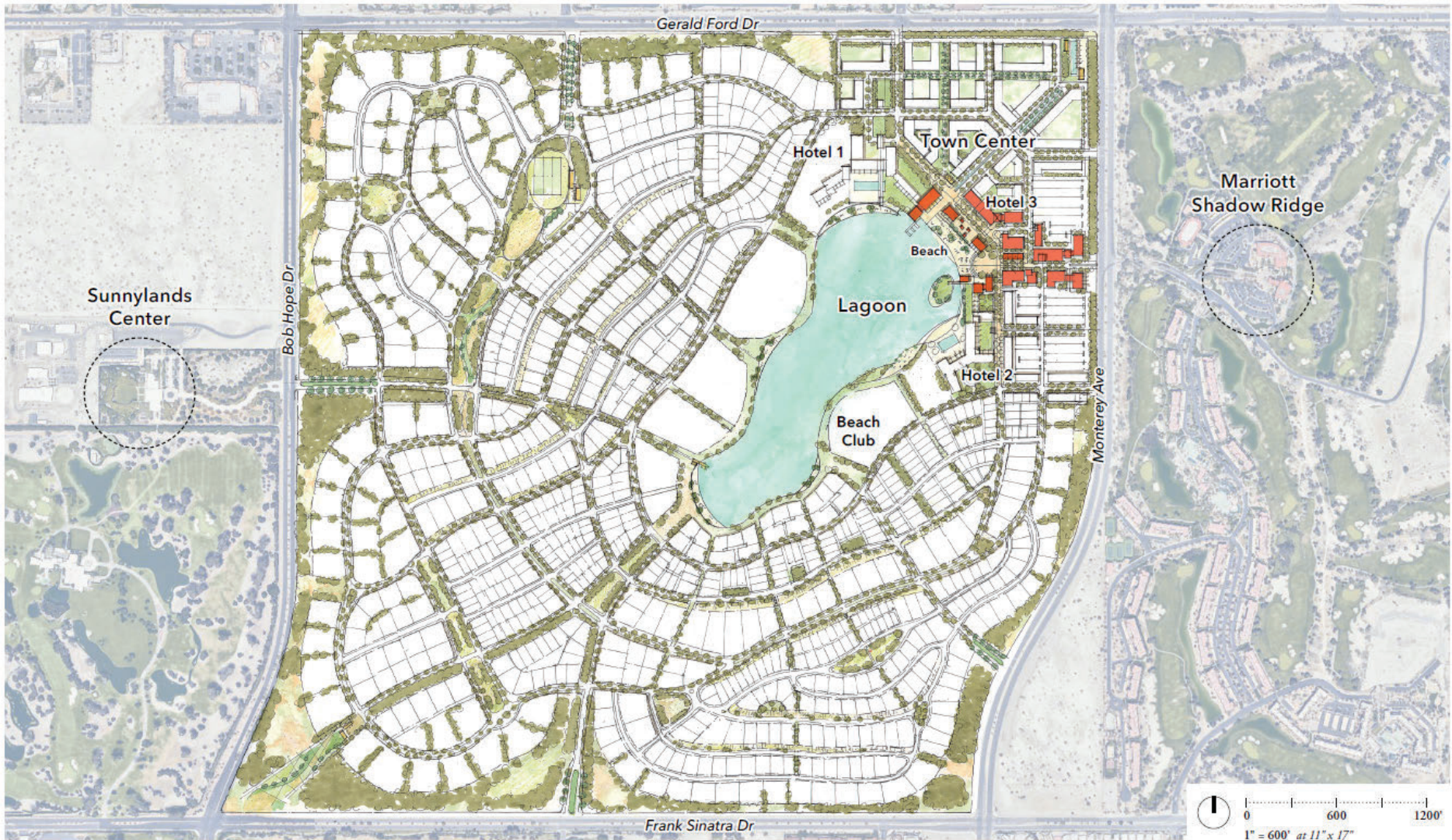
The Section 31 Specific Plan is a proposal to develop approximately 650 acres into a master-planned, residential, resort, mixed-use community and lagoon. The Project site is bordered by Gerald Ford Drive, Monterey Avenue, Frank Sinatra Drive, and Bob Hope Drive in the northeast portion of the City of Rancho Mirage. **Figure 2-1** shows the Project site plan. Access to the Project is site will be provided by four gated residential entry points, one public entry point, and three minor right-in/right-out driveways. There is a gated residential entry point on each of the boundary streets and a public entry point on Monterey Avenue. One of the right-in/right-out driveways is located on Gerald Ford Drive, whereas the other two are located on Monterey Avenue. **Figure 2-2** shows the locations for all driveways and intersection access points and conceptual vehicle circulation plan.

The following is a summary of the land uses included in the proposed Project:

- Hotel: 400 Rooms
- Retail: 175,000 square feet
- Single Family Residential: 1,100 Dwelling Units
- Multi-Family (Mid-Rise) Residential: 832 Dwelling Units

STUDY AREA

The study area and analyzed intersections were determined based on preliminary trip generation, trip distribution, trip assignment estimates developed for the Project, our knowledge of the study area, and input from the City of Rancho Mirage and the City of Palm Desert. The study area is consistent with the Riverside County Transportation Commission (RCTC) CMP study area guidelines and includes, within a five-mile radius, all arterial roadways that the project is anticipated to add 50 or more peak-hour project trips to. The City of Rancho Mirage approved the study area intersections in December 2018.



Section 31 | Illustrative Master Plan

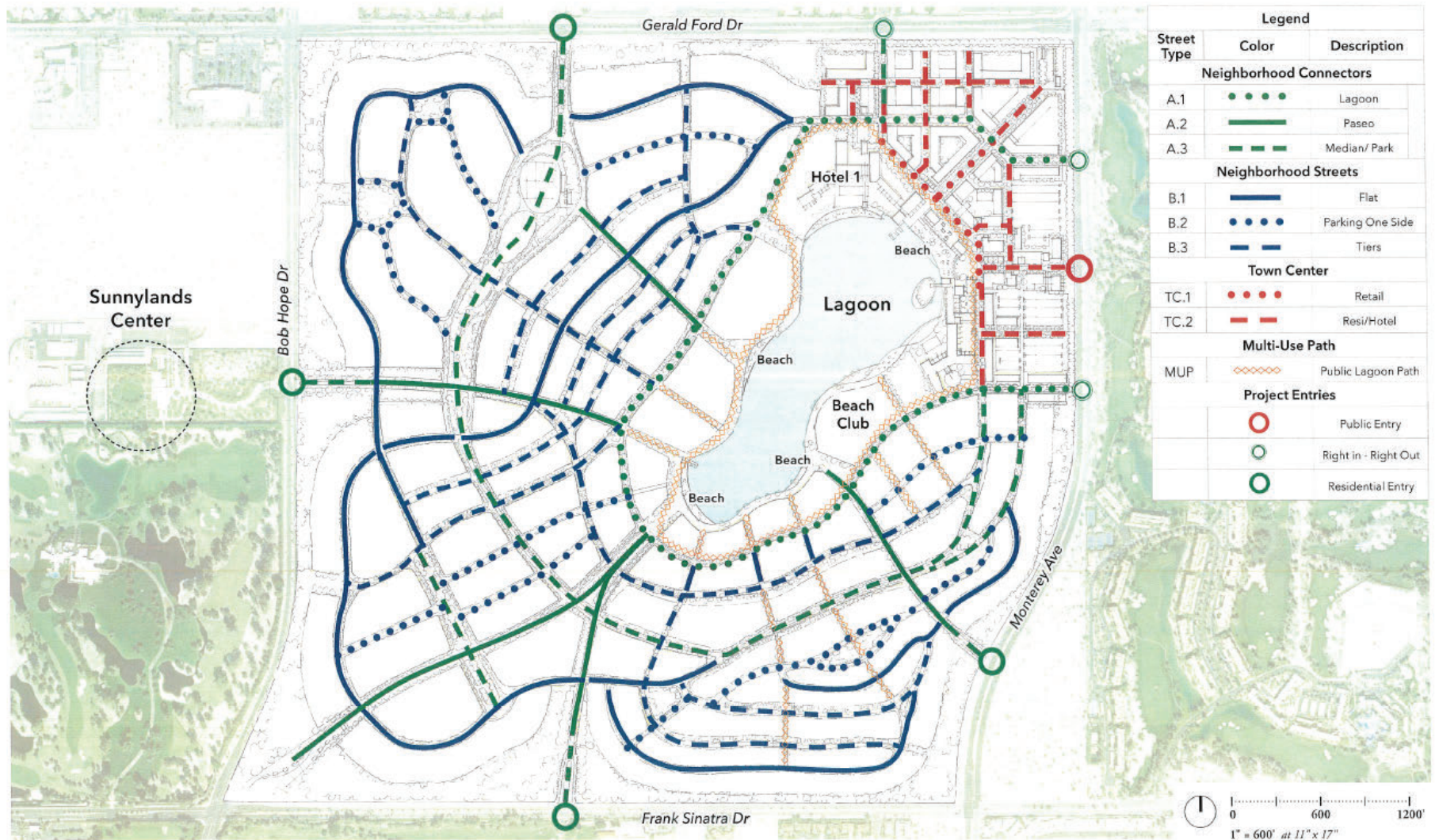
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Figure 2-1
Project Site Plan





Section 31 | Circulation Diagram

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Figure 2-2
Vehicle Circulation Plan

The following 32 study intersections, five project access intersections, and two roadway segments are evaluated in this traffic study:

Intersections:

1. Bob Hope Drive & I-10 Westbound Ramps (*Caltrans*)
2. Bob Hope Drive & I-10 Eastbound Ramps (*Caltrans*)
3. Ramon Road & Rattler Road (*Rancho Mirage*)
4. Bob Hope Drive & Ramon Road (*Riverside County*)
5. Bob Hope Drive & Dinah Shore Drive (*Rancho Mirage*)
6. Monterey Avenue & Varner Road (*Riverside County*)
7. Varner Road & I-10 Westbound Off Ramp (*Caltrans*)
8. Monterey Avenue & I-10 Eastbound Ramps (*Caltrans*)
9. Monterey Avenue & Dinah Shore Drive (*Palm Desert*)
10. I-10/Portola Avenue Westbound Ramps (*Future Caltrans Intersection*)
11. I-10/Portola Avenue Eastbound Ramps (*Future Caltrans Intersection*)
12. Portola Avenue & Dinah Shore (*Palm Desert*)
13. Gerald Ford Drive & Date Palm Drive (*Cathedral City*)
14. Gerald Ford Drive & De Vall Drive (*Rancho Mirage*)
15. Gerald Ford Drive & Bob Hope Drive (*Rancho Mirage*)
16. Gerald Ford Drive & Monterey Avenue (*Palm Desert*)
17. Gerald Ford Drive & Portola Road (*Palm Desert*)
18. Cook Street & I-10 Westbound Ramps (*Caltrans*)
19. Cook Street and I-10 Eastbound Ramps (*Caltrans*)
20. Gerald Ford & Cook Street (*Palm Desert*)
21. Frank Sinatra Drive & Highway 111 (*Rancho Mirage*)
22. Frank Sinatra Drive & Morningside Drive (*Rancho Mirage*)
23. Frank Sinatra Drive & Bob Hope Drive (*Rancho Mirage*)
24. Frank Sinatra Drive & Monterey Avenue (*Palm Desert*)
25. Frank Sinatra Drive & Portola Avenue (*Palm Desert*)
26. Frank Sinatra Drive & Cook Street (*Palm Desert*)
27. Country Club Drive & Bob Hope Drive (*Rancho Mirage*)
28. Country Club Drive & Monterey Avenue (*Palm Desert*)
29. Portola Avenue & Country Club Drive (*Palm Desert*)
30. Monterey Avenue & Hovely Lane West (*Palm Desert*)
31. Monterey Avenue & Fred Waring Drive (*Palm Desert*)
32. Monterey Avenue & Highway 111 (*Palm Desert*)

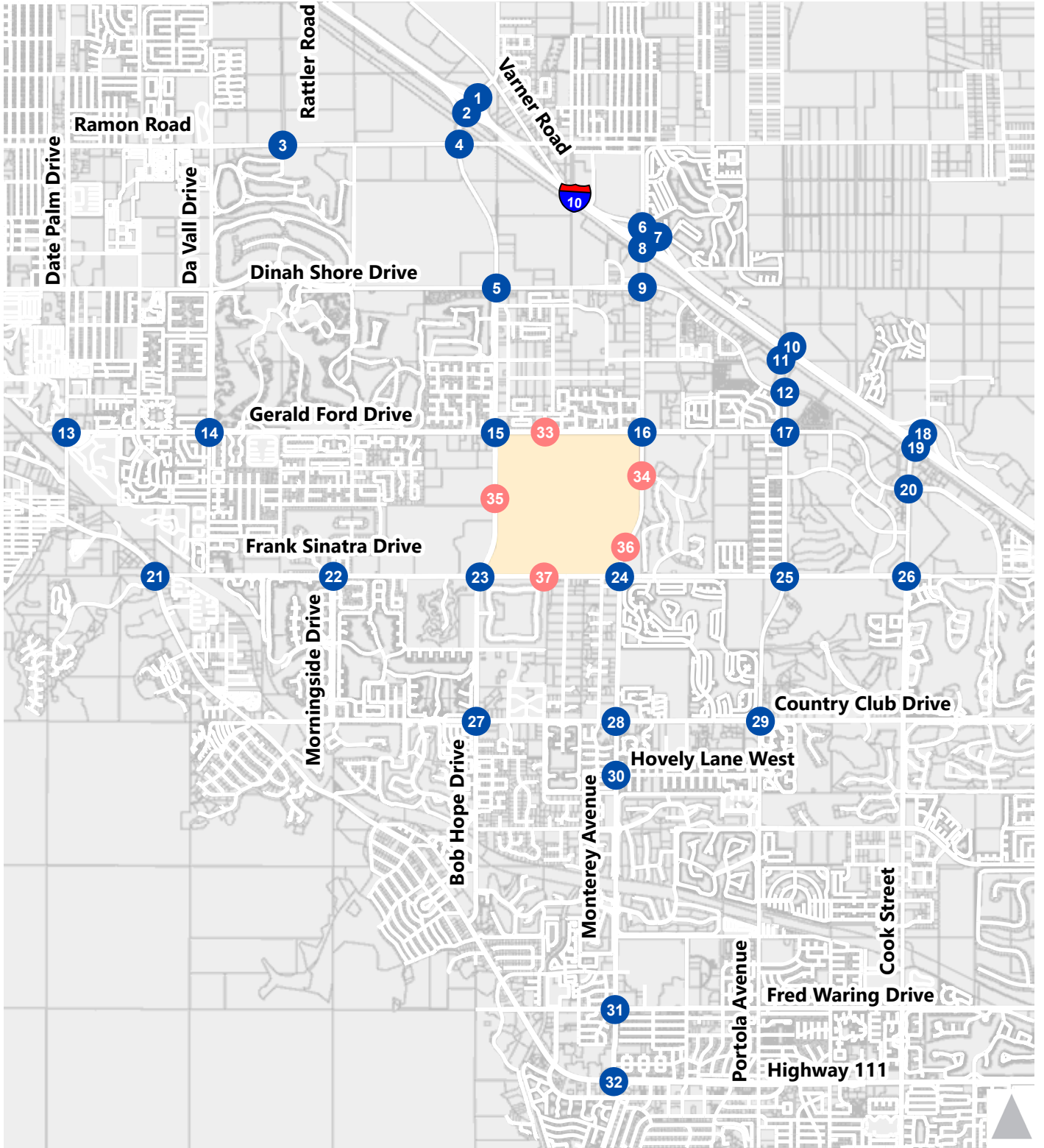
Project Access Intersections:

33. Gerald Ford & Oasis Way/Project Access Intersection (*Rancho Mirage*)
34. Monterey Avenue & Shadow Ridge Rd/Project Access Intersection North (*Rancho Mirage*)
35. Bob Hope Drive & Sunnylands Center/Project Access Intersection (*Rancho Mirage*)
36. Monterey Avenue & Project Access Intersection South (*Rancho Mirage*)
37. Frank Sinatra Drive & Kavendish Way/Project Access Intersection (*Rancho Mirage*)

Roadway Segments:

1. Bob Hope Drive between Dinah Shore Drive and Gerald Ford Drive (*Rancho Mirage*)
2. Bob Hope Drive between Gerald Ford Drive and Frank Sinatra Drive (*Rancho Mirage*)

Figure 2-3 showcases the study area, analyzed intersections, and roadways.



- Study Intersections
- Project Driveways
- Project Site



Figure 2-3
Study Area

ANALYSIS SCENARIOS

To identify potential significant project impacts, Fehr & Peers analyzed the following four scenarios:

- Existing (2018) Conditions: Existing traffic volumes and lane geometries were used to evaluate Existing (2018) Conditions
- Existing (2018) Plus Project Conditions: Project traffic generated by the buildout of the Specific Plan was added to existing traffic volumes to evaluate Existing (2018) Plus Project Conditions
- Cumulative Year (2040) Conditions: Cumulative (2040) Conditions traffic volumes were developed using the Rancho Mirage General Plan Model as specified later in this document
- Cumulative Year (2040) Plus Project Conditions: Project traffic generated by the Specific Plan was added to the Cumulative (2040) traffic volumes to evaluate Cumulative Year (2040) Plus Project Conditions

3. ANALYSIS METHODOLOGY

This chapter discusses the analysis methodology and assumptions used to determine project impacts as approved by the City of Rancho Mirage.

LEVEL OF SERVICE CRITERIA

INTERSECTION ANALYSIS

Intersection operating conditions in the study area were evaluated using the *Highway Capacity Manual (HCM) 6th Edition* Transportation Research Board (TRB) methodology, which is considered the state-of-the-practice methodology for evaluating intersection operations and is consistent with the City of Rancho Mirage, Cathedral City, the City of Palm Desert, Caltrans, and the County of Riverside requirements.

The HCM 6th Edition Methodology estimates a quantitative delay at intersections. After the quantitative delay estimates are complete, the methodology assigns a qualitative letter grade that represents the operations of the intersection. These grades range from level of service (LOS) A (minimal delay) to LOS F (excessive congestion). LOS E represents at-capacity operations. Descriptions of the LOS letter grades for signalized and unsignalized intersections are provided in **Table 3-1**. Please see **Table 3-1** for intersection LOS criteria.

Trafficware Synchro 10 software package was used to facilitate the HCM 6th Edition calculations. The analysis assumes parameters from the RCTC Congestion Management Program (CMP). The delay, calculated in seconds, was compared to the LOS thresholds outlined in the HCM 6th Edition. For signalized intersections, intersection level of service is determined based on average delay per the standard HCM 6th Edition methodology. For side-street stop-controlled intersections, intersection level of service is determined based on worst-case approach delay.

The following factors were applied in the intersection analysis:

- Peak Hour Factor (PHF) was based on traffic counts collected in the field for all Existing Conditions analysis
- PHF for all future analysis was set to 0.95
- Heavy vehicle percentage was set to 2% for all analysis scenarios

**TABLE 3-1
INTERSECTION LOS CRITERIA**

Level of Service	Description	Signalized Delay (Seconds)	Unsignalized Delay (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	< 10.0	< 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0	>10.0 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0	>15.0 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0	>25.0 to 35.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0	>35.0 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0	>50.0

Source: *Highway Capacity Manual* (Transportation Research Board, 2017).

ROADWAY ANALYSIS

Roadway segment operations will be evaluated using the roadway capacities provided in City of Rancho Mirage General Plan Update (June 2017) shown in **Table 3-2**.

**TABLE 3-2
CITY OF RANCHO MIRAGE ROADWAY CAPACITY**

Roadway Classification	Number of Lanes	Two-Way Traffic Volume (ADT)		
		LOS C	LOS D	LOS E
Collector	2	10,400	11,700	13,000
Secondary	4	20,700	23,300	25,900
Major	4	27,300	30,700	34,100
Arterial	2	14,400	16,200	18,000
Arterial	4	28,700	32,300	35,900
Urban Arterial	4	28,700	32,300	35,900
Urban Arterial	6	43,100	48,500	53,900
Urban Arterial	8	57,400	64,600	71,800
Expressway	4	32,700	36,800	40,900
Expressway	6	49,000	55,200	61,300
Expressway	8	65,400	73,500	76,500

Source: City of Rancho Mirage General Plan Update (June 2017)

PERFORMANCE CRITERIA AND THRESHOLDS OF SIGNIFICANCE

INTERSECTION IMPACT CRITERIA

Based on the City of Rancho Mirage, City of Palm Desert, Caltrans, and the County of Riverside guidelines regarding traffic impact analyses, the following performance criteria and thresholds of significance were used to determine impacts at study facilities:

City of Rancho Mirage

The city has adopted LOS "D" as the minimum acceptable standard for intersection analysis. A significant traffic impact occurs if the addition of project-generated trips causes an intersection to change from an acceptable LOS to a deficient LOS, or if project traffic increases the delay at any intersection already operating at an unacceptable LOS.

The city has adopted LOS "D" or maximum volume to capacity ratio of 0.90 as the minimum acceptable standard during peak operating periods for roadway segment analysis.

Cathedral City

The city does not have guidelines regarding traffic impact analysis, but for the purpose of this study and LOS "D" will be the minimum acceptable standard. A significant traffic impact occurs if the addition of project-generated trips causes an intersection to change from an acceptable LOS to a deficient LOS; or if project traffic increases the delay at any intersection already operating at an unacceptable LOS.

City of Palm Desert

The city has adopted LOS "D" as the minimum acceptable standard. A significant traffic impact occurs if the addition of project-generated trips causes an intersection to change from an acceptable LOS to a deficient LOS, or if project traffic increases the delay at any intersection already operating at an unacceptable LOS.

Caltrans

The Caltrans' Guide for the Preparation of Traffic Impact Studies (December 2002) states "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D." However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS." For the purpose of this study, LOS D is assumed to be the minimum acceptable standard for Caltrans facilities. The project causes a significant impact if it causes the LOS to change from an acceptable LOS (LOS "D" or better) to a deficient LOS (LOS "E" or worse) or increase delay/density on a facility operating at an unacceptable level.

County of Riverside

The County of Riverside General Plan Circulation Element defines the LOS "D" as the minimum acceptable operations on its facilities within the Western Coachella Valley Area Plan.

According to the County of Riverside Traffic Impact Analysis Guidelines, the following types of traffic impacts are considered to be "significant" under CEQA:

- When existing traffic conditions exceed the General Plan target LOS.
- When project traffic, when added to existing traffic, will deteriorate the LOS to below the target LOS, and impacts cannot be improved through project conditions of approval.
- When cumulative traffic exceeds the target LOS, and impacts cannot be improved through the TUMF network (or other funding mechanism), project conditions of approval, or other implementation mechanisms.

CMP

Riverside County Transportation Commission (RCTC), as the congestion management agency, has set LOS E as the minimum acceptable threshold for CMP facilities. However, the CMP states that local agency thresholds should be applied as long as they provide improved service levels compared to the CMP requirements. Given that the Caltrans LOS standard and adopted LOS standards from the City of Rancho Mirage exceed the CMP thresholds, the local thresholds will be applied for the impact assessment.

For the purpose of this assessment, LOS D is defined as the minimum acceptable operating level in the County of Riverside since all the study intersections are within the Western Coachella Valley Area Plan.

FUTURE FORECASTING

RANCHO MIRAGE GENERAL PLAN TRANSPORTATION ANALYSIS MODEL

The Rancho Mirage General Plan Transportation Analysis Model (RMGPM) was utilized to develop forecasts in the study area. RMGPM is a derivative the Riverside County Transportation Analysis Model (RIVTAM) with additional detail added to the roadway network and socioeconomic land use data consistent with the Rancho Mirage General Plan assumptions. The RMGPM model was developed as a part of the Rancho Mirage General Plan Update. RMGPM is available in Base Year (2008) and Future Year (2035) versions, each with land use and roadway network assumptions for the given year.

For use in this study, the RMGPM was updated to be consistent with the 2016 Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS) growth projections with updated 2012 base year and 2040 future year land use assumptions. The base year roadway network was also updated to include improvements built between 2008 and 2012, and the future year roadway network was updated to assume all funded 2016 SCAG RTP/SCS projects.

The following pending and approved development projects are not included in City of Rancho Mirage General Plan Model assumptions and were added to the future year socioeconomic dataset for future forecasting:

- Section 24 Specific Plan – The approved specific plan allows development of up to 3,138,600 square feet of commercial, retail, office, restaurant, hotel and entertainment uses, and up to 2,406 residential units. Land uses for Section 24 are specified in the Section 24 Specific Plan. (<http://www.aguacaliente.org/content/Section%2024/>)

- The zoning on a 40-acre parcel of land just south of the Rancho Mirage High School is being changed from High Density Residential (nine maximum dwelling units per acre) to Mixed Use. The M-U zone allows residential densities up to 6.5 dwelling units per acre and will also introduce a commercial component to the property.
- Rancho Mirage Country Club – This is an existing project that proposes a land use change for the development of a hotel and associated residential units. The zone change affects approximately 25 of the 40 acres in this existing country club development.
- City Initiated General Plan Zoning Map Amendment (GPZMA) on two 5-acre parcels at the southwest corner of Monterey and 35th/Dick Kelly Drive. The current GPZMA of the 10-acres is R-M (Medium Density Residential) and the proposed change is to Community Commercial.
- Agua Caliente Resort and Casino Expansion – The Agua Caliente Casino Resort & Spa Expansion project is a proposal to expand the current casino resort and spa, including additional hotel rooms and gaming area in the casino in Phase 1 and future retail commercial uses in Phase 2. Specifically, Phase 1 involves the addition of 310 hotel rooms, 58,000 square feet of gaming space, 41,000 square feet of meeting space, 12,320 square feet of retail space, 12,700 square feet of restaurant space, and 5,200 square feet of health/fitness club space. Phase 2 involves the addition of 120,000 square feet of retail space.

The Base Year and Future Year models produce link and intersection turning movement volumes. National Cooperative Highway Research Program (NCHRP) Report 255 prescribes a variety of methods for developing intersection turning movement volume forecasts from travel demand model outputs. For typical applications, the Base Year and Future Year model outputs are compared to one another and are used in conjunction with existing traffic counts to develop future traffic forecasts. In this study, the absolute difference between the Base Year and Future Year model outputs were utilized to interpolate the 2040 volume forecasts. This method is known as the difference method and is a state of the practice approach consistent with NCHRP Report 255.

PROJECT TRAFFIC VOLUMES

Traffic was estimated for the proposed Project using a three-step process. First, project trips were estimated based on an MXD trip generation estimate, which is based on factors such as gross trip rates identified in the Institute of *Transportation Engineers' Trip Generation* (10th Edition, 2017), as well as the MXD methodology for estimating the amount of trip internalization within a project site. The MXD trip internalization methodology is described in more detail below. Second, the distribution of the estimated trips to the broader network was determined. Finally, the trips were assigned to the study network based on the distribution of those trips. This entire process is described in detail below.

PROJECT TRIP GENERATION

The proposed Project will generate new vehicle trips in the study area. However, given the mixed-use nature of the site, it will not generate traffic in a similar manner as to what is typically evaluated for most traffic studies. As such, the analysis evaluates the combined effects of the Project's mixed uses, regional location, demographics, and development scale that contribute to a reduction (when compared to national homogeneous development projects) in off-site average weekday vehicle "trips" (e.g., one vehicle trip is when a person drives from their home to school, shopping, or their job and their return drive home is another trip). This reduction is due largely to the Project's ability to "internally capture" these trips. That is, most of the reduction in total daily vehicle off-site trips generated by the Project is attributable to those trips beginning and ending on the Project site (e.g., both a person's home and job, shopping, or local school are on a project site).

Traditionally, traffic engineers and transportation planners have estimated internalization of project trips using one of two methods. First, they would estimate it based on professional judgment. Alternatively, professionals relied on the Institute of Transportation Engineers' (ITE) internalization methodology presented in the ITE Trip Generation Handbook. Although this has been applied in thousands of studies in California, the methodology is limited as it was based on only six surveys in Florida. Additionally, the ITE internalization methodology only accounts for the land use types on the mixed-use site. Given the limited input information (land use amount and type) and the limited range of data (six surveys), the accuracy of the internalization estimates has recently been found to generally under-estimate internalization of trips from mixed-use projects.

Seeing the limited data set and simplified methodology applied in the ITE handbook, the United States Environmental Protection Agency (EPA) commissioned a study to develop a more substantial, statistically superior methodology. This methodology, identified as MXD (or mixed-use development trip generation), begins with ITE rates and develops trip internalization estimates based on a series of factors tied to numerous site attributes. The MXD methodology is described in greater detail below.

MXD Trip Internalization Methodology

The internal capture percentage reported is not an "assumed" number, but rather is a number that was derived using a best practices trip generation model designed specifically for mixed-use development (MXD) projects. The MXD model was developed through collaboration between consultants, the EPA, and an academic research team. The model estimates trip generation and internal capture by adjusting trip generation rates to account for the influence of built environment variables. A variety of research studies have demonstrated that these variables influence vehicle trip generation, most of which are summarized on the EPA's website (http://www.epa.gov/smartgrowth/mxd_tripgeneration.html).

Variables used in the MXD model include general site information such as geographic factors, the land use of the surrounding area, and site/surrounding area demographics. Geographic factors such as the site of the developed area and intersection density influence internalization from a spatial standpoint – the denser the area the more likely certain types of trips can be completed within the mixed-use development and without the need to travel externally. Land use factors and demographics such as employment, average household size, and vehicle ownership influence how people in the mixed-used development might decide to travel. Another factor related to trip internalization is its proximity to transit. Accessibility to transit vastly increases transportation choices for those seeking to travel. This feature is also included in the MXD trip generation methodology as applied in this study, as it accounts for the total employment located along the transit corridors and estimates the probability of a mode shift toward transit if development occurs within the mixed-use site.

The MXD model used was developed based on household travel survey data obtained from 239 existing mixed-use developments in six metropolitan regions throughout the U.S., including San Diego and Sacramento. The internal capture percentage calculated for the Project is reflective of the varied land uses that would be developed as part of the Project, which would reduce the need to travel beyond the Project site and is also consistent with the percentage found for other mixed-use developments of similar size and scope.

A set of 16 independent mixed-use sites that were not included in the initial model were tested to help validate the model. Among the validation sites, use of the MXD model produced superior statistical performance when comparing the model results to observed data. Specifically, the MXD model had a significantly lower root mean squared error (RMSE) and higher pseudo-R squared than traditional methods when comparing estimated to observed external vehicle trips. Estimates from the ITE Trip Generation Manual had an RMSE of 40% and pseudo-R squared of 0.58 (i.e., the ITE method only explains about 58 percent of the variability in external vehicle trips). Modified estimates using ITE's traditional trip internalization techniques had an RMSE of 32% and pseudo-R squared of 0.73, whereas modified estimates using the MXD model had an RMSE of 26% and pseudo-R squared of 0.82.

It should also be noted that the MXD model has been developed in cooperation with the EPA and ITE. Given the statistical robustness of the MXD model, it was deemed the most appropriate approach for estimating internalization of project trips.

MXD Model Inputs and Trip Generation Estimates

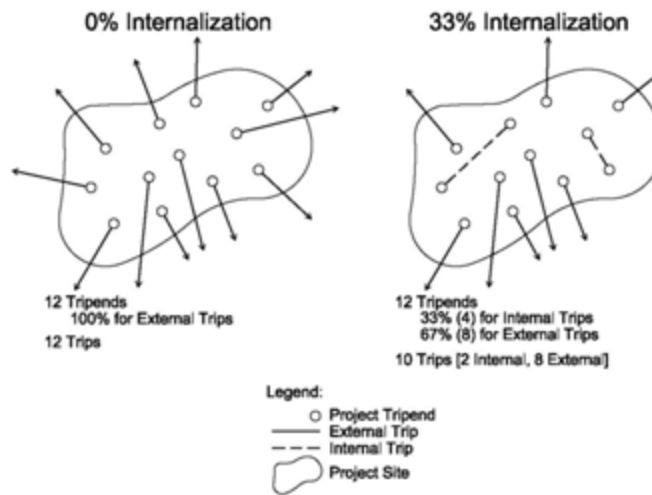
To determine the number of trips that would be internal to the Project site, an MXD trip generation estimate was prepared. The MXD analysis first begins with gross trip rates identified in the Institute of Transportation Engineers’ Trip Generation (10th Edition, 2017). It then incorporates the MXD methodology for “matching” trips to estimate the amount of internalization within the Project site. The MXD methodology inputs are shown below in **Table 3-3**.

**TABLE 3-3
 PROPOSED PROJECT MXD MODEL INPUT VALUES**

Input Variable	Input Value	Source
Developed Area (Acres)	594	Project Site Plan
Intersection Density (Intersections/square mile)	22.6	EPA Smart Location Database
Transit Available within Site	Yes	Site Plan and Transit Maps
Employment (Jobs) within 1 Mile of the Project Site	208	RIVTAM Model 2035
Employment (Jobs) within a 30-minute trip by transit	.000001	
Total SCAG Regional Employment	7,733,805	Estimated from SBTAM Travel Demand Forecasting Model
Average household size near site	1.84	Estimated from United States Census Bureau data
Average vehicles owned per dwelling unit near site	1.7	
Multi-Family (Dwelling Units)	832	Project Site Plan
Single Family (Dwelling Units)	1,100	
Hotel (Occupied Rooms)	400	
Shopping Center (KSF)	175	

Source: Fehr and Peers, 2019

Internal capture represents the percentage of project tripends for trips that would remain internal to the Project site, which differs from the overall percentage of the net number of project trips that remain internal to the Project site. Since each trip has two tripends (i.e., the beginning of the trip and the end of the trip), if a project generates 100 internalized trip ends, this represents 50 trips that are internal to the project site (i.e., 100 tripends/2 tripends per trip = 50 trips). As such, when the number of trips is applied to the tripends component of the project, the total internal capture is roughly twice that which would otherwise be accounted for in the trips component. An example of the relationship between tripends and trips is provided in the following illustration:



The Project trip generation rates and estimates are presented in **Table 3-4 and Table 3-5**, respectively. Due to the proximity of the developments, internal capture credit was taken on the retail component trip generation to account for people walking internally to and from the retail component.

TABLE 3-4 TRIP GENERATION RATES

Land Use	Units	ITE Code	Quantity	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Hotel	Rooms	310	400	8.36	59%	41%	0.47	51%	49%	0.60
Retail	KSF	820	175	37.75	62%	38%	0.94	48%	52%	3.81
Multi-Family (Mid Rise)	DUs	220	832	5.44	26%	74%	0.36	61%	39%	0.44
Single Family	DUs	210	1,100	9.44	25%	75%	0.74	63%	37%	0.99

Source: Institute of Transportation Engineers Trip Generation Manual, 10th Edition, 2017

TABLE 3-5 TRIP GENERATION ESTIMATES

Land Use	Units	ITE Code	Quantity	Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Hotel	Rooms	310	400	4,217	118	85	204	114	118	232
Retail	KSF	820	175	5,694	84	52	135	254	276	530
Multi-Family (Mid Rise)	DUs	230	832	3,901	64	182	246	177	114	291
Single Family	DUs	251	1,100	8,951	167	502	668	545	320	866
Net Raw Project Trips				26,408	528	1,000	1,527	1,372	1,042	2,414
Internal Capture (13.8% Daily, 17.9% AM, 20.5% PM)				-3,644	-95	-179	-273	-281	-214	-495
Net New Project Trips				22,764	433	821	1,254	1,091	828	1,919

Notes:

1. Internal capture represents the percentage of trips between land uses that occur within the site and the estimated shift from auto trips to bike and walking trips.

Source: Institute of Transportation Engineers Trip Generation Manual, 10th Edition, 2017

Trip Distribution

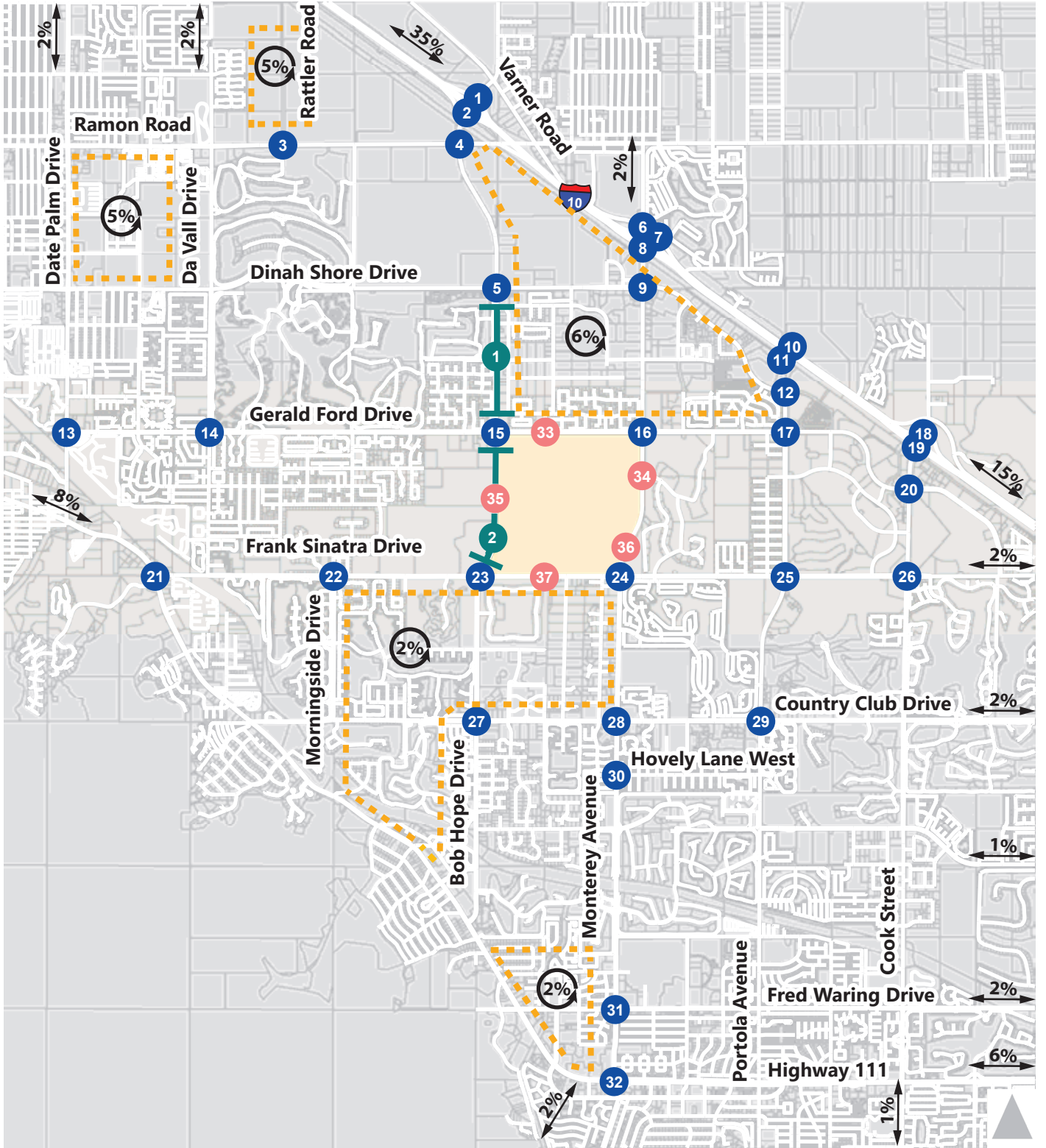
Trip distribution for the Project was determined using the Rancho Mirage General Plan Model (RMGPM) and knowledge of the study area. Fehr & Peers considers this model most appropriate for determining trip distribution as it is the most detailed travel demand forecasting model for the City of Rancho Mirage. The model results were adjusted based on the most updated vehicle circulation plan of Section 31 and the location of entry points to the Project site. The trip distribution also accounted for the following:

- School trips
- Retail customers and hotel guests will use the public entry project access intersection on Monterey Avenue, as well as the right-in/right-out driveways on Gerald Ford Drive and Monterey Avenue
- The layout and number of units in each of the Project's planning areas (residential trips were split between project access intersections based on these factors)

Figure 3-1 shows the trip distribution assumed for the Project.

Trip Assignment

Based on the trip generation and trip distribution estimates developed and described above, the Project's trips were assigned to the study area roadway network. The assignment of "project only" trips for the development is shown on **Figure 3-2** for the Existing Plus Project Scenario and on **Figure 3-3** for the Cumulative Plus Project Scenario. The assignment of project trips varies between the two "plus project" scenarios due to the future Portola Interchange project, which is a proposed interchange on Interstate 10 (I-10) at Portola Avenue and will provide additional access to the project site.








-  Study Roadway Segments
-  Trip Attractions Ultimate Destination
-  Study Intersections
-  Project Driveways
-  Project Site

Figure 3-1
Trip Distribution



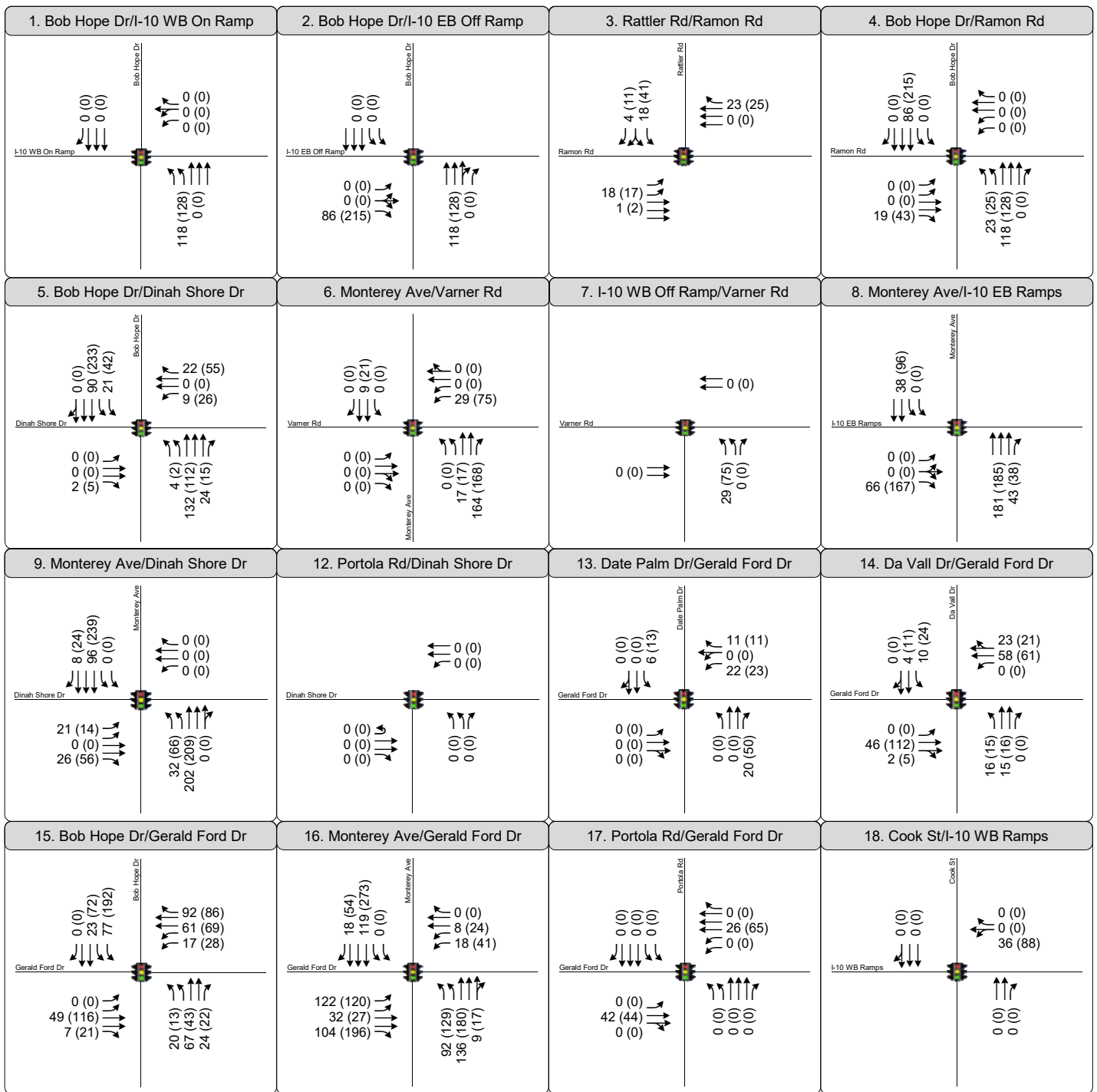


Figure 3-2
Existing Plus Project Scenario Project Only
Peak Hour Traffic Volumes and Lane Configurations



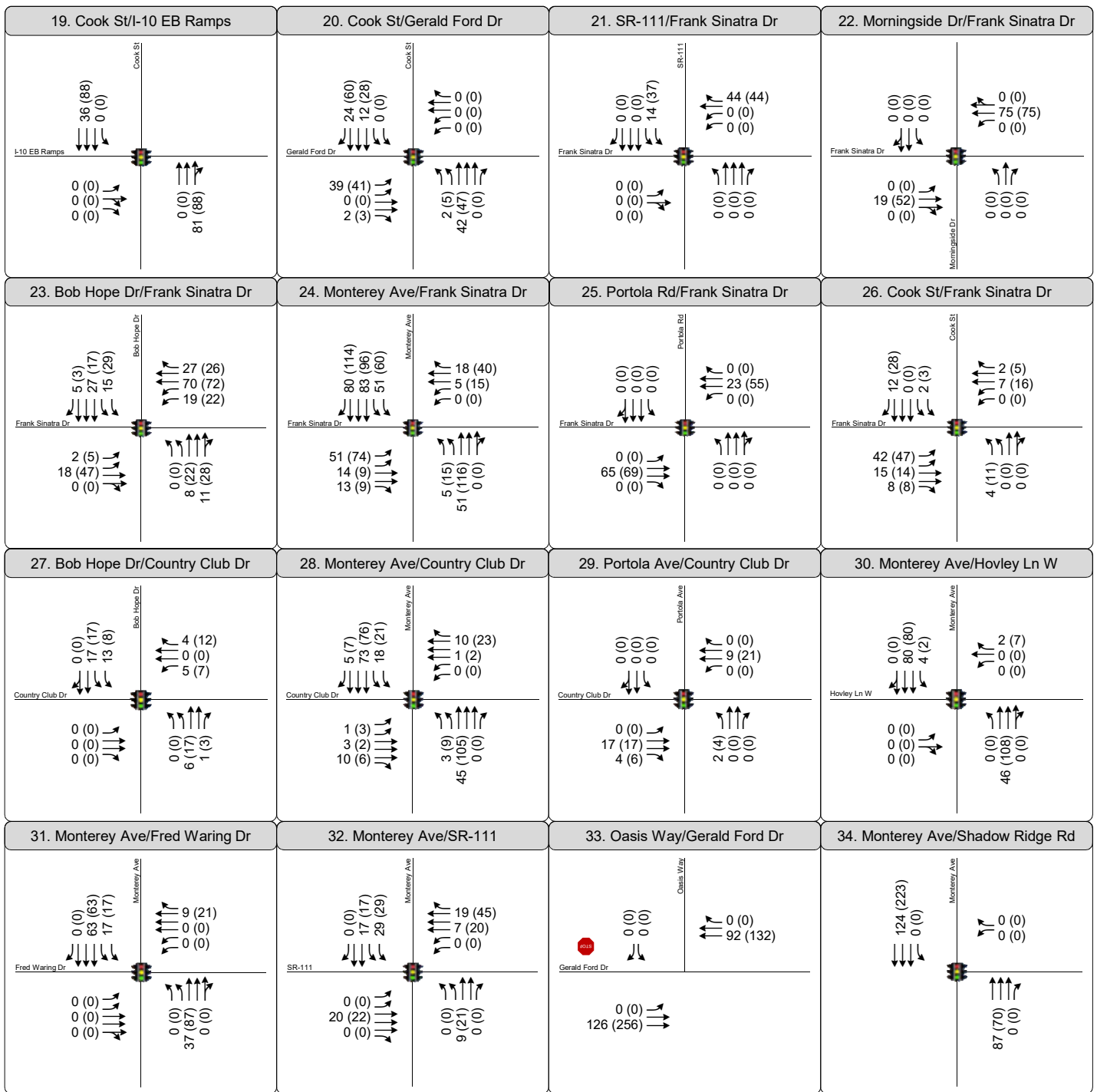


Figure 3-2
Existing Plus Project Scenario Project Only
Peak Hour Traffic Volumes and Lane Configurations



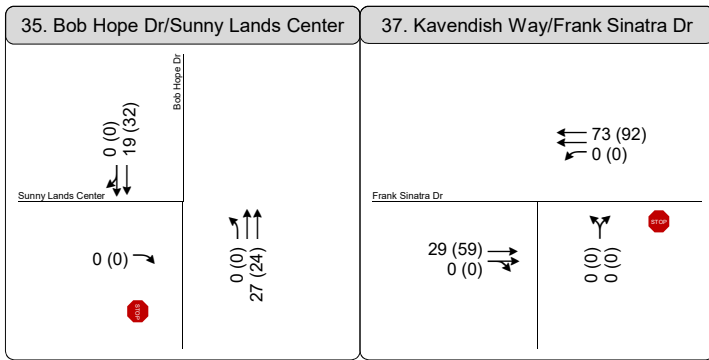


Figure 3-2
Existing Plus Project Scenario Project Only
Peak Hour Traffic Volumes and Lane Configurations



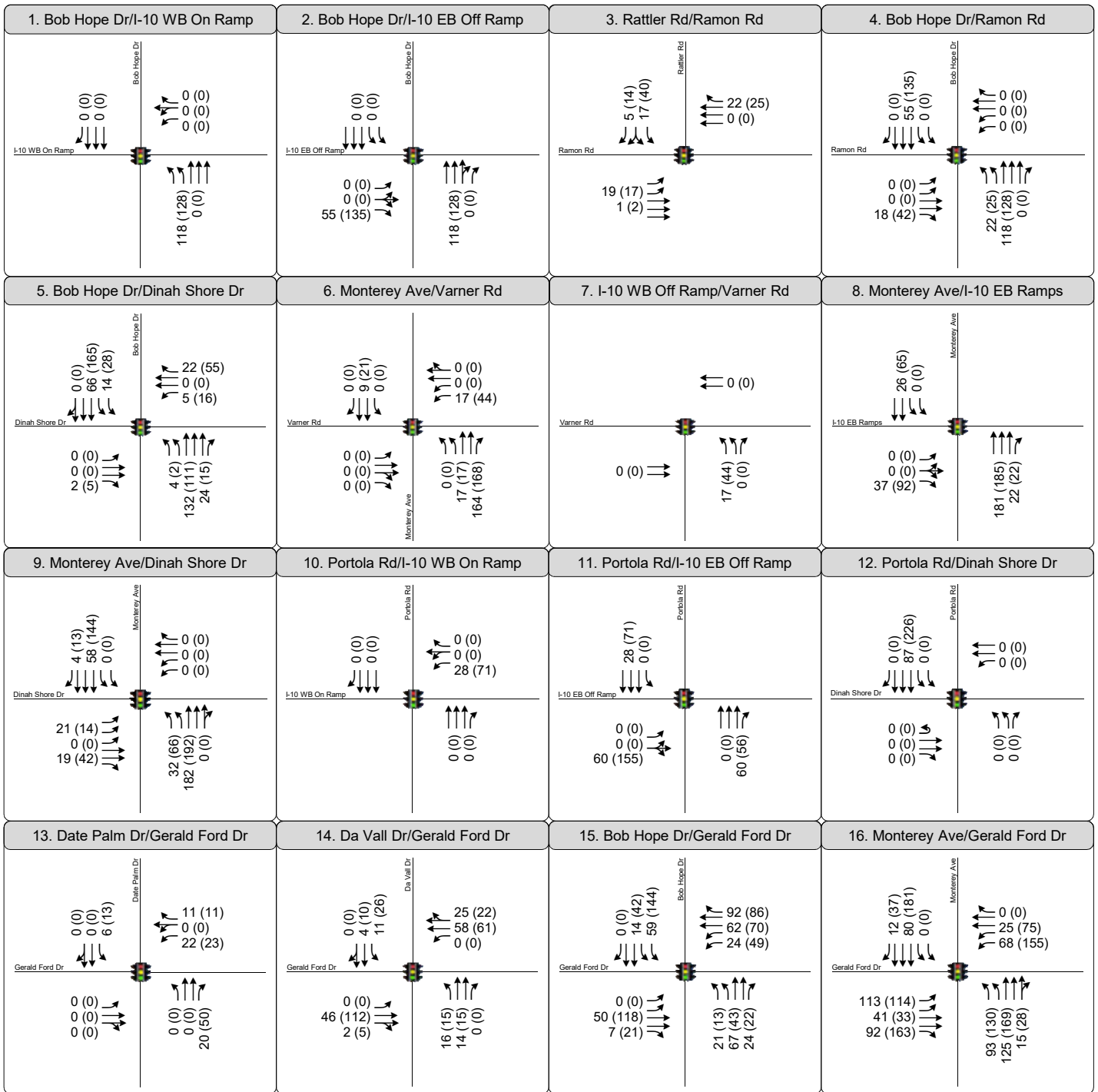


Figure 3-3

Cumulative Plus Project Scenario Project Only
Peak Hour Traffic Volumes and Lane Configurations



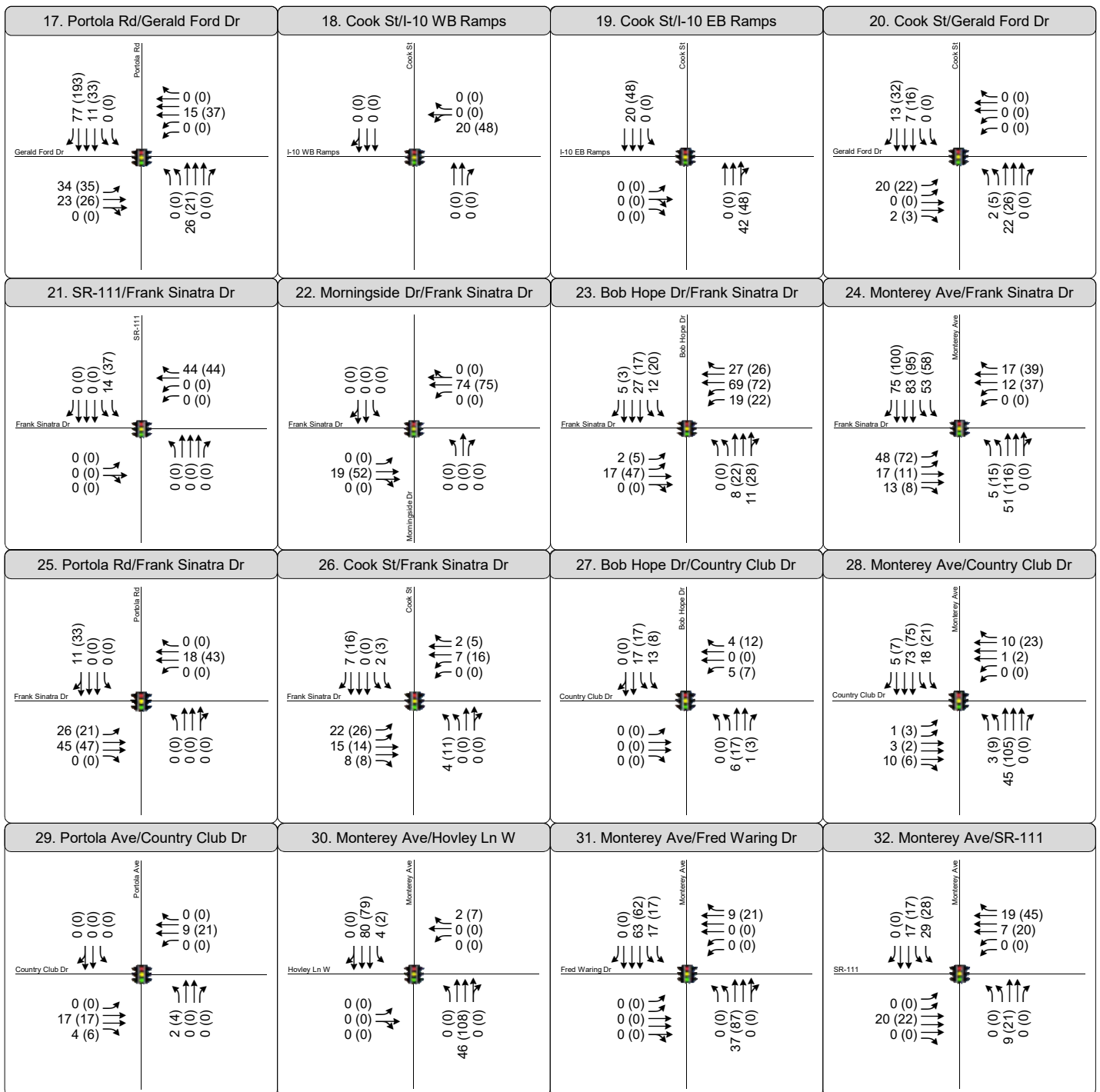


Figure 3-3
 Cumulative Plus Project Scenario Project Only
 Peak Hour Traffic Volumes and Lane Configurations



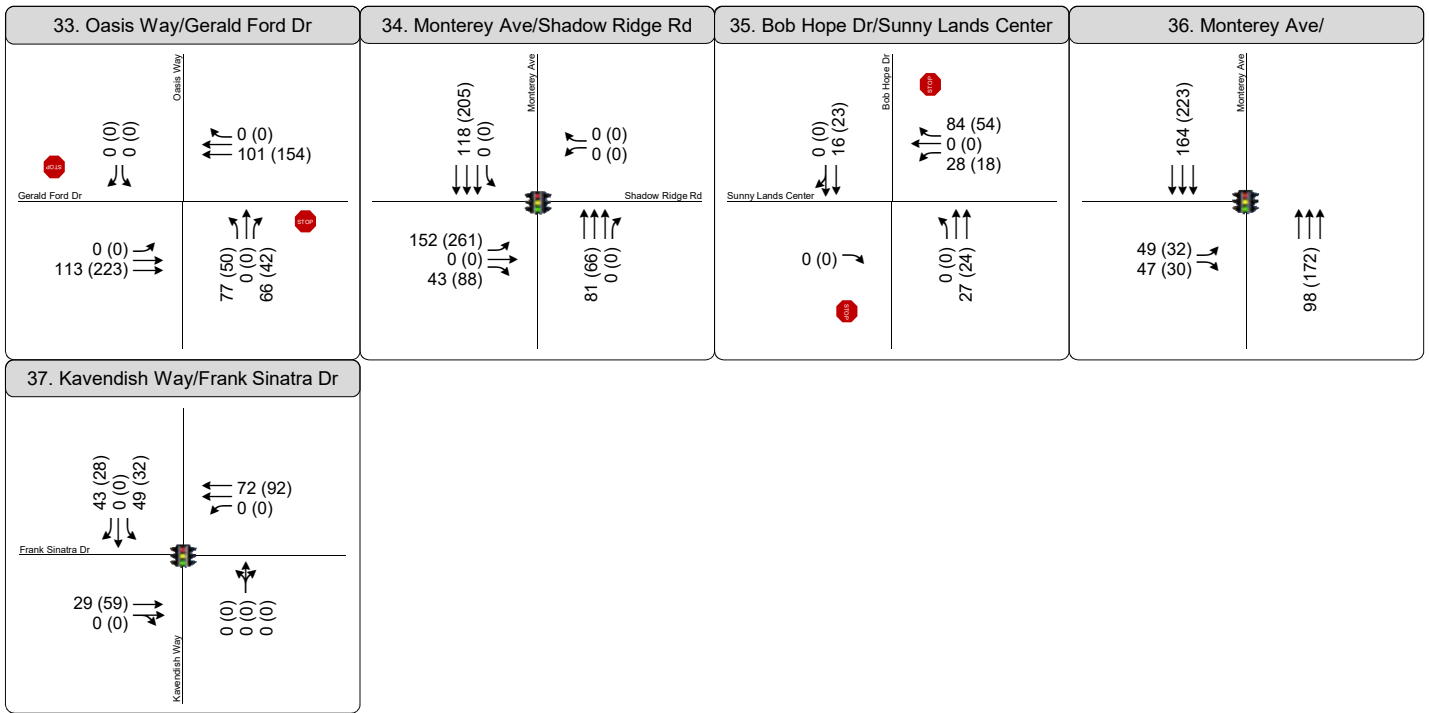


Figure 3-3
 Cumulative Plus Project Scenario Project Only
 Peak Hour Traffic Volumes and Lane Configurations



4. EXISTING (2018) CONDITIONS

This chapter evaluates the Existing (2018) Conditions in the Project study area including the roadway, transit, and pedestrian networks to document the baseline conditions against which the Project will be assessed.

EXISTING ROADWAY FACILITIES

REGIONAL ROADS

- **Interstate 10 Freeway (I-10):** I-10 is an interstate highway that runs in the east-west direction that stretches across the United State from Jacksonville, Florida at the easternmost end to Santa Monica, California at the westernmost end. In the vicinity of the Project, I-10 is an eight-lane facility that narrows to a six-lane facility with a posted speed limit of 70 mph. Direct access to the Project site is provided by Bob Hope Drive, Monterey Avenue, and Cook Street.
- **State Route 111 (SR-111):** SR-111 is a state highway that runs in the north-south direction from Calexico at the southernmost end to Whitewater at the northernmost end. Near the study area, SR-111 is a six-lane facility with a posted speed limit that varies between 45 and 55 mph. The City of Rancho Mirage General Plan Circulation Element designates SR-111 as a Major Arterial Six-lane Divided Roadway. This highway is also classified as a Designated Truck Route. The City of Rancho Mirage has assumed responsibility of this facility within the city limits. Access to the Project is provided via Bob Hope Drive, Monterey Avenue, and Frank Sinatra Drive.

LOCAL ACCESS ROADS

- **Varner Road:** Varner Road is a four-lane facility, north of the Project. The roadway is oriented in the east-west direction and is approximately parallel to the direction of Interstate 10 Freeway. The posted speed limit is 55 mph.
- **Ramon Road:** Ramon Road is a six-lane facility that narrows to a two-lane facility east of Bob Hope Drive. The roadway is oriented in the east-west direction. The City of Rancho Mirage General Plan and the Riverside County General Plan designates Ramon Road as a Major Arterial six-lane divided roadway and a Major Arterial four-lane roadway over the I-10 Freeway north-east of the Project. Ramon Road is also classified as a Designated Truck Route. The posted speed limit varies between 50 and 55 mph.

- **Date Palm Drive:** Date Palm Drive is a six-lane facility that narrows to a four-lane facility. The roadway is oriented in the north-south direction. Cathedral City General Plan designates Date Palm Drive as an arterial highway. The posted speed limit is 45 mph.
- **Da Vall Drive:** Da Vall Drive is a four-lane facility that narrows to a two-lane facility, and then becomes a four-lane facility. The roadway is oriented in the north-south direction. The City of Rancho Mirage General Plan designates Da Vall Drive as a Minor Arterial four-lane divided roadway. The posted speed limit is 45 mph.
- **Dinah Shore Drive:** Drive Shore Drive is six-lane facility that narrows to a four-lane facility. The roadway is oriented in the east-west direction. The City of Rancho Mirage General Plan designates Dinah Shore Drive as a Minor Arterial four-lane divided roadway between Plumley Road and Bob Hope Drive and a Major Arterial six-lane divided roadway between Bob Hope Drive and Monterey Avenue. It is also classified as a Designated Truck Route. The posted speed limit is 50 mph.
- **Bob Hope Drive:** Bob Hope Drive is a six-lane facility that narrows to a five-lane facility adjacent to the Project. The roadway is oriented in the north-south direction. The City of Rancho Mirage General Plan and Riverside County General Plan designate Bob Hope Drive as a Major Arterial Six-lane Divided Roadway between I-10 and Frank Sinatra Drive and a Minor Arterial four-lane divided roadway between Frank Sinatra Drive and SR-111. It is also classified a Designated Truck Route between I-10 and Gerald Ford Drive and a Time-Restricted Truck Route between Gerald Ford Drive and SR-111. The posted speed is 50 mph.
- **Monterey Avenue:** Monterey Avenue is six-lane facility adjacent to the Project that narrows to a four-lane facility south of Country Club Drive. The roadway is oriented in the north-south direction. This roadway is within two jurisdictions, Rancho Mirage and Palm Desert. The City of Rancho Mirage General Plan designates Monterey Avenue as a Major Arterial six-lane divided roadway north of Country Club Drive and a Minor Arterial four-lane divided roadway south of Country Club Drive. The City of Palm Desert General Plan designates Monterey Avenue as a Vehicular Oriented Arterial. Both jurisdictions classify the roadway as a truck route. The posted speed limit varies between 50 and 55 mph.
- **Portola Avenue:** Portola Avenue is a six-lane facility that narrows to a four-lane facility east of the Project. The roadway is oriented in the north-south direction. The City of Palm Desert designates Portola Avenue as a Balanced Arterial. The posted speed limit is 50 mph.
- **Cook Street:** Cook street is a six-lane facility that narrows to a four-lane facility east of the Project. The roadway is oriented in a north-south direction. The City of Palm Desert designates Cook Street as a Vehicular Oriented Arterial. The posted speed limit is 55 mph.
- **Gerald Ford Drive:** Gerald Ford Drive is a four-lane facility adjacent to the Project. The roadway is oriented in the east-west direction. The City of Rancho Mirage General Plan designates Gerald Ford

Drive as a Minor Arterial four-lane divided roadway. It is also classified as a Time Restricted Truck Route. The posted speed limit is 50 mph.

- **Frank Sinatra Drive:** Frank Sinatra Drive is a four-lane facility adjacent to the Project. The roadway is oriented in the east-west direction. The City of Rancho Mirage General Plan designates Frank Sinatra Drive as a Minor Arterial. It is also classified as a Designated Truck Route east of Bob Hope Drive. The posted speed limit varies between 50 mph and 55 mph.
- **Morningside Drive:** Morningside Drive is a four-lane facility west of the Project. The roadway is oriented in the north-south direction. The City of Rancho Mirage General Plan designates Morningside Drive as a Major Collector. The posted speed limit is 50 mph.
- **Country Club Drive:** Country Club Drive is a four-lane facility south of the Project. The roadway is oriented in the east-west direction. The City of Rancho Mirage General Plan designates Country Club Drive as a Major Collector west of Bob Hope Drive and as a Minor Arterial east of Bob Hope Drive. It is also classified as a Designated Truck Route east of Bob Hope Drive. The posted speed limit is 45 mph west of Bob Hope Drive and 50 mph east of Bob Hope Drive.
- **Fred Waring Drive:** Fred Waring drive is a six-lane facility south of the Project. The roadway is oriented in the east-west direction. The City of Palm Desert general plan designates Fred Waring Drive as a Vehicular Oriented Arterial. The posted speed limit is 45 mph.
- **Hovley Lane East:** Hovley Lane East is four-lane facility south of the Project. The roadway is oriented in the east-west direction. The City of Palm Desert general plan designates Hovley Lane East as a Thoroughfare. The posted speed limit is 50 mph.
- **Hovley Lane West:** Hovley Lane West is a two-lane facility south of the Project. The roadway is oriented in the east-west direction. The City of Palm Desert general plan designates Hovley Lane West as a Collector Street. The posted speed limit is 50 mph.

BICYCLE FACILITIES

Bicycle facilities in the City of Rancho Mirage are classified as follows:

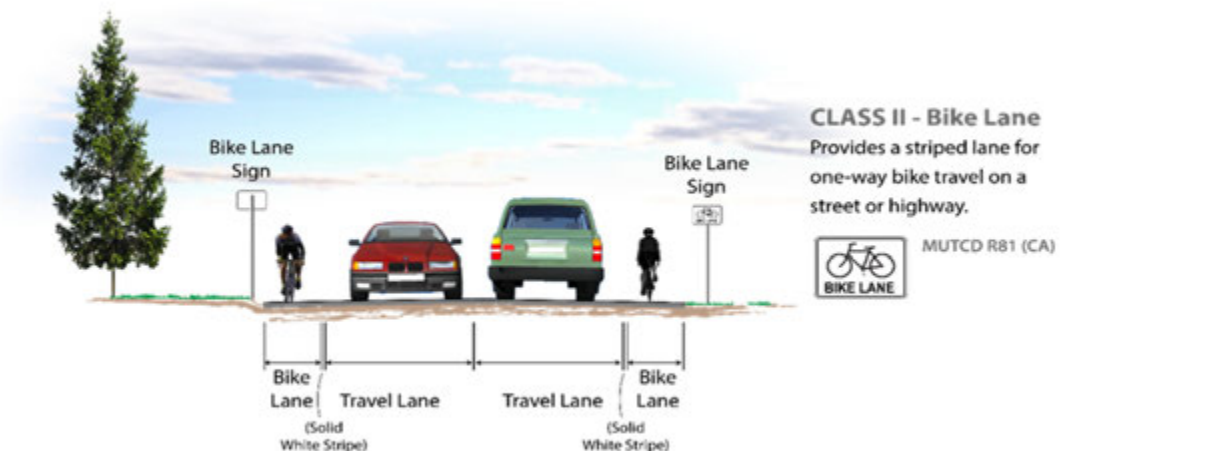
CLASS I BIKEWAYS (BIKE PATHS)

Class I bicycle facilities are bicycle trails or paths that are off-street and separated from automobiles. They are a minimum of eight feet in width for two-way travel and include bike lane signage and designated street crossings where needed. A Class I Bike Path may parallel a roadway (within the parkway) or may be a completely separate right-of-way that meanders through a neighborhood or along a flood control channel or utility right-of-way.



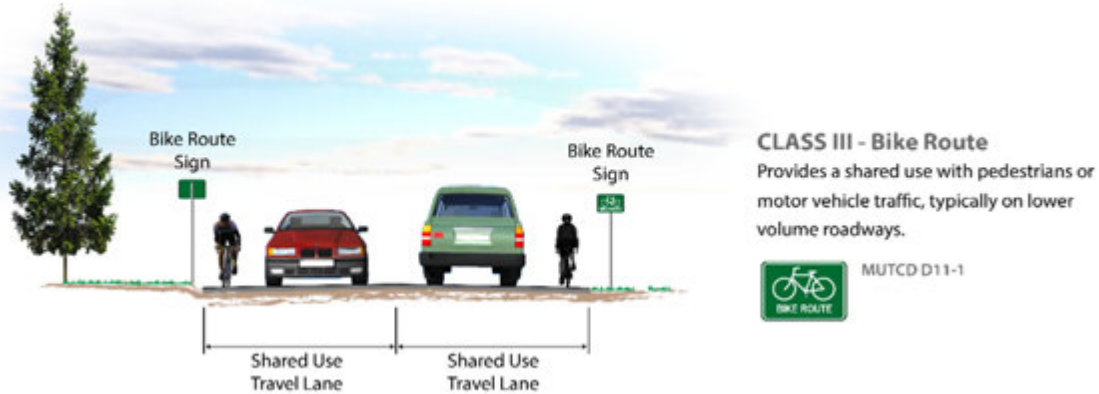
CLASS II BIKEWAYS (BIKE LANES)

Class II bicycle facilities are striped lanes that provide bike travel and can be either located next to a curb or parking lane. If located next to a curb, a minimum width of five feet is recommended. However, a bike lane adjacent to a parking lane can be four feet in width. Bike lanes are exclusively for the use of bicycles and include bike lane signage, special lane lines, and pavement markings.



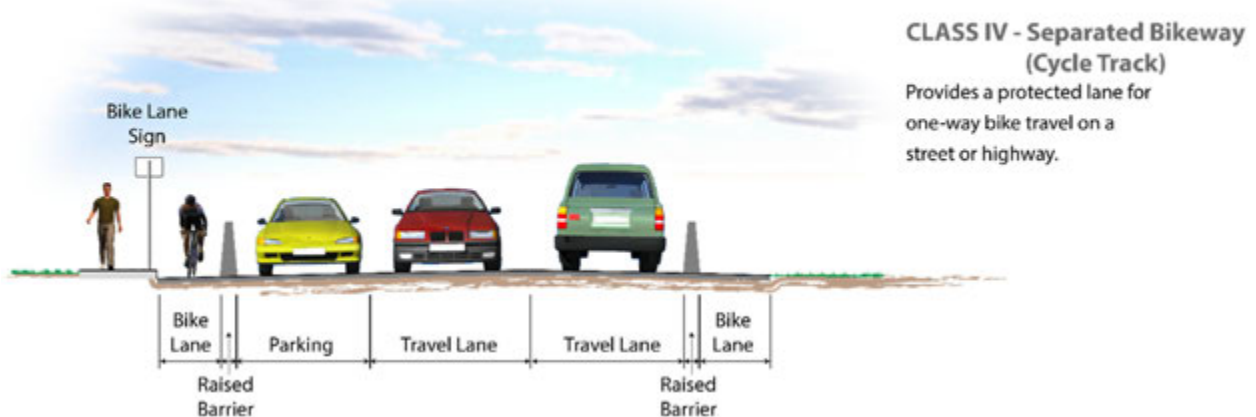
CLASS III BIKEWAYS (BIKE ROUTES)

Class III Bikeways are streets providing for shared use by motor vehicles and bicyclists. While bicyclists have no exclusive use or priority, signage both by the side of the street and stenciled on the roadway surface alerts motorists to bicyclists sharing the roadway space and denotes that the street is an official bike route.



CLASS IV BIKEWAYS (CYCLE TRACKS)

Class IV bicycle facilities, sometimes called cycle tracks or separated bikeways, provide a right-of-way designated exclusively for bicycle travel adjacent to a roadway and are protected from vehicular traffic via separations (e.g. grade separation, flexible posts, inflexible physical barriers, on-street parking). California Assembly Bill 1193 (AB 1193) legalized and established design standards for Class IV bikeways in 2015.



The following bicycle facilities are located within the study area:

Class I Bikeways

Existing:

- Whitewater Path
- Butler Abrams

Proposed:

- Adjacent to the Union Pacific Rail Road line, from Da Vall Drive to Key Largo Avenue

Class II Bikeways

Existing:

- Da Vall Drive, from Via Firenze to Ramon Road
- Bob Hope Drive, from Ramon Road to Follansbee Road, and from County
- Vista Dunes Road, from Frank Sinatra Drive to Country Club Drive
- Morningside Drive, from Frank Sinatra Drive to Country Club Drive
- Gerald Ford Drive, from Los Alamos Road to Cook Street
- Dick Kelly Drive
- Gateway Drive, from Dick Kelly Drive to Gerald Ford Drive
- Pacific Avenue, from Gerald Ford Drive to College Drive
- College Drive
- Hovley Lane East, from Cook Street to El Dorado Drive
- Magnesia Falls Drive, from Monterrey Avenue to Deep Canyon Road
- Deep Canyon Road, Magnesia Falls Drive to Highway 111
- El Dorado Drive, from Frank Sinatra Drive to Hovley Lane East
- Ramon Road, from Da Vall Drive to Los Alamos Road
- Monterrey Avenue, from Dinah Shore Drive to Country Club Drive
- County Club Drive, from Morningside Drive to El Dorado Drive
- Frank Sinatra Drive, from Da Vall Drive to El Dorado Drive
- Dinah Shore Drive, from Key Largo Avenue to Portola Road
- A Street
- Portola Road, from Dinah Shore Drive to Magnesia Falls Drive
- Technology Drive, from Gerald Ford Drive to College Drive
- Hovley Lane West
- Cook Street, from Frank Sinatra Drive to Fred Waring Drive
- Fred Waring Drive, from San Pascual Avenue to Deep Canyon Road
- San Pablo Avenue, Fred Waring Drive to Highway 111

Proposed:

- Ramon Road, from Date Palm Drive to Da Vall Drive, and Rattler Road to Bob Hope Drive
- Los Alamos Road, from the Union Pacific Rail Road line to Dinah Shore Drive
- Dinah Shore Drive, from Date Palm Drive to Monterrey Avenue
- Gerald Ford Drive, from Date Palm Drive Los Alamos Road, and from Cook Street to Monterrey Avenue
- Highway 111, from Parkview Drive to Deep Canyon Road
- Da Vall Drive, 30th Avenue to Via Firenza, and Ramon Road to Frank Sinatra Drive
- Bob Hope Drive, from Ramon Road to Dinah Shore Drive
- Gerald Ford Drive, from Plumley Road to Los Alamos Road
- Cook Street, from Gerald Ford Drive to Frank Sinatra Drive
- Date Palm Drive, 30th Avenue to Whitewater Path

Class III Bikeways

Existing:

- El Paseo
- Palm Desert Drive North
- San Pablo Avenue, from Highway 111 to El Paseo

Proposed:

- Plumley Road, from Dinah Shore Drive to Gerald Ford Drive
- Sunny Lane, from Da Vall Drive to Los Reyes Drive
- La Paz Road, from Thompson Road to Los Reyes Drive
- Country Club Drive, from Highway 111 to Morningside Drive
- Los Alamos Road, from Gerald Ford Drive to Sunny Lane
- Los Reyes Drive, from Sunny Lane to La Paz Road
- Thompson Road, from La Paz Road to Frank Sinatra Drive

Class IV Bikeways

There are not any existing or proposed Class IV bikeways in the study area.

Shared Sidewalks

The City of Palm Desert has a bike facility typology referred to as “shared sidewalks” that provide facilities for both pedestrians and bicyclists. In the study area, there are no new shared sidewalks proposed, however, existing shared sidewalks exist at the following locations:

- Monterrey Avenue, between Country Club Drive and Fred Waring Drive
- Hovley Lane E, between Portola Avenue and Cook Street
- Fred Waring Drive, between SR-111 and San Pascual Avenue, and between Desert Canyon Road and Cook Street
- Portola Avenue, between Magnesia Falls Drive and Shadow Mountain Drive
- San Pablo Avenue, between Magnesia Falls Drive and Fred Waring Drive
- Town Center Way

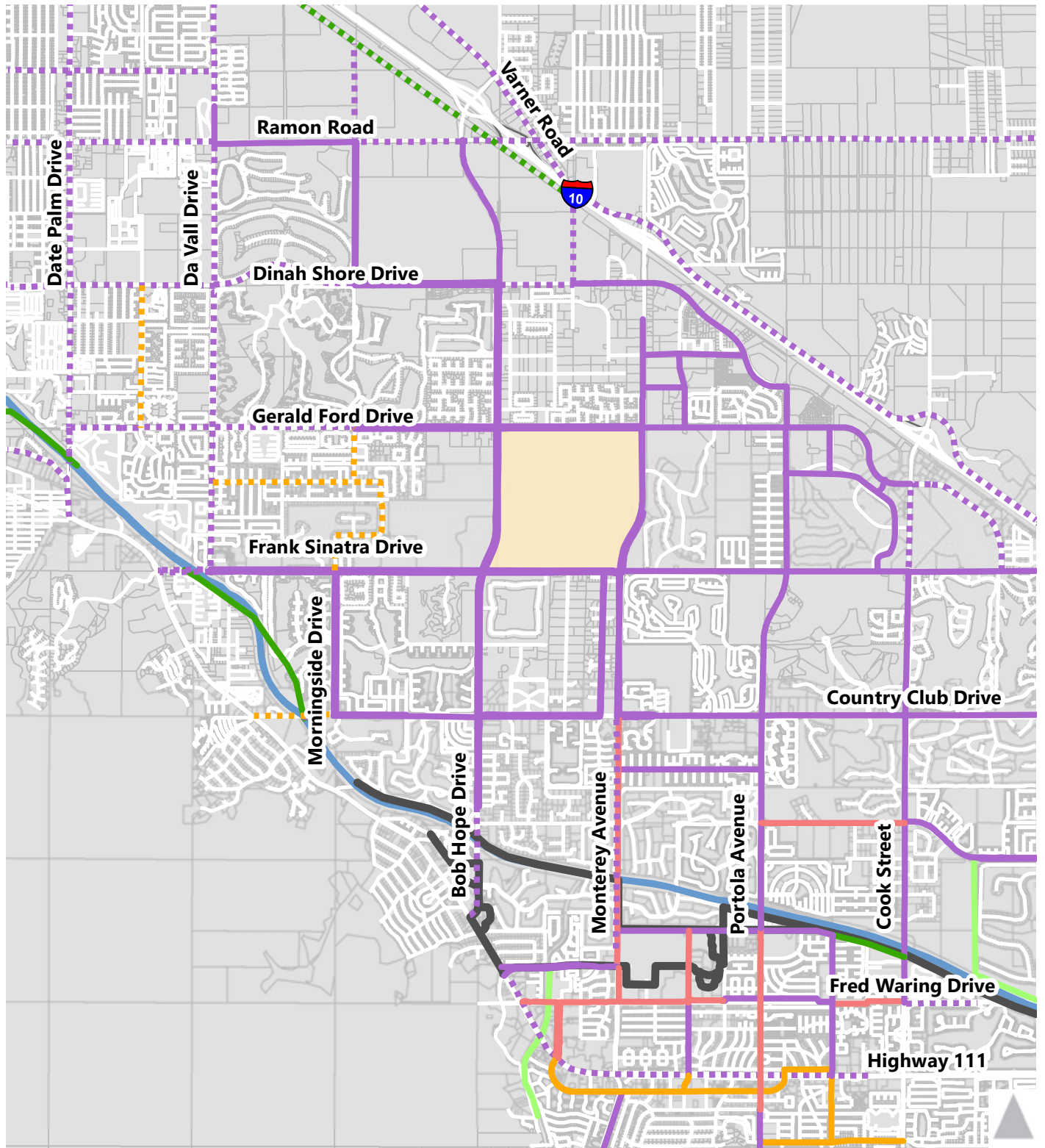
CV Link and Connectors

According to the City of Palm Desert’s General Plan, the CV Link will be a regional off-street facility for Neighborhood Electric Vehicles (NEVs), bicyclists, and pedestrians. The facility will be overseen and maintained by the Coachella Valley Association of Governments (CVAG). The CV Link has not been completed yet in the study area. Its borders in the study area will be the Whitewater River Canal to north, El Dorado Drive to the east, Fred Waring Drive to the south and Morningside Drive to the west.

CV Link Connectors will be facilities that provide additional connections between city areas and the CV Link through signage, crossing treatments, or separate facilities. Proposed CV Link Connectors in the study area will be constructed on the following streets and facilities:

- Hovley Lane E
- Whitewater River Canal
- Edgehill Drive
- Via Siena
- Joshua Road

Most major streets in Rancho Mirage and Palm Desert provide bicycle facilities. Due to the heavy presence of golf courses in the Rancho Mirage, many of the Class II facilities also accommodate golf carts. The Project site has good access to bikeways. Class II bikeways are located on all streets bordering the Project, and all Project entrances are accessible by bikeway. The current bicycle network is presented in **Figure 4-1**.



Bicycle Facilities

- Class I - Existing
- Class I - Proposed
- Class II - Existing
- Class II - Proposed
- Class III - Existing
- Class III - Proposed
- Shared Sidewalk
- CV Link
- CV Link Connector
- Whitewater River Canal
- Project Site



Figure 4-1
Bicycle Facilities

PEDESTRIAN FACILITIES

Pedestrian facilities throughout Rancho Mirage are well developed along most major roadways adjacent to developed residential areas. However, several roads within the study area have undeveloped or discontinuous sidewalks. Within and adjacent to the Specific Plan area, sidewalks are provided on one side of the street, or sidewalks are not available at all. Connectivity is limited throughout the study area due to adjacent undeveloped parcels. Adjacent to the Project site, pedestrian crossings are provided at signalized intersections with marked crosswalks. These crosswalks all have pedestrian walking signals, with walk buttons.

Some of the sidewalks in the City provide access to pedestrians, as well as bicycles and golf carts. It should also be noted that Rancho Mirage offers several trails for pedestrians, bicyclist, and even horse-back riders. The trails include Bighorn Overlook, Butler-Abrams, Chuckwalla, Clancy Lane, Jack Rabbit, and Road Runner Trails.

TRANSIT FACILITIES

The following transit facilities are provided in the City of Rancho Mirage:

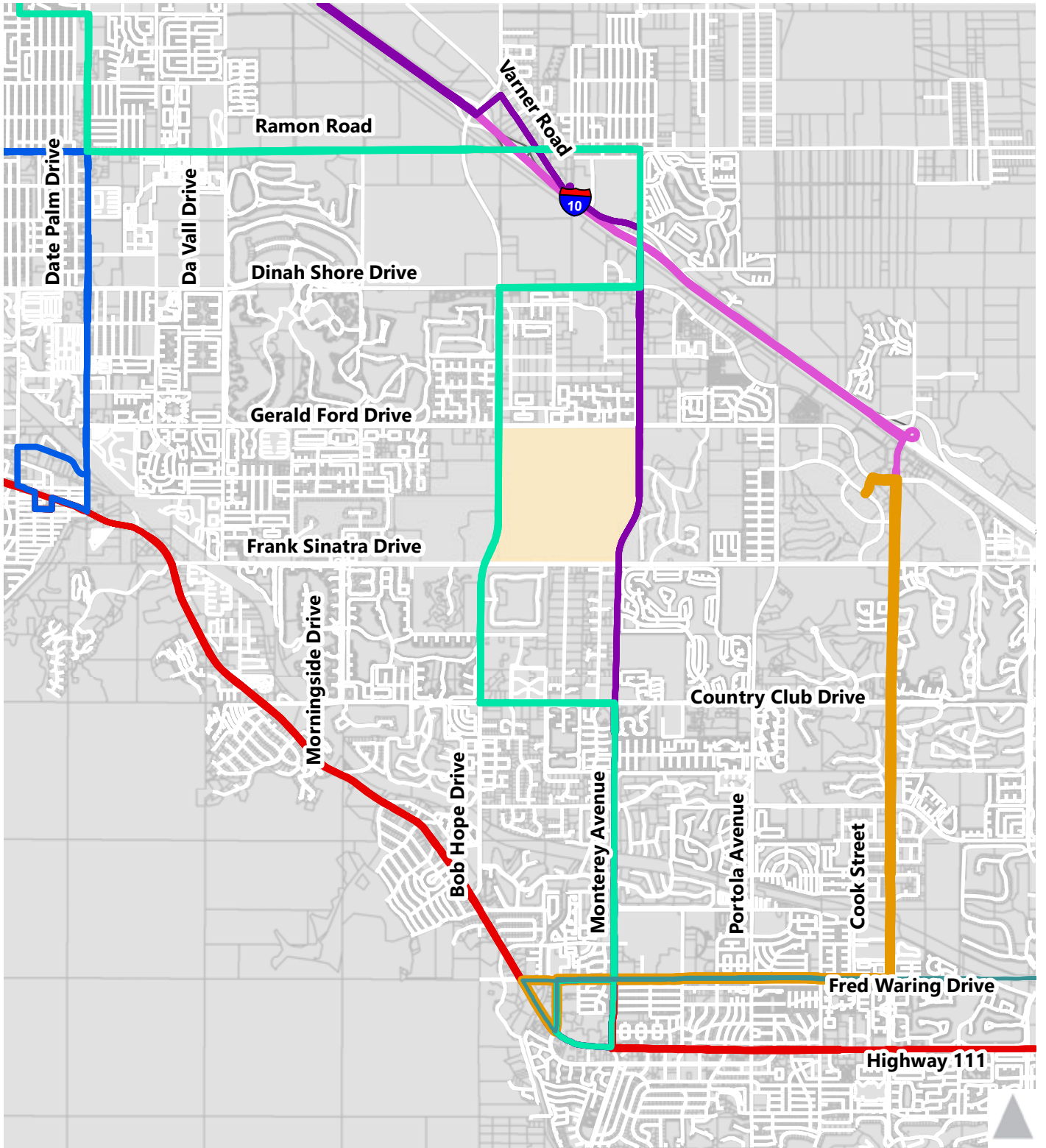
BUS TRANSIT

SunLine Transit Agency provides local transit service throughout Coachella Valley, including the Cities of Rancho Mirage and Palm Desert. Bus transit services are available in the city through fixed-route and demand-response services. Bus routes that run through the city connect to the neighboring cities of Palm Springs, Cathedral City, Coachella, and Indio. The routes serve major destinations in the region as well as connecting Coachella Valley to Beaumont, Banning, Cabazon, Moreno Valley, and Riverside. Within Rancho Mirage, bus routes run on major roadways, including Ramon Road, Monterey Avenue, and Bob Hope Drive. This service also provides access to Metrolink. The nearest Metrolink Station is at the Moreno Valley March Field Station. A map of the route that operates in this area may be seen in **Figure 4-2**.

- Line 20 (Desert Hot Springs to Palm Desert): This route runs from California State University (CSU), San Bernardino Palm Desert Campus near the intersection of Cook Street and University Park Drive, and ends on Town Center Way, near the Town Center Square Shopping Center. Line 20 operates Monday thru Friday from approximately 7:00 AM to 10:30 AM, and 4:00 PM to 8:00 PM (no midday or weekend service is provided). Headways during the morning and evening periods are 60-minutes. The closest bus stop to the Project is the first stop near CSU San Bernardino.

- Line 21 (Gerald Ford Drive & Cook Street to Palm Desert Mall): This route runs from the Kaiser Permanente Palm Desert Medical Offices near the intersection of Gerald Ford and Cook Street, and ends on Town Center Way, near the Town Center Square Shopping Center. Line 21 operates Monday thru Friday only during midday from approximately 11:00 AM to 3:30 PM with 60-minute headways. The closest bus stop to the Project is the first stop located near the Kaiser Permanente Palm Desert Medical Offices.
- Line 30 (Cathedral City to Palm Springs): This route runs from near the intersection of Ramon Road and Indian Canyon Drive, to near the intersection of B Street and W Buddy Rogers Avenue. It has stops that provide access to SR-111 and SR-111B. Line 30 operates seven days a week, with different weekday and weekend schedules. The line runs Monday thru Friday from approximately 6:00 AM to 10:45 PM with 20- and 30-minute headways. This route operates on weekends from 6:15 AM to 9:30 PM with approximately 45-minute headways. The closest bus stop to the Project is located at the Mission Plaza Shopping Center, near the intersection of Gerald Ford Drive and Date Palm Drive.
- Line 32 (Palm Desert to Palm Springs): This route runs from the shopping center near the intersection of Ramon Road and SR-111 and ends at the Westfield Mall in Palm Desert. Line 32 has stops that allow transfers to routes that provide access to Palm Springs International Airport. It operates Monday thru Friday from approximately 5:00 AM to 10:45 PM with 50- and 60-minute headways. This route operates on weekends from 6:50 AM to 10:50 PM with one-hour headways. A bus stop is located near the Project at the corner of Gerald Ford Drive and Bob Hope Drive.
- Line 54 (Indio to Palm Desert): This route runs from near the intersection of Town Center Way and Hahn Road, to near the intersection at Flower Street and SR-111. Line 54 has a few stops that provide access to SR-111. It operates on the weekends from approximately 6:30 AM to 8:00 PM with approximately 45-minute headways. The closest bus stop to the project is located at the intersection of Monterrey Avenue and Fred Waring Drive.
- Line 111 (Coachella to Palm Springs): This route runs from the intersection of Stevens Road and Palm Canyon Road in Palm Springs and ends at the Vietnam Veterans Park in Coachella. Most of the stops on Line 111 are along SR-111. It operates seven days a week, with different weekday and weekend schedules. Monday thru Friday Line 111 runs from approximately 5:00 AM to 11:00 PM with 20- and 30-minute headways. This route operates on weekends from approximately 5:30 AM to 11:00 PM with 20- and 30-minute headways. The closest bus stop to the Project is located near the corner of SR-111 and Frank Sinatra Drive.
- Commuter Link 220 (Palm Desert to Riverside): This route runs from the Metrolink Station in Riverside off Vine Street to the Westfield Mall in Palm Desert. Line 220 has stops that provide access to SR-111, SR-60, the I-10, the I-215, and Banning Municipal Airport. It operates Monday thru Friday from approximately 8:00 AM to 9:30 PM. Users can board the bus once in the morning, around approximately 8:00 AM, and twice in the evening, starting at approximately 3:30 in the

westbound direction and 6:00 PM in the eastbound direction. The headways between the evening services in both the westbound and eastbound directions are approximately two hours. This line runs adjacent to the Project at one point, along Monterrey Avenue. The bus stop closest to the Project is near the Walmart Supercenter in Rancho Mirage, by the corner of Monterrey Avenue and Dinah Shore Drive.



- Sunline Transit Routes**
- 111
 - 21
 - 32
 - 20
 - 220
 - 30
 - 54

Project Site

Figure 4-2
Transit Lines

TRAFFIC VOLUMES AND LANE CONFIGURATIONS

Existing AM peak period (7:00-9:00 AM) and PM peak period (4:00-6:00 PM) traffic volume counts for 30 of the intersections were counted on March 22, 2018. Counts for the remaining seven intersections and two roadway segments were conducted on January 15, 2019. Traffic volumes in the Coachella Valley region are known to increase by as much as 20% in the winter which is why traffic data was collected in January and March.

Existing (2018) peak hour traffic volumes for the study intersections are shown on **Figure 4-3**. Existing traffic counts are provided in **Appendix A**.

As part of the field inventory, Fehr & Peers also collected the following information:

- Lane configurations
- Signal phasing
- Land uses in the study area
- Existing pedestrian and bicycle facilities
- On-street parking conditions

INTERSECTION OPERATIONS

Existing traffic volumes, lane configurations, and signal timings were used to evaluate operations at the study intersections for existing weekday AM and PM peak hour conditions. The results summarized in **Table 4-1** show vehicular LOS at the study intersections. The Existing LOS reports are provided in **Appendix B**.

As shown in **Table 4-1**, the following study intersections currently operate at a deficient LOS during the peak hours:

6. Monterey Avenue & Varner Road – AM Peak Hour (LOS E), PM Peak Hour (LOS E)
18. Cook Street & I-10 Westbound Ramps – AM Peak Hour (LOS F)
19. Cook Street & I-10 Eastbound Ramps – AM Peak Hour (LOS E)

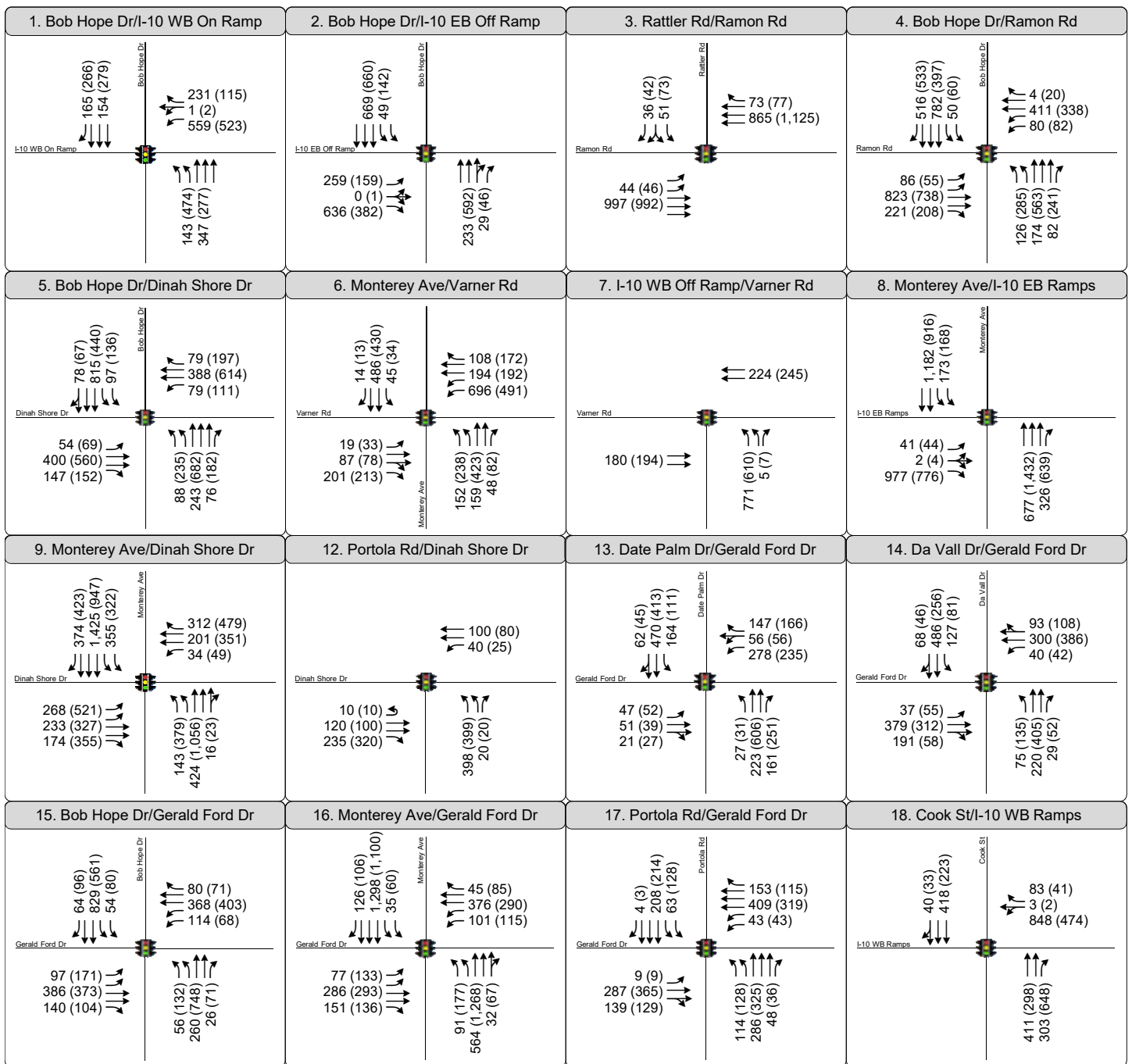


Figure 4-3
Peak Hour Traffic Volumes and Lane Configurations
Existing Year (2018) Conditions



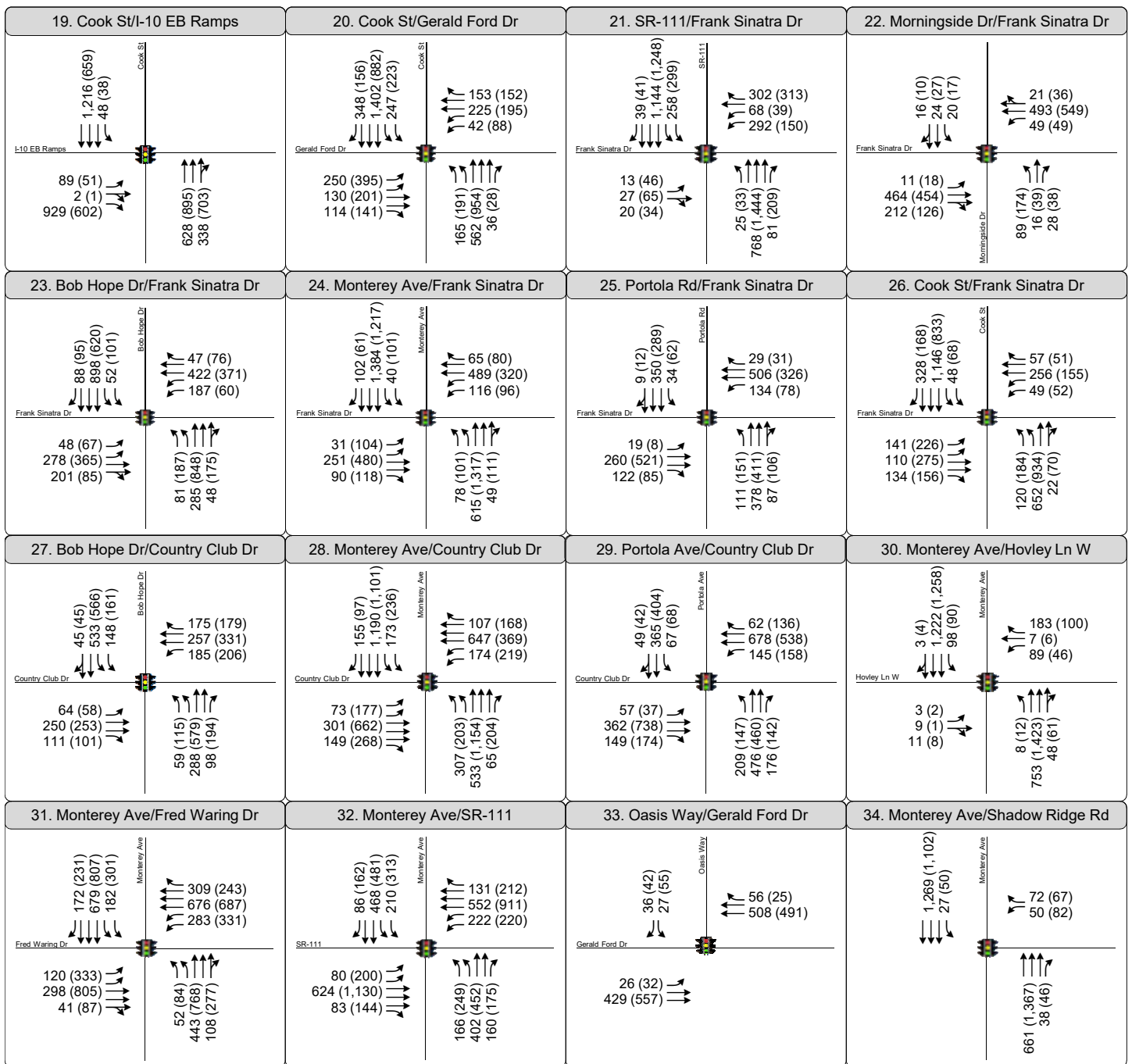


Figure 4-3
Peak Hour Traffic Volumes and Lane Configurations
Existing Year (2018) Conditions



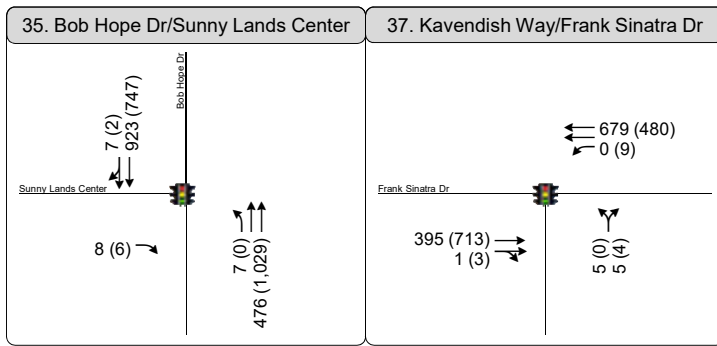


Figure 4-3

Peak Hour Traffic Volumes and Lane Configurations
Existing Year (2018) Conditions



**TABLE 4-1
EXISTING (2018) INTERSECTION OPERATIONS**

	Intersection	Jurisdiction	Peak Hour	Existing	
				Delay	LOS
1	Bob Hope Drive & I-10 Westbound Ramps	Caltrans	AM	9.2	A
			PM	12.1	B
2	Bob Hope Drive & I-10 Eastbound Ramps	Caltrans	AM	8.9	A
			PM	8.7	A
3	Ramon Road & Rattler Road	Rancho Mirage	AM	4.6	A
			PM	5.2	A
4	Bob Hope Drive & Ramon Road	Riverside County	AM	38.4	D
			PM	31.8	C
5	Bob Hope Drive & Dinah Shore Drive	Rancho Mirage	AM	20.7	C
			PM	21.4	C
6	Monterey Avenue & Varner Road	Riverside County	AM	58.6	E
			PM	79.4	E
7	Varner Road & I-10 Westbound Off Ramp	Caltrans	AM	8.4	A
			PM	7.8	A
8	Monterey Avenue & I-10 Eastbound Ramps	Caltrans	AM	32.6	C
			PM	25.6	C
9	Monterey Avenue & Dinah Shore Drive	Palm Desert	AM	33.7	C
			PM	45.0	D
10	I-10/Portola Avenue WB Ramps	Future Caltrans	AM	-	-
			PM	-	-
11	I-10/Portola Avenue Eastbound Ramps	Future Caltrans	AM	-	-
			PM	-	-
12	Portola Avenue & Dinah Shore	Palm Desert	AM	13.2	B
			PM	12.5	B
13	Gerald Ford Drive & Date Palm Drive	Cathedral City	AM	42.5	D
			PM	31.9	C
14	Gerald Ford Drive & De Vall Drive	Rancho Mirage	AM	21.9	C
			PM	18.9	B
15	Gerald Ford Drive & Bob Hope Drive	Rancho Mirage	AM	27.8	C
			PM	28.6	C
16	Gerald Ford Drive & Monterey Avenue	Palm Desert	AM	28.5	C
			PM	27.3	C
17	Gerald Ford Drive & Portola Road	Palm Desert	AM	19.9	B
			PM	20.8	C
18	Cook Street & I-10 Westbound Ramps	Caltrans	AM	>120	F
			PM	32.5	C
19	Cook Street and I-10 Eastbound Ramps	Caltrans	AM	58.3	E
			PM	14.5	B
20	Gerald Ford & Cook Street	Palm Desert	AM	24.9	C

			PM	24.3	C
21	Frank Sinatra Drive & Highway 111	Rancho Mirage	AM	17.0	B
			PM	19.2	B
22	Frank Sinatra Drive & Morningside Drive	Rancho Mirage	AM	14.5	B
			PM	19.2	B
23	Frank Sinatra Drive & Bob Hope Drive	Rancho Mirage	AM	27.2	C
			PM	25.2	C
24	Frank Sinatra Drive & Monterey Avenue	Palm Desert	AM	27.2	C
			PM	28.0	C
25	Frank Sinatra Drive & Portola Avenue	Palm Desert	AM	20.3	C
			PM	20.7	C
26	Frank Sinatra Drive & Cook Street	Palm Desert	AM	23.4	C
			PM	24.6	C
27	Country Club Drive & Bob Hope Drive	Ranch Mirage	AM	20.4	C
			PM	21.6	C
28	Country Club Drive & Monterey Avenue	Palm Desert	AM	33.9	C
			PM	30.3	C
29	Portola Avenue & Country Club Drive	Palm Desert	AM	27.4	C
			PM	26.3	C
30	Monterey Avenue & Hovely Lane West	Palm Desert	AM	8.5	A
			PM	6.8	A
31	Monterey Avenue & Fred Waring Drive	Palm Desert	AM	36.9	D
			PM	45.4	D
32	Monterey Avenue & Highway 111	Palm Desert	AM	39.1	D
			PM	39.5	D
33	Gerald Ford & Oasis Way/Project Access Intersection	Rancho Mirage	AM	14.2	B
			PM	17.2	C
34	Monterey Avenue & Shadow Ridge Road/Project Access Intersection North	Rancho Mirage	AM	6.8	A
			PM	6.4	A
35	Bob Hope Drive & Sunnylands Center/Project Access Intersection	Rancho Mirage	AM	12.3	B
			PM	10.9	B
36	Monterey Avenue & Project Access Intersection South	Proposed Rancho Mirage	AM	-	-
			PM	-	-
37	Frank Sinatra Drive & Kavendish Way/Project Access Intersection	Rancho Mirage	AM	13.7	B
			PM	10.8	B

Notes:

1. Delay is calculated using Synchro using HCM 6th Methodology.

2. **Bold** type indicates LOS exceeds desired level.

Source: Fehr & Peers, 2019

ROADWAY OPERATIONS

As shown in **Table 4-2**, all the study roadway segments currently operate acceptably at LOS C or better.

**TABLE 4-2
 EXISTING (2018) ROADWAY SEGMENT LEVEL OF SERVICE**

Roadway		Segment	Roadway Classification	Existing		
				ADT	V/C	LOS
1	Bob Hope Drive	Between Dinah Shore Drive and Gerald Ford Drive	4-Lane Minor Arterial	21,999	0.61	C or Better
2	Bob Hope Drive	Between Gerald Ford Drive and Frank Sinatra Drive	4-Lane Minor Arterial	21,574	0.60	C or Better

Source: Fehr & Peers, 2019

5. EXISTING (2018) PLUS PROJECT CONDITIONS

This chapter presents the Existing (2018) Plus Project Conditions for the development. This scenario consists of traffic generated by the proposed Project added to the Existing Year (2018) Conditions. This will be used to evaluate the net change in traffic conditions and to identify any potential significant project impacts.

ROADWAY NETWORK IMPROVEMENTS

The Project proposes to improve or construct eight access intersections. Traffic signal warrants were conducted at proposed intersections. Proposed intersections as part of the Project were sized to provide acceptable LOS, which is LOS D or better, and storage capacity for left and right turning movements.

TRAFFIC VOLUMES

Traffic volumes for the Existing (2018) Plus Project Conditions scenario consist of volumes from the Existing (2018) Conditions plus volumes generated by the proposed Project as shown in **Figure 3-2**. The Existing (2018) Plus Project traffic volumes are shown in **Figure 5-1**.

INTERSECTION OPERATIONS

The intersection LOS results are summarized in **Table 5-1** for Existing (2018) Plus Project Conditions. The Existing (2018) Plus Project LOS reports are provided in **Appendix C**.

As shown in **Table 5-1**, the following study intersections operate at a deficient LOS during the peak hours:

- 6. Monterey Avenue & Varner Road – AM Peak Hour (LOS E), PM Peak Hour (LOS F)
- 18. Cook Street & I-10 Westbound Ramps – AM Peak Hour (LOS F)
- 19. Cook Street & I-10 Eastbound Ramps – AM Peak Hour (LOS E)

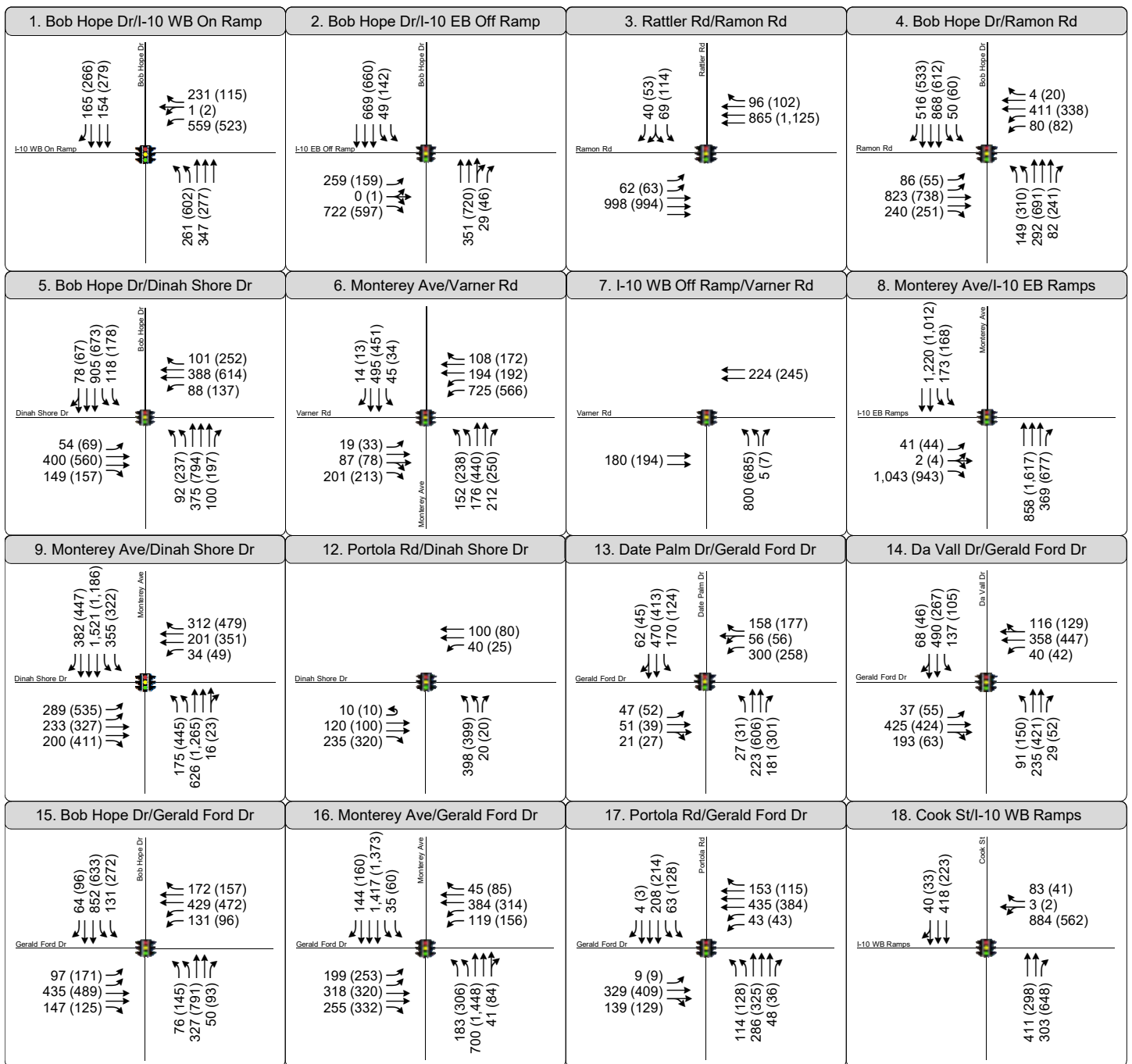


Figure 5-1

Peak Hour Traffic Volumes and Lane Configurations
Existing Year (2018) Plus Project Conditions



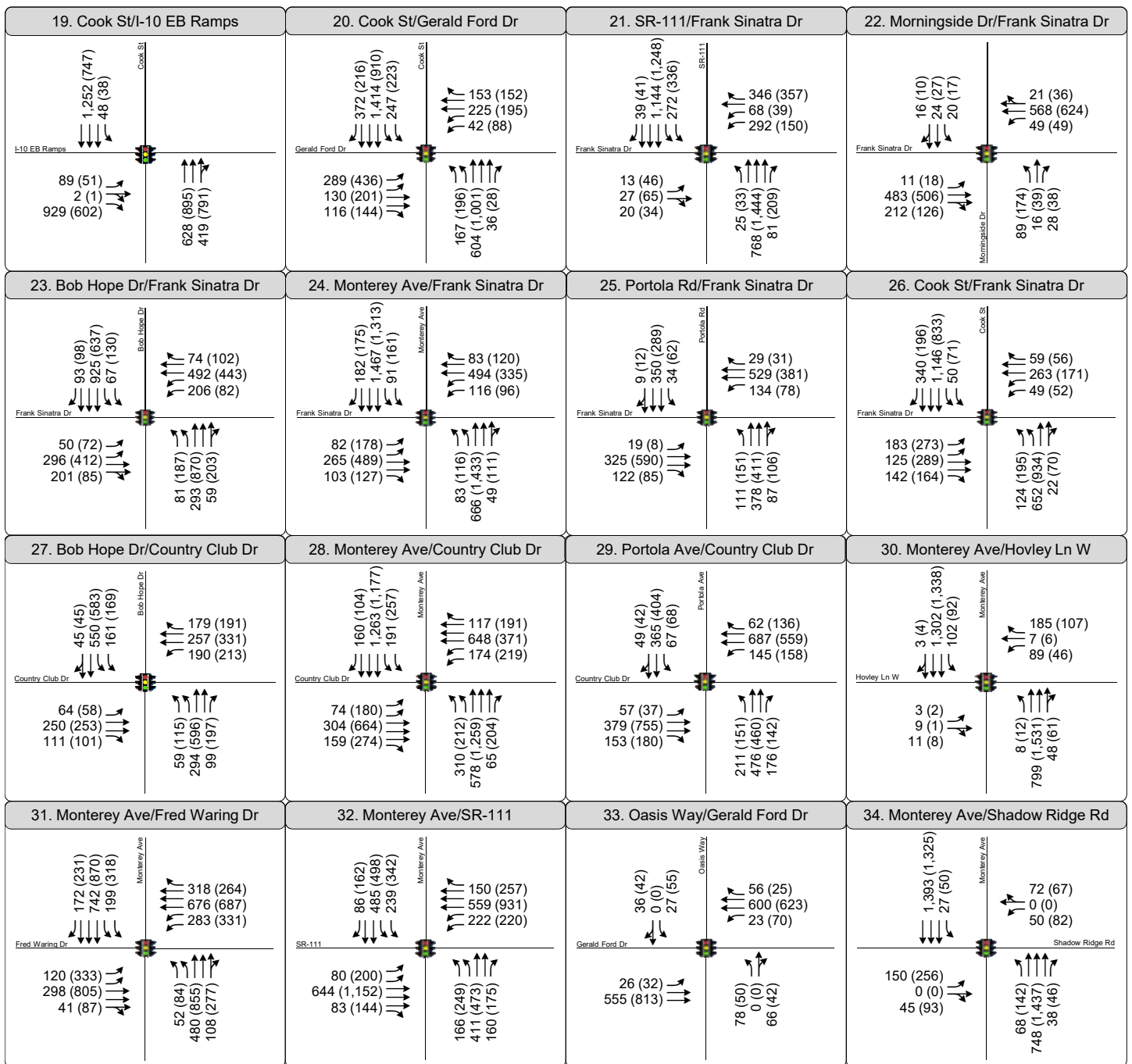


Figure 5-1

Peak Hour Traffic Volumes and Lane Configurations
Existing Year (2018) Plus Project Conditions



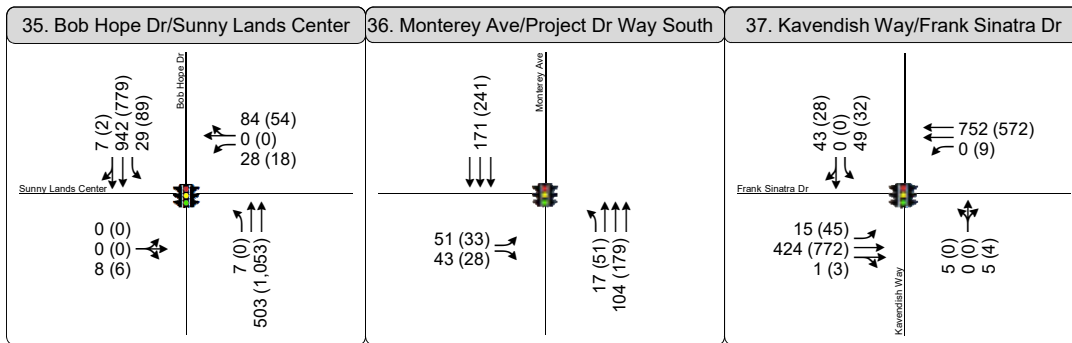


Figure 5-1

Peak Hour Traffic Volumes and Lane Configurations
Existing Year (2018) Plus Project Conditions



**TABLE 5-1
EXISTING (2018) PLUS PROJECT INTERSECTION OPERATIONS**

	Intersection	Jurisdiction	Peak Hour	Existing	
				Delay	LOS
1	Bob Hope Drive & I-10 Westbound Ramps	Caltrans	AM	9.8	A
			PM	13.0	B
2	Bob Hope Drive & I-10 Eastbound Ramps	Caltrans	AM	9.9	A
			PM	10.8	B
3	Ramon Road & Rattler Road	Rancho Mirage	AM	5.2	A
			PM	6.2	A
4	Bob Hope Drive & Ramon Road	Riverside County	AM	38.9	D
			PM	33.0	C
5	Bob Hope Drive & Dinah Shore Drive	Rancho Mirage	AM	21.4	C
			PM	23.5	C
6	Monterey Avenue & Varner Road	Riverside County	AM	64.0	E
			PM	>120	F
7	Varner Road & I-10 Westbound Off Ramp	Caltrans	AM	8.4	A
			PM	8.0	A
8	Monterey Avenue & I-10 Eastbound Ramps	Caltrans	AM	34.7	C
			PM	30.9	C
9	Monterey Avenue & Dinah Shore Drive	Palm Desert	AM	33.8	C
			PM	45.7	D
10	I-10/Portola Avenue WB Ramps	Future Caltrans	AM	-	-
			PM	-	-
11	I-10/Portola Avenue Eastbound Ramps	Future Caltrans	AM	-	-
			PM	-	-
12	Portola Avenue & Dinah Shore	Palm Desert	AM	13.2	B
			PM	12.5	B
13	Gerald Ford Drive & Date Palm Drive	Cathedral City	AM	45.6	D
			PM	29.2	C
14	Gerald Ford Drive & De Vall Drive	Rancho Mirage	AM	23.2	C
			PM	20.1	C
15	Gerald Ford Drive & Bob Hope Drive	Rancho Mirage	AM	30.4	C
			PM	34.5	C
16	Gerald Ford Drive & Monterey Avenue	Palm Desert	AM	33.4	C
			PM	40.4	D
17	Gerald Ford Drive & Portola Road	Palm Desert	AM	20.2	C
			PM	20.9	C
18	Cook Street & I-10 Westbound Ramps	Caltrans	AM	>120	F
			PM	37.4	D
19	Cook Street and I-10 Eastbound Ramps	Caltrans	AM	57.3	E
			PM	15.7	B
20	Gerald Ford & Cook Street	Palm Desert	AM	26.0	C
			PM	25.1	C

21	Frank Sinatra Drive & Highway 111	Rancho Mirage	AM	17.1	B
			PM	19.7	B
22	Frank Sinatra Drive & Morningside Drive	Rancho Mirage	AM	14.8	B
			PM	19.6	B
23	Frank Sinatra Drive & Bob Hope Drive	Rancho Mirage	AM	28.0	C
			PM	27.0	C
24	Frank Sinatra Drive & Monterey Avenue	Palm Desert	AM	28.8	C
			PM	30.1	C
25	Frank Sinatra Drive & Portola Avenue	Palm Desert	AM	20.5	C
			PM	21.0	C
26	Frank Sinatra Drive & Cook Street	Palm Desert	AM	23.7	C
			PM	25.0	C
27	Country Club Drive & Bob Hope Drive	Ranch Mirage	AM	20.7	C
			PM	21.9	C
28	Country Club Drive & Monterey Avenue	Palm Desert	AM	33.8	C
			PM	30.3	C
29	Portola Avenue & Country Club Drive	Palm Desert	AM	27.7	C
			PM	26.5	C
30	Monterey Avenue & Hovely Lane West	Palm Desert	AM	8.3	A
			PM	6.8	A
31	Monterey Avenue & Fred Waring Drive	Palm Desert	AM	37.2	D
			PM	48.3	D
32	Monterey Avenue & Highway 111	Palm Desert	AM	39.3	D
			PM	41.1	D
33	Gerald Ford & Oasis Way/Project Access Intersection	Rancho Mirage	AM	8.8	A
			PM	5.6	A
34	Monterey Avenue & Shadow Ridge Road/Project Access Intersection North	Rancho Mirage	AM	22.4	C
			PM	37.3	D
35	Bob Hope Drive & Sunnylands Center/Project Access Intersection	Rancho Mirage	AM	4.9	A
			PM	4.0	A
36	Monterey Avenue Project Access Intersection South	Rancho Mirage	AM	8.5	A
			PM	3.0	A
37	Frank Sinatra Drive & Kavendish Way/Project Access Intersection	Rancho Mirage	AM	5.8	A
			PM	5.6	A

Notes:

1. Delay is calculated using Synchro using HCM 6th Methodology
2. **Bold** type indicates LOS exceeds desired level.

Source: Fehr & Peers, 2019

Table

ROADWAY OPERATIONS

Roadway segment LOS analysis is presented in **Table 5-2** for Existing (2018) Plus Project Conditions. As shown in **Table 5-2**, all the study roadway segments operate acceptably at LOS C or better.

**TABLE 5-2
EXISTING PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE**

Roadway	Segment	Roadway Classification	Existing ADT	Existing Plus Project		
				ADT	V/C	LOS
1 Bob Hope Drive	Between Dinah Shore Drive and Gerald Ford Drive	4-Lane Minor Arterial	21,999	26,699	0.74	C or Better
2 Bob Hope Drive	Between Gerald Ford Drive and Frank Sinatra Drive	4-Lane Minor Arterial	21,574	24,574	0.68	C or Better

Source: Fehr & Peers, 2019

IMPACT ANALYSIS

INTERSECTION IMPACTS

Table 5-3 compares the changes in delay and LOS at intersections that operate deficiently between “Base” and “Plus Project” scenarios to determine project impacts. Changes are compared to the allowable change outlined in Chapter 3.

As shown in **Table 5-3**, the Project is forecasted to result in a project impact based on thresholds of significance for Existing (2018) Plus Project Conditions at the following study intersection:

- 6. Monterey Avenue & Varner Road – AM Peak Hour (LOS E), PM Peak Hour (LOS F)
- 18. Cook Street & I-10 Westbound Ramps – AM Peak Hour (LOS F)

**TABLE 5-3
EXISTING PLUS PROJECT INTERSECTION IMPACT SUMMARY**

	Intersection	Jurisdiction	Peak Hour	Existing		Existing Plus Project		Delay Change	Significant Impact
				Delay	LOS	Delay	LOS		
6	Monterey Avenue & Varner Road	Riverside County	AM	58.6	E	64.0	E	5.4	YES
			PM	79.4	E	>120.0	F	<40	YES
18	Cook Street & I-10 Westbound Ramps	Caltrans	AM	>120.0	F	>120.0	F	17.3	YES
19	Cook Street & I-10 Eastbound Ramps	Caltrans	AM	58.3	E	57.3	E	-1.0	NO

Notes:

1. Delay is calculated using Synchro using HCM 6th Methodology.
2. **Bold** type indicates LOS exceeds desired level.

Source: Fehr & Peers, 2019

The intersections of Monterey Avenue at Varner Road and Cook Street at I-10 Westbound Ramps are operating unacceptably under Existing (2018) Conditions. Under Existing (2018) Plus Project Conditions, the delay increases at intersections already operating unacceptably. By the significance thresholds outlined in Chapter 3, a significant impact occurs at these intersections. The intersection of Cook Street at I-10 Eastbound Ramps are operating at LOS E in both Existing (2018) Conditions and Existing (2018) Plus Project Conditions, however, the delay decreases between scenarios and a significant impact does not occur at this location. Increased traffic volumes can result in lower average delay at an intersection when traffic is added to prioritized phases, decreasing the weight average intersection delay.

6. CUMULATIVE YEAR (2040) CONDITIONS

This chapter evaluates the Cumulative Year (2040) Conditions as outlined in Chapter 3. This scenario analyzes the conditions that are forecast to occur during the Cumulative Year 2040.

TRAFFIC VOLUMES

As described in Chapter 3, the traffic volumes for this scenario consist of existing counts plus the addition of growth derived from RMGPM. Traffic volumes for the Cumulative Year (2040) Conditions scenario are shown in **Figure 6-1**.

PLANNED ROADWAY IMPROVEMENTS

The planned roadway improvements assumed in Cumulative Year (2040) Conditions are consistent with improvements assumed in the Rancho Mirage General Plan, the SCAG 2016 RTP/SCS, and with adjacent development project plans. Please note that as a conservative measure, the Key Largo Overpass, which is identified in the Rancho Mirage General Plan to connect Dinah Shore Drive to Ramon Road over I-10, was not assumed in the analysis because this facility is not funded or planned in the SCAG 2016 RTP/SCS and the City has not defined a timeframe for completion of this facility. The following projects of regional significance were assumed to be completed by 2040:

- RTP ID RIV031209: New interchange at I-10 and Portola Road between Monterey Avenue interchange and Cook Street interchange. This includes new six-lane Portola Road from Dinah Shore Drive to Varner Road and new ramps (two eastbound exit lanes, three westbound exit lanes, two eastbound and westbound entry lanes (including HOV lane), and a two-lane westbound entry loop ramp). Widening includes the bridge over the Union Pacific Rail Road (UPRR) and Varner Road to four lanes. Freeway mainline improvements include eastbound and westbound auxiliary lanes (Monterey Avenue to Portola Road and Portola Road to Cook Street) and the extension of a fourth westbound lane from Cook Street to Portola Road.
- RTP ID 3M0720-RIV071251, 3A07042, 3A07055 and 3A07120: New interchange at I-10 and Da Vall Drive between Date Palm Drive interchange and Bob Hope Drive interchange. This includes a new six-lane Da Vall Drive from Varner Road to Ramon Road and new two-lane ramps. Widening includes the bridge over UPRR and Long Canyon Creek Channel. Freeway mainline improvements include eastbound and westbound auxiliary lanes (Date Palm Drive to Da Vall Drive and Da Vall Drive to Ramon Road).

- RTP ID 3M0722, 3A07018A and 3A07018B: New interchange at I-10 and Landau Boulevard between Gene Autry Trail interchange and Date Palm Drive interchange. This includes a new six-lane Landau Boulevard from Vista Chino to Valley Center Boulevard. This is a partial cloverleaf interchange with auxiliary lanes and two-lane ramps. This includes a grade separation over UPRR.

The following local projects in the study area were assumed to be completed by 2040:

- RTP ID 3A07197: Widen Bob Hope Drive to general plan buildout configuration of three lanes in each direction from Ramon Road to Dinah Shore Drive.
- At Monterey Avenue and Dinah Shore Drive, the project at the northeast corner is conditioned to improve the intersection by installing a third eastbound left-turn lane and a second westbound left-turn lane.
- At Bob Hope Drive and Ramon Road, the southbound right-turn lane will be improved to a channelized free right-turn.

INTERSECTION OPERATIONS

Future traffic volumes, lane configurations, and signal timings were used to evaluate operations at the study intersections for Cumulative Year (2040) AM and PM peak hour conditions. The results are summarized in **Table 6-1**, showing vehicular LOS at the study intersections. The Cumulative Year (2040) LOS reports are provided in **Appendix E**.

As shown in **Table 6-1**, the following study intersections are projected to operate at a deficient LOS in 2040 during at least one peak hour:

4. Bob Hope Drive & Ramon Road – PM Peak Hour (LOS E)
27. Country Club Drive & Bob Hope Drive – AM Peak Hour (LOS E)
29. Portola Avenue & Country Club Drive – AM Peak Hour (LOS E), PM Peak Hour (LOS E)
31. Monterey Avenue & Fred Waring Drive – PM Peak Hour (LOS E)
33. Gerald Ford & Oasis Way/Project Access Intersection -PM Peak Hour (LOS F)

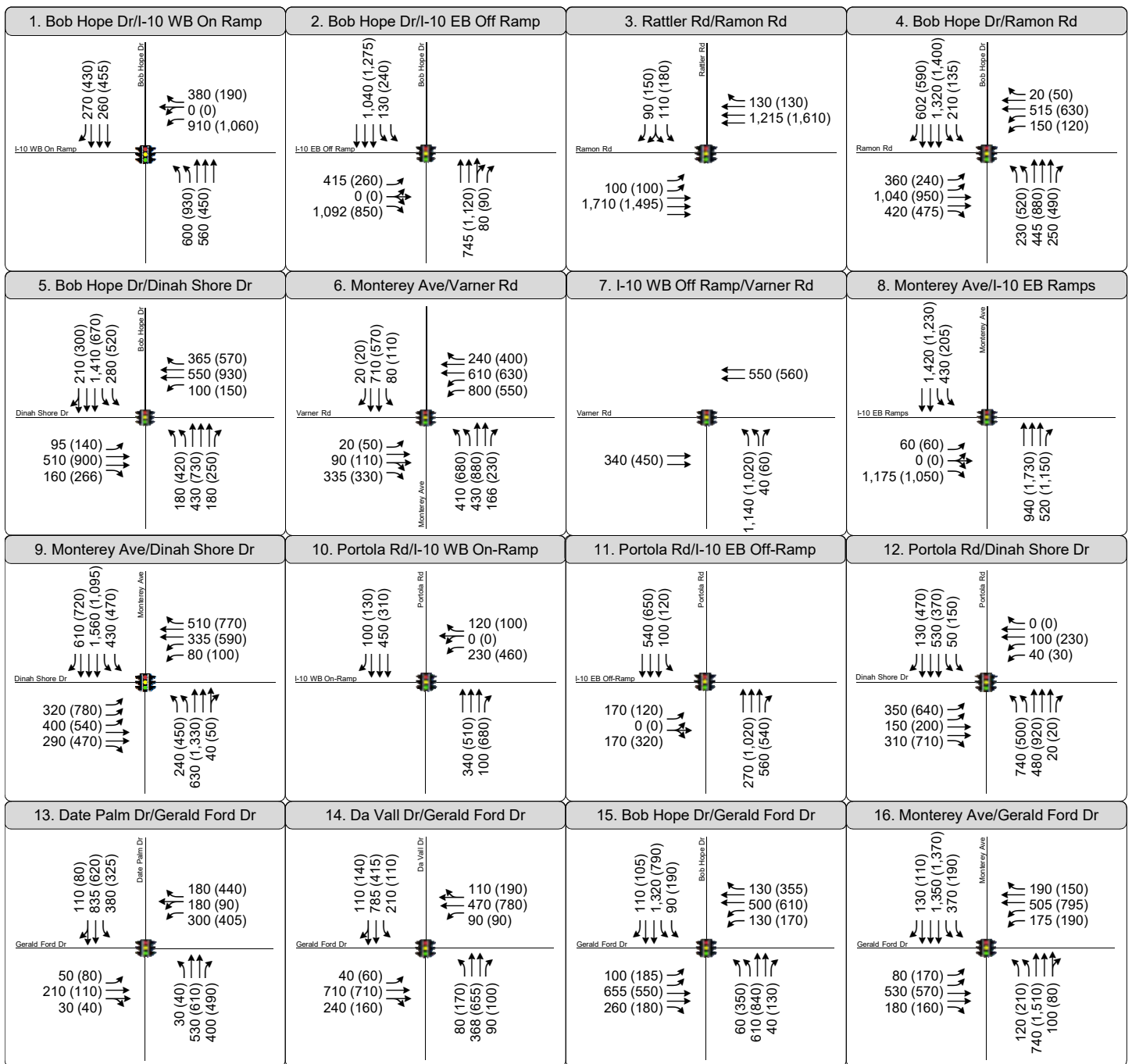


Figure 6-1

Peak Hour Traffic Volumes and Lane Configurations
Cumulative Year (2040) Conditions



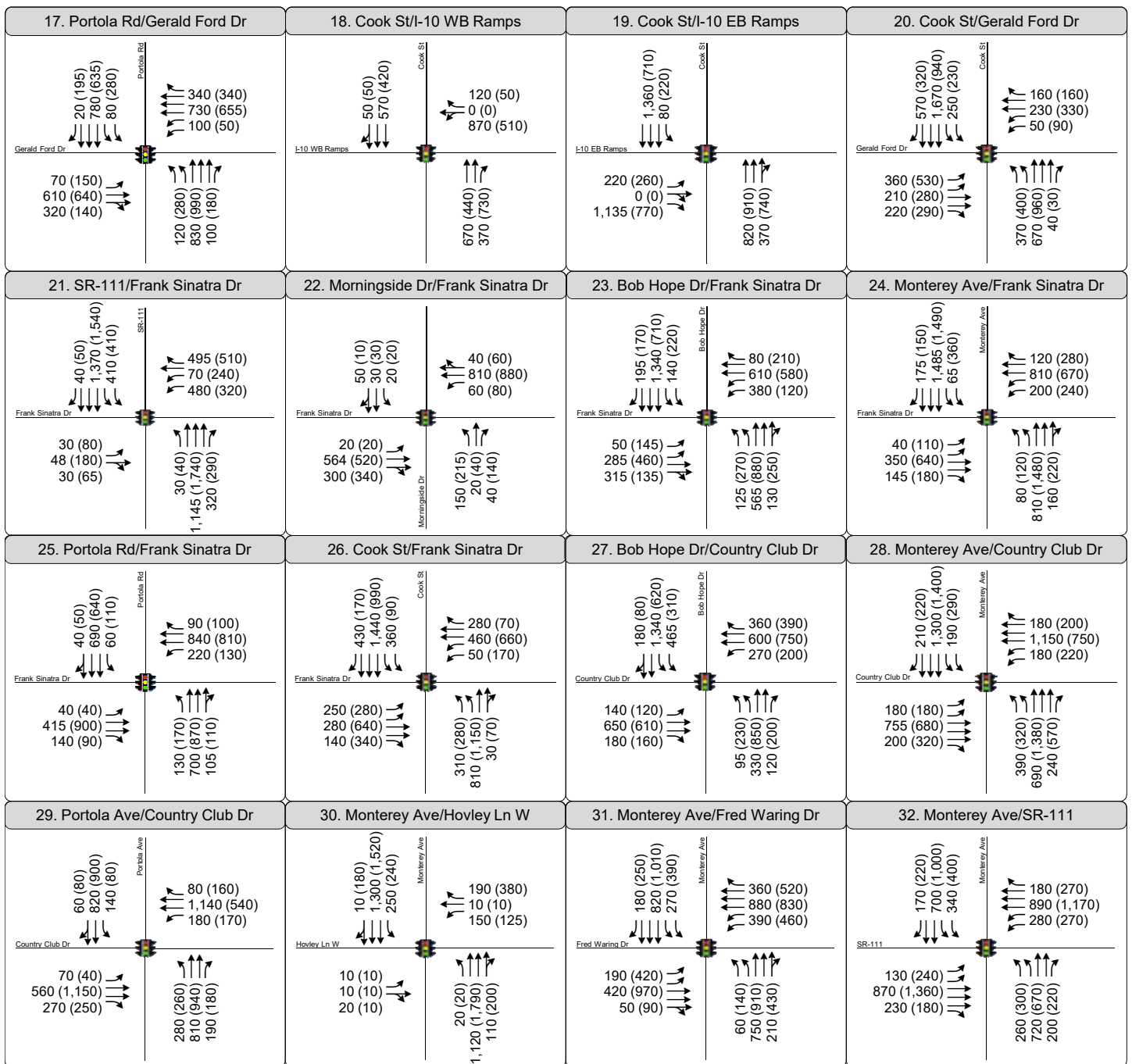


Figure 6-1

Peak Hour Traffic Volumes and Lane Configurations
Cumulative Year (2040) Conditions



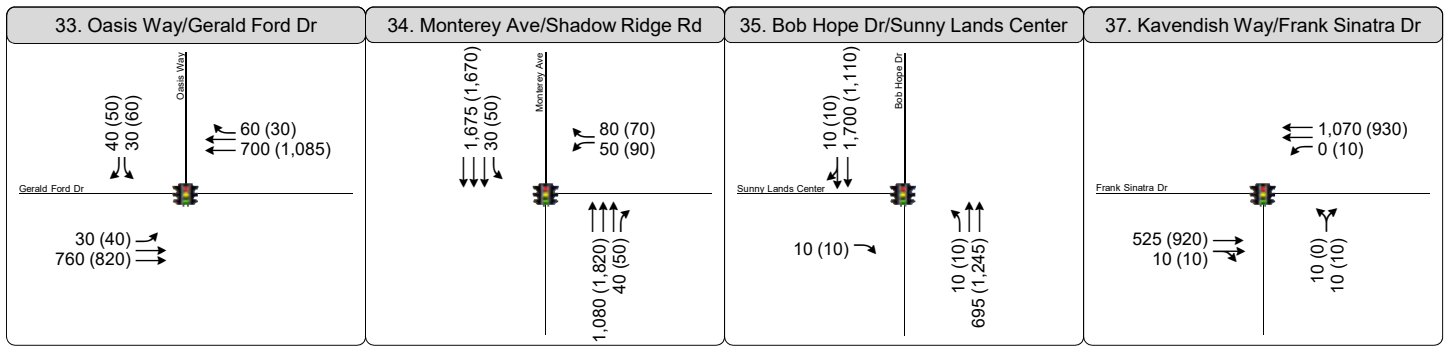


Figure 6-1

Peak Hour Traffic Volumes and Lane Configurations
Cumulative Year (2040) Conditions



**TABLE 6-1
CUMULATIVE YEAR (2040) INTERSECTION OPERATIONS**

	Intersection	Jurisdiction	Peak Hour	Existing	
				Delay	LOS
1	Bob Hope Drive & I-10 Westbound Ramps	Caltrans	AM	13.9	B
			PM	27.2	C
2	Bob Hope Drive & I-10 Eastbound Ramps	Caltrans	AM	17.1	B
			PM	17.2	B
3	Ramon Road & Rattler Road	Rancho Mirage	AM	6.5	A
			PM	8.1	A
4	Bob Hope Drive & Ramon Road	Riverside County	AM	52.3	D
			PM	60.3	E
5	Bob Hope Drive & Dinah Shore Drive	Rancho Mirage	AM	44.7	D
			PM	46.2	D
6	Monterey Avenue & Varner Road	Riverside County	AM	45.1	D
			PM	45.9	D
7	Varner Road & I-10 Westbound Off Ramp	Caltrans	AM	11.1	B
			PM	10.4	B
8	Monterey Avenue & I-10 Eastbound Ramps	Caltrans	AM	43.5	D
			PM	40.3	D
9	Monterey Avenue & Dinah Shore Drive	Palm Desert	AM	44.1	D
			PM	52.1	D
10	I-10/Portola Avenue WB Ramps	Future Caltrans	AM	5.4	A
			PM	7.3	A
11	I-10/Portola Avenue Eastbound Ramps	Future Caltrans	AM	11.0	B
			PM	14.4	B
12	Portola Avenue & Dinah Shore	Palm Desert	AM	30.3	C
			PM	35.2	D
13	Gerald Ford Drive & Date Palm Drive	Cathedral City	AM	49.8	D
			PM	42.0	D
14	Gerald Ford Drive & De Vall Drive	Rancho Mirage	AM	37.7	D
			PM	37.3	D
15	Gerald Ford Drive & Bob Hope Drive	Rancho Mirage	AM	34.4	C
			PM	36.9	D
16	Gerald Ford Drive & Monterey Avenue	Palm Desert	AM	32.7	C
			PM	44.8	D
17	Gerald Ford Drive & Portola Road	Palm Desert	AM	29.5	C
			PM	31.0	C
18	Cook Street & I-10 Westbound Ramps	Caltrans	AM	34.0	C
			PM	28.1	C
19	Cook Street and I-10 Eastbound Ramps	Caltrans	AM	34.3	C
			PM	33.1	C
20	Gerald Ford & Cook Street	Palm Desert	AM	31.8	C
			PM	31.0	C

21	Frank Sinatra Drive & Highway 111	Rancho Mirage	AM	28.6	C
			PM	47.4	D
22	Frank Sinatra Drive & Morningside Drive	Rancho Mirage	AM	18.4	B
			PM	17.8	B
23	Frank Sinatra Drive & Bob Hope Drive	Rancho Mirage	AM	36.2	D
			PM	31.6	C
24	Frank Sinatra Drive & Monterey Avenue	Palm Desert	AM	31.9	C
			PM	43.8	D
25	Frank Sinatra Drive & Portola Avenue	Palm Desert	AM	28.0	C
			PM	33.6	C
26	Frank Sinatra Drive & Cook Street	Palm Desert	AM	35.5	D
			PM	41.7	D
27	Country Club Drive & Bob Hope Drive	Ranch Mirage	AM	68.8	E
			PM	38.4	D
28	Country Club Drive & Monterey Avenue	Palm Desert	AM	45.9	D
			PM	45.2	D
29	Portola Avenue & Country Club Drive	Palm Desert	AM	64.6	E
			PM	74.6	E
30	Monterey Avenue & Hovely Lane West	Palm Desert	AM	22.4	C
			PM	16.7	B
31	Monterey Avenue & Fred Waring Drive	Palm Desert	AM	41.6	D
			PM	60.7	E
32	Monterey Avenue & Highway 111	Palm Desert	AM	50.5	D
			PM	53.1	D
33	Gerald Ford & Oasis Way/Project Access Intersection	Rancho Mirage	AM	19.6	C
			PM	75.9	F
34	Monterey Avenue & Shadow Ridge Road/Project Access Intersection North	Rancho Mirage	AM	4.1	A
			PM	5.4	A
35	Bob Hope Drive & Sunnylands Center/Project Access Intersection	Rancho Mirage	AM	18.3	C
			PM	13.2	B
36	Monterey Avenue & Project Access Intersection South	Proposed Rancho Mirage	AM	-	-
			PM	-	-
37	Frank Sinatra Drive & Kavendish Way/Project Access Intersection	Rancho Mirage	AM	17.3	C
			PM	12.0	B

Notes:

1. Delay is calculated using Synchro using HCM 6th Methodology

2. **Bold** type indicates LOS exceeds desired level.

Source: Fehr & Peers, 2019

ROADWAY OPERATIONS

Roadway segment LOS analysis is presented in **Table 6-2** for Cumulative Year (2040) Conditions. Please note that Bob Hope Drive is classified as a 6-lane major arteria in the Rancho Mirage General Plan. As shown in **Table 6-2**, all study roadway segments are forecast to operate at LOS C or better.

**TABLE 6-2
 CUMULATIVE ROADWAY SEGMENT LEVEL OF SERVICE**

	Roadway	Segment	Roadway Classification	Cumulative Year (2040)		
				ADT	V/C	LOS
1	Bob Hope Drive	Between Dinah Shore Drive and Gerald Ford Drive	6-Lane Major Arterial	31,400	0.58	C or Better
2	Bob Hope Drive	Between Gerald Ford Drive and Frank Sinatra Drive	6-Lane Major Arterial	31,600	0.59	C or Better

Source: Fehr & Peers, 2019

7. CUMULATIVE YEAR (2040) PLUS PROJECT CONDITIONS

This chapter evaluates the Cumulative Year (2040) Project Conditions as outlined in Chapter 3. This scenario analyzes the conditions that are expected to be present during the Cumulative Year 2040.

TRAFFIC VOLUMES

Traffic volumes for the Cumulative Year (2040) Plus Project Conditions scenario consist of volumes from the Cumulative Year (2040) Conditions plus volumes generated by the proposed Project as described in shown in **Figure 3-3**.

PLANNED ROADWAY IMPROVEMENTS

The Project proposes to improve or construct eight access intersections. Traffic signal warrants were conducted at proposed intersections. Proposed intersections as part of the Project were sized to provide acceptable LOS, which is LOS D or better, and storage capacity for turning movements. Cumulative Year (2040) Plus Project intersection lane configurations are assumed to include the same lane geometries as Cumulative Year (2040) Conditions except at proposed access intersections.

INTERSECTION OPERATIONS

The intersection LOS results are summarized in **Table 7-1** for the Cumulative Year (2040) Plus Project Conditions. The LOS reports are provided in **Appendix F**.

As shown **Table 7-1**, the following study intersections are projected to operate at a deficient LOS in the Cumulative Year (2040) Plus Project scenario during the peak hours:

- 4. Bob Hope Drive & Ramon Road – PM Peak Hour (LOS E)
- 27. Country Club Drive & Bob Hope Drive – AM Peak Hour (LOS E)
- 29. Portola Avenue & Country Club Drive – AM Peak Hour (LOS E), PM Peak Hour (LOS E)
- 31. Monterey Avenue & Fred Waring Drive – PM Peak Hour (LOS E)

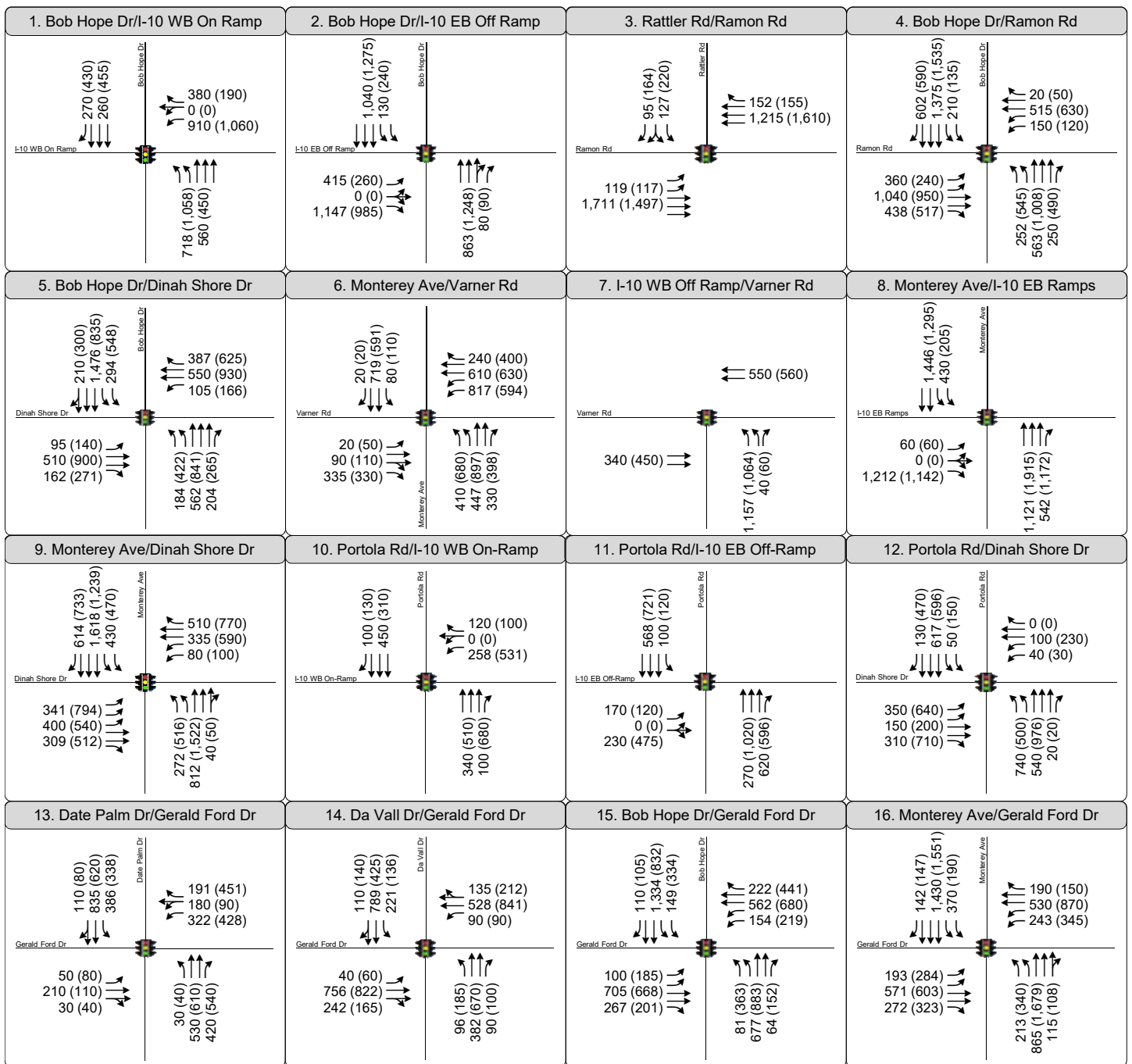


Figure 7-1

Peak Hour Traffic Volumes and Lane Configurations
Cumulative Year (2040) Plus Project Conditions



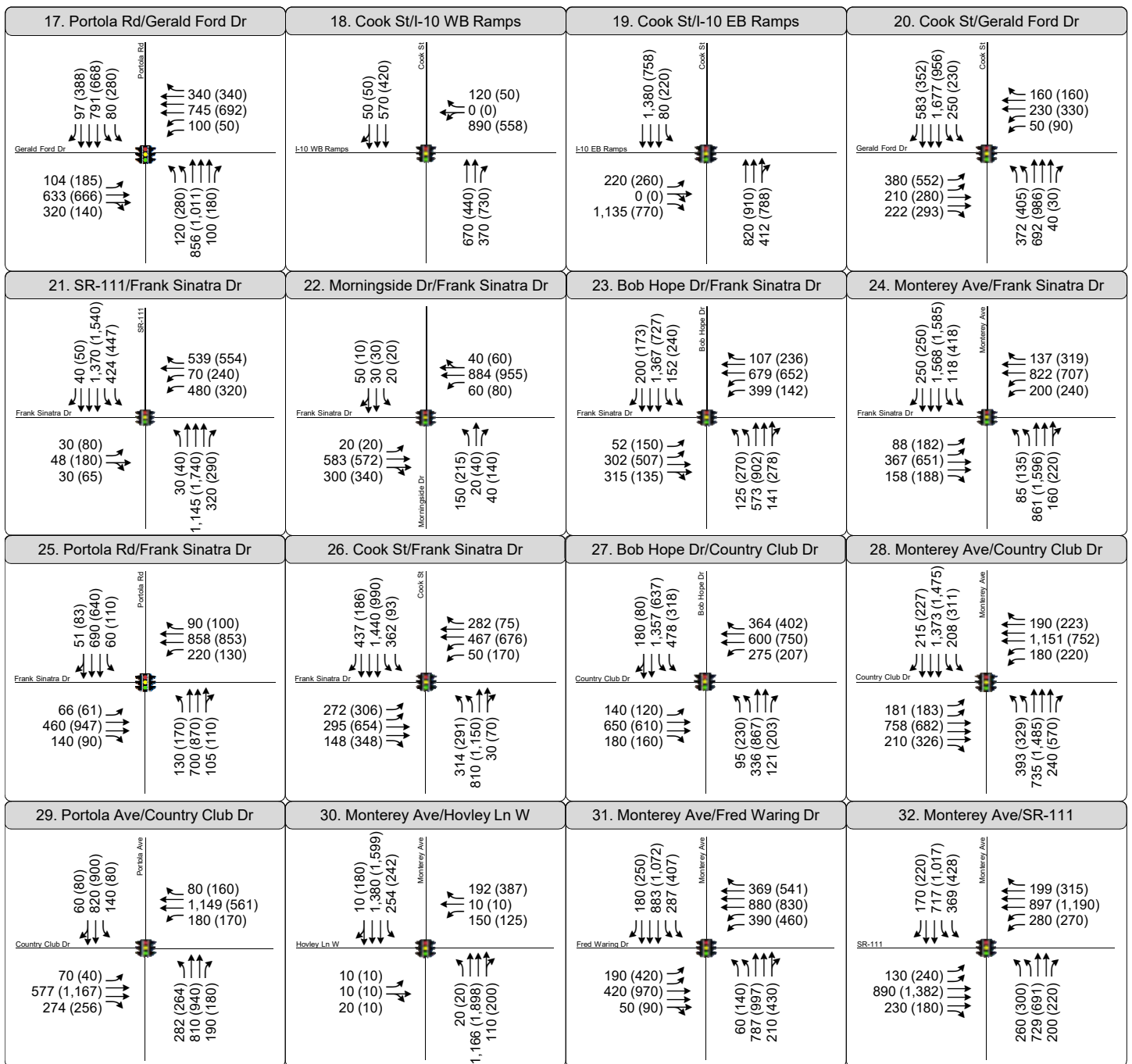


Figure 7-1

Peak Hour Traffic Volumes and Lane Configurations
Cumulative Year (2040) Plus Project Conditions



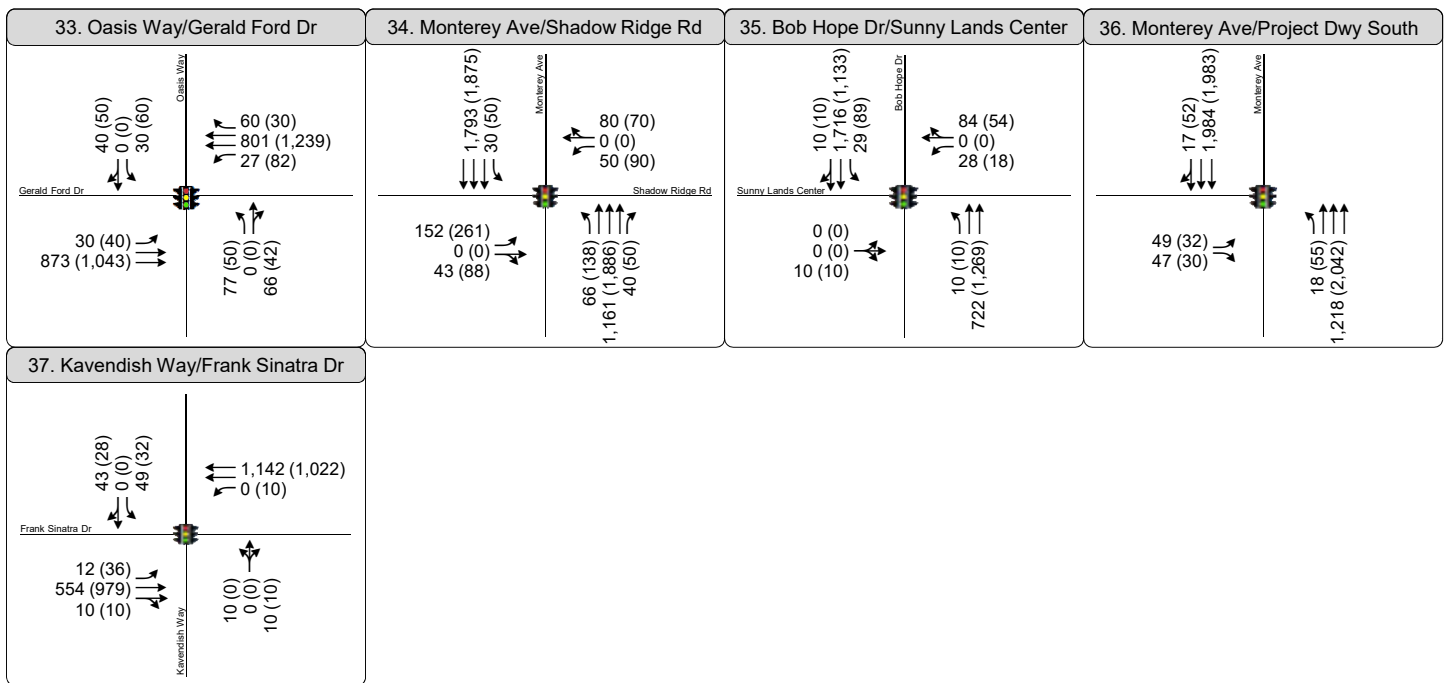


Figure 7-1

Peak Hour Traffic Volumes and Lane Configurations
Cumulative Year (2040) Plus Project Conditions



**TABLE 7-1
CUMULATIVE YEAR (2040) PLUS PROJECT INTERSECTION OPERATIONS**

	Intersection	Jurisdiction	Peak Hour	Cumulative Year (2040) Conditions		Cumulative Year (2040) + Project Conditions	
				Delay	LOS	Delay	LOS
1	Bob Hope Drive & I-10 Westbound Ramps	Caltrans	AM	13.9	B	15.7	B
			PM	27.2	C	34.3	C
2	Bob Hope Drive & I-10 Eastbound Ramps	Caltrans	AM	17.1	B	19.7	B
			PM	17.2	B	30.0	C
3	Ramon Road & Rattler Road	Rancho Mirage	AM	6.5	A	6.8	A
			PM	8.1	A	8.8	A
4	Bob Hope Drive & Ramon Road	Riverside County	AM	52.3	D	53.9	D
			PM	60.3	E	67.0	E
5	Bob Hope Drive & Dinah Shore Drive	Rancho Mirage	AM	44.7	D	49.1	D
			PM	46.2	D	54.5	D
6	Monterey Avenue & Varner Road	Riverside County	AM	45.1	D	45.4	D
			PM	45.9	D	46.5	D
7	Varner Road & I-10 Westbound Off Ramp	Caltrans	AM	11.1	B	11.3	B
			PM	10.4	B	10.8	B
8	Monterey Avenue & I-10 Eastbound Ramps	Caltrans	AM	43.5	D	45.9	D
			PM	40.3	D	48.0	D
9	Monterey Avenue & Dinah Shore Drive	Palm Desert	AM	44.1	D	44.4	D
			PM	52.1	D	52.4	D
10	I-10/Portola Avenue WB Ramps	Future Caltrans	AM	5.4	A	5.7	A
			PM	7.3	A	7.9	A
11	I-10/Portola Avenue Eastbound Ramps	Future Caltrans	AM	11.0	B	12.0	B
			PM	14.4	B	23.8	C
12	Portola Avenue & Dinah Shore	Palm Desert	AM	30.3	C	31.3	C
			PM	35.2	D	35.9	D
13	Gerald Ford Drive & Date Palm Drive	Cathedral City	AM	49.8	D	50.9	D
			PM	42.0	D	43.1	D
14	Gerald Ford Drive & De Vall Drive	Rancho Mirage	AM	37.7	D	41.5	D
			PM	37.3	D	46.9	D
15	Gerald Ford Drive & Bob Hope Drive	Rancho Mirage	AM	34.4	C	38.5	D
			PM	36.9	D	48.2	D
16	Gerald Ford Drive & Monterey Avenue	Palm Desert	AM	32.7	C	46.9	D
			PM	44.8	D	52.0	D
17	Gerald Ford Drive & Portola Road	Palm Desert	AM	29.5	C	30.6	C
			PM	31.0	C	32.5	C
18	Cook Street & I-10 Westbound Ramps	Caltrans	AM	34.0	C	34.5	C
			PM	28.1	C	29.8	C
19	Cook Street and I-10 Eastbound Ramps	Caltrans	AM	34.3	C	34.6	C
			PM	33.1	C	38.4	D
20	Gerald Ford & Cook Street	Palm Desert	AM	31.8	C	32.8	C
			PM	31.0	C	32.0	C

21	Frank Sinatra Drive & Highway 111	Rancho Mirage	AM	28.6	C	30.0	C
			PM	47.4	D	53.2	D
22	Frank Sinatra Drive & Morningside Drive	Rancho Mirage	AM	18.4	B	19.1	B
			PM	17.8	B	18.8	B
23	Frank Sinatra Drive & Bob Hope Drive	Rancho Mirage	AM	36.2	D	37.2	D
			PM	31.6	C	34.2	C
24	Frank Sinatra Drive & Monterey Avenue	Palm Desert	AM	31.9	C	25.7	C
			PM	43.8	D	49.6	D
25	Frank Sinatra Drive & Portola Avenue	Palm Desert	AM	28.0	C	30.5	C
			PM	33.6	C	35.3	D
26	Frank Sinatra Drive & Cook Street	Palm Desert	AM	35.5	D	36.7	D
			PM	41.7	D	43.4	D
27	Country Club Drive & Bob Hope Drive	Ranch Mirage	AM	68.8	E	70.2	E
			PM	38.4	D	39.8	D
28	Country Club Drive & Monterey Avenue	Palm Desert	AM	45.9	D	46.5	D
			PM	45.2	D	48.9	D
29	Portola Avenue & Country Club Drive	Palm Desert	AM	64.6	E	65.2	E
			PM	74.6	E	75.6	E
30	Monterey Avenue & Hovely Lane West	Palm Desert	AM	22.4	C	22.5	C
			PM	16.7	B	16.9	B
31	Monterey Avenue & Fred Waring Drive	Palm Desert	AM	41.6	D	42.4	D
			PM	60.7	E	65.6	E
32	Monterey Avenue & Highway 111	Palm Desert	AM	50.5	D	53.9	D
			PM	53.1	D	55.0	D
33	Gerald Ford & Oasis Way/Project Access Intersection	Rancho Mirage	AM	19.6	C	5.9	A
			PM	75.9	F	6.3	A
34	Monterey Avenue & Shadow Ridge Road/Project Access Intersection North	Rancho Mirage	AM	4.1	A	8.6	A
			PM	5.4	A	20.9	C
35	Bob Hope Drive & Sunnylands Center/Project Access Intersection	Rancho Mirage	AM	18.3	C	5.4	A
			PM	13.2	B	4.8	A
36	Monterey Avenue & Project Access Intersection South	Proposed	AM	-	-	1.3	A
		Rancho Mirage	PM	-	-	1.5	A
37	Frank Sinatra Drive & Kavendish Way/Project Access Intersection	Rancho Mirage	AM	17.3	C	6.0	A
			PM	12.0	B	5.4	A

Notes:

1. Delay is calculated using Synchro using HCM 6th Methodology

2. **Bold** type indicates LOS exceeds desired level.

Source: Fehr & Peers, 2019

ROADWAY OPERATIONS

Roadway segment LOS analysis is presented in **Table 7-2** for Cumulative Year (2040) Plus Project Conditions. As shown in **Table 7-2**, all study roadway segments are forecast to operate acceptably at LOS C or better.

TABLE 7-2
CUMULATIVE PLUS PROJECT ROADWAY SEGMENT LEVEL OF SERVICE

	Roadway	Segment	Roadway Classification	Cumulative Year (2040)	Cumulative Year (2040) Plus Project		
					ADT	V/C	LOS
1	Bob Hope Drive	Between Dinah Shore Drive and Gerald Ford Drive	6-Lane Major Arterial	31,400	35,200	0.65	LOS C or Better
2	Bob Hope Drive	Between Gerald Ford Drive and Frank Sinatra Drive	6-Lane Major Arterial	31,600	34,500	0.64	LOS C or Better

Source: Fehr & Peers, 2019

IMPACT ASSESSMENT

INTERSECTION IMPACTS

Table 7-3 compares the changes in delay and LOS at intersections that operate deficiently between “Base” and “Plus Project” scenarios to determine the significance of the contribution of traffic from the Project to the identified cumulative impacts. Changes are compared to the allowable change outlined in Chapter 3.

TABLE 7-3
CUMULATIVE YEAR PLUS PROJECT INTERSECTION LOS

	Intersection	Jurisdiction	Peak Hour	Cumulative		Cumulative Plus Project		Delay Change	Significant Impact
				Delay	LOS	Delay	LOS		
4	Bob Hope Drive & Ramon Road	Riverside County	PM	60.3	E	67.0	E	6.7	YES
27	Country Club Drive & Bob Hope Drive	Rancho Mirage	AM	68.8	E	70.2	E	1.4	YES
29	Portola Avenue & Country Club Drive	Palm Desert	AM	64.6	E	65.2	E	0.6	YES
			PM	74.6	E	75.6	E	1.0	YES
31	Monterey Avenue & Fred Waring Drive	Palm Desert	PM	60.7	E	65.6	E	4.9	YES

Notes:

1. Delay is calculated using Synchro using HCM 6th Edition Methodology
2. **Bold** type indicates an unacceptable LOS.

Source: Fehr & Peers, 2019

As shown in **Table 7-3**, the Project will contribute cumulative impacts at the following study intersections:

- 4. Bob Hope Drive & Ramon Road – PM Peak Hour (LOS E)
- 27. Country Club Drive & Bob Hope Drive – AM Peak Hour (LOS E)
- 29. Portola Avenue & Country Club Drive – AM Peak Hour (LOS F), PM Peak Hour (LOS F)
- 31. Monterey Avenue & Fred Waring Drive – PM Peak Hour (LOS E)

The intersections listed are operating unacceptably under Cumulative Year (2040) Conditions. Under Cumulative Year (2040) Plus Project Conditions, the delay increases at intersections already operating unacceptably. By the significance thresholds outlined in Chapter 3, a significant impact. Occurs at these four locations.

ROADWAY IMPACTS

As shown in **Table 7-4**, based on the criteria set forth in Chapter 3, the contribution of the Project’s traffic to cumulative impacts will not be significant at any of the study roadway segments:

**TABLE 7-4
 CUMULATIVE PLUS PROJECT IMPACT ROADWAY SEGMENT IMPACT SUMMARY**

Roadway	Segment	Cumulative No Project		Cumulative Plus Project		Δ in V/C	Significant Impact?
		ADT	V/C	ADT	V/C		
1 Bob Hope Drive	Between Dinah Shore Drive and Gerald Ford Drive	31,400	0.58	35,200	0.65	0.07	NO
2 Bob Hope Drive	Between Gerald Ford Drive and Frank Sinatra Drive	31,600	0.59	34,500	0.64	0.05	NO

Source: Fehr & Peers, 2019

8. IMPACTS & MITIGATION MEASURES

This chapter summarizes the environmental impacts of the proposed Project and recommends feasible mitigation measures where possible. The proposed Project and the analysis results were compared to the significance criteria contained in the CEQA guidelines and the significance criteria summarized in Chapter 3. The results are summarized below.

a) Does the proposed project conflict with an applicable plan, ordinance, or policy?

Threshold: Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system; taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Determination: Less than significant with Mitigation Measures

General Discussion

The proposed Project is consistent with adopted plans and policies related to active travel in the area. In fact, the Project includes significant facilities to support bicycles and pedestrians on site. Additionally, the land use plan includes a mix of uses that will increase the Project's trip internalization.

To evaluate motorized facilities, the significance criteria from applicable jurisdictions summarized in Chapter 3 were applied to the analysis results to identify significant impacts.

All locations where cumulative project impacts occur are subject to mitigation, which is described later in this chapter.

b) Would the Project conflict with an applicable congestion management program (CMP), including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

The County of Riverside's CMP facility roadway segment (Ramon Road, east of Bob Hope Drive) operates at LOS D or better under all scenarios. The significance thresholds require that CMP facilities operate at LOS D or better. Therefore, the Project does not conflict with any CMP standards.

c) Would the Project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

The proposed project does not include any characteristics that would change air traffic in the study area, nor is the project site located in an airport land use influence area.

d) Would the Project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Given that specific tract maps have not been completed for the project, it is unknown whether roadways with the proposed project have specific design features that would potentially increase hazards in the study area.

e) Would the Project result in inadequate emergency access?

The proposed Project includes eight access intersections that allow for emergency vehicle access. However, since the final site plans, parking structure plans and parking lot layouts have not been finalized, not every development building could be assessed, nor could internal roadways be reviewed to assess emergency accessibility. It advised that emergency management agencies review the finalized site circulation plans to ensure all emergency vehicles have adequate emergency access.

f) Would the Project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities; or otherwise decrease the performance or safety of such facilities?

The City of Rancho Mirage General Plan and the proposed Project include measures and policies that support use of alternative modes of travel and no part of the Project proposal would conflict with the implementation of those facilities.

EXISTING PLUS PROJECT MITIGATION MEASURES

INTERSECTION MITIGATION MEASURES

Improvement measures were developed for significantly impacted locations to minimize the impact of the Project on the study area. LOS calculation worksheets for mitigated locations are provided in **Appendix H**.

Recommended Intersection Mitigation Measures

As shown in **Table 5-3**, the Project is forecast to result in a significant impact at the following two intersections based on agency thresholds of significance for Existing (2018) Plus Project Conditions:

6. Monterey Avenue & Varner Road – AM Peak Hour (LOS E), PM Peak Hour (LOS F)

18. Cook Street & I-10 Westbound Ramps – AM Peak Hour (LOS F)

For project-level impacts, the project applicant would be responsible for mitigating the impact by implementing the mitigation measures described below.

Riverside County

6. Monterey Avenue & Varner Road



Source: Google Maps, 2019

To mitigate the Project impact, the coordinated maximum splits for the AM and PM signal timing plan would need to be adjusted and optimized for the expected traffic volume demand. In an effort to ensure that the full effect of the Project was considered in the “plus Project” analysis, signal timing was locked and consistent with the “no Project” scenario. The change in traffic volumes requires a reallocation of green signal time to more efficiently serve the traffic demand. This would not require changing the coordinated cycle length.

With the recommended improvement, this intersection would operate at an acceptable LOS during the AM and PM peak hour. Signal timing updates are standard maintenance conducted by cities, and considered a feasible mitigation measure.

This impact is estimated to be triggered at 10% of Project buildout.

Caltrans

18. Cook Street & I-10 Westbound Ramps



Source: Google Maps, 2019

To mitigate the Project impact, the coordinated maximum splits for the AM signal timing plan would need to be adjusted and optimized for the expected traffic volume demand. In an effort to, ensure that the full effect of the Project was considered in the “plus Project” analysis, signal timing was locked and consistent with the “no Project” scenario. The change in traffic volumes requires a reallocation of green signal time to more efficiently serve the traffic demand. This would not require changing the coordinated cycle length.

With the recommended improvement, this intersection would operate at an acceptable LOS during the AM peak hour. Signal timing updates are standard maintenance conducted by cities, and considered a feasible mitigation measure.

This impact is estimated to be triggered at 10% of Project buildout.

Intersection LOS Comparison

Table 8-1 below compares the delay and LOS for the Existing (2018), Existing (2018) Plus Project, and Existing (2018) Plus Project with Mitigation scenarios. For all locations, the identified mitigation measures improve the intersection operations to an acceptable LOS condition.

TABLE 8-1 EXISTING YEAR (2018) PLUS PROJECT MITIGATION SUMMARY

Intersection	Peak Hour	Existing		Existing Plus Project		Existing Plus Project with Mitigation	
		Delay	LOS	Delay	LOS	Delay	LOS
6 Monterey Avenue/Dinah Shore Drive	AM	58.6	E	64.0	E	49.2	D
	PM	79.4	E	>120	F	40.7	D
18 Cook Street & I-10 Westbound Ramps	AM	>120	F	>120	F	35.1	D

Source: Fehr & Peers, 2019

CUMULATIVE PLUS PROJECT MITIGATION MEASURES

INTERSECTION MITIGATION MEASURES

Improvement measures were developed for locations cumulatively impacted by forecasted traffic conditions in 2040. LOS calculation worksheets for mitigated locations are provided in **Appendix H**.

Recommended Intersection Mitigation Measures

As shown in **Table 7-3**, the contribution of traffic from the Project will cumulatively impact 10 study intersections based on agency thresholds of significance for Cumulative Plus Project Conditions:

- 4. Bob Hope Drive & Ramon Road – PM Peak Hour (LOS E)
- 27. Country Club Drive & Bob Hope Drive – AM Peak Hour (LOS E)
- 29. Portola Avenue & Country Club Drive – AM Peak Hour (LOS E), PM Peak Hour (LOS E)
- 31. Monterey Avenue & Fred Waring Drive – PM Peak Hour (LOS E)

For cumulative-level impacts, the Project applicant would be responsible for a “fair share” contribution, based on the percent of Project traffic added to the intersection, to the impact by implementing the mitigation measures described below.

County of Riverside

4. Bob Hope Drive & Ramon Road



Source: Google Maps, 2019

In order for this intersection to operate acceptably in 2040 with the addition of Project traffic, both the planned improvement and additional modifications will be needed, including:

- Add eastbound through lane
- Add right-turn overlap phasing in the eastbound direction
- Add right-turn overlap phasing in the northbound direction

With these recommended improvements, operations are forecast to operate at an acceptable LOS during the PM peak hour. The City of Rancho Mirage and the County of Riverside General Plans classify Ramon as a six-lane facility so these improvements would be consistent with both general plans.

The Project would be responsible for a fair share contribution of 11% to the recommended improvements.

City of Rancho Mirage

27. Country Club Drive & Bob Hope Drive



Source: Google Maps, 2019

In order for this intersection to operate acceptably in 2040 with the addition of Project traffic, the modifications will be needed, including:

- Add southbound dedicated right-turn lane
- Add right-turn overlap phasing in the westbound direction

With these recommended improvements, the intersection is forecast to operate at an acceptable LOS during the AM peak hour. In order to accommodate the additional right-turn lane in the southbound direction, the raised medians on the north and south legs would require modification and realignment. The southbound approach would need to be restriped to the modifications listed above. The improvements can fit within the existing right-of-way.

The Project would be responsible for fair share contribution of 2% to the recommended improvement.

City of Palm Desert

29. Portola Avenue & Country Club Drive



Source: Google Maps, 2019

In order for this intersection to operate acceptably in 2040 with the addition of Project traffic, the modifications will be needed, including:

- Modify eastbound right-turn lane to a shared through-right-turn lane
- Modify northbound approach from one left-turn lane, two through lanes, and one right-turn lane to two left-turn lane, one through lane, and one shared through-right-turn lane

With these recommended improvements, the intersection is forecast to operate at an acceptable LOS during the AM and PM peak hours. In order to accommodate the additional through lane in the eastbound direction, the raised median on the west leg would require modification. The eastbound, westbound, and northbound approaches would need to be restriped to the modifications listed above. The improvements can fit within the existing right-of-way.

The Project would be responsible for fair share contribution of 3% to the recommended improvement.

31. Monterey Avenue & Fred Waring Drive



Source: Google Maps, 2019

In order for this intersection to operate acceptably in 2040 with the addition of Project traffic, the modifications will be needed, including:

- Convert northbound shared through-right-turn lane to a right-turn lane, add right-turn overlap phasing
- Add right-turn overlap phasing in the westbound direction

With these recommended improvements, the intersection is forecast to operate at an acceptable LOS during the PM peak hour. The northbound approach would need to be restriped to the modifications listed above. The AM peak hour operates at an acceptable LOS with this restriping. These improvements can fit within the existing right-of-way.

The Project would be responsible for fair share contribution of 13% to the recommended improvement.

Intersection LOS Comparison

Table 8-2 below compares the delay and LOS for the Cumulative (2040), Cumulative (2040) Plus Project, and Cumulative (2040) Plus Project with Mitigation scenarios. For all locations, the identified mitigation measures improve the intersection operations to acceptable operation. The Project would be responsible for a fair share contribution to the recommended improvements.

**TABLE 8-2
CUMULATIVE YEAR (2040) PLUS PROJECT MITIGATION SUMMARY**

Intersection	Peak Hour	Cumulative		Cumulative Plus Project		Cumulative Plus Project with Mitigation	
		Delay	LOS	Delay	LOS	Delay	LOS
4 Bob Hope Drive & Ramon Road	PM	60.3	E	67.0	E	52.4	D
27 Country Club Drive & Bob Hope Drive	AM	68.8	E	70.2	E	54.9	D
29 Portola Avenue & Country Club Drive	AM	64.6	E	65.2	E	54.9	D
	PM	74.6	E	75.6	E	54.9	D
31 Monterey Avenue & Fred Waring Drive	PM	60.7	E	65.6	E	54.8	D

Source: Fehr & Peers, 2019

9. SITE PLAN REVIEW

This chapter provides an overview of the Project site plan, related to internal and external circulation for the Project. Issues considered include site access, on-site circulation, and emergency vehicle access. Project access intersections were sized according to future traffic volumes.

ON-SITE CIRCULATION

Fehr and Peers reviewed the project site plan and Specific Plan documentation on proposed facilities. The Project site plan was designed to promote alternative forms of transportation while providing for vehicular access through a roadway network that interconnects all land uses within the project. The Specific Plan takes a multi-modal approach to circulation system planning within the project. The design seeks to decrease automobile dependency by providing transportation facilities for a variety of user groups including motorists, cyclists, pedestrians, and drivers of electric vehicles. Convenient access and parking is planned in close proximity to retail and resort areas for visitors. The internal system of private local roadways will allow residents of the individual neighborhoods to access the central lagoon and Mixed Use Core without exiting onto surrounding public streets. The following are characteristic features accommodated within the multi-modal transportation system:

- Off-street bicycle and pedestrian paths/routes
- Sidewalks
- Pedestrian/bicycle crosswalks
- Landscaped median islands
- Pedestrian plazas
- Traffic calming devices
- Golf cart and other alternative forms of personal transport access

Internal roadways were reviewed to verify that the proposed two-lane roads would provide enough capacity for the Project. **Table 9-1** summarizes the forecast ADT for each of the Project access intersections. One lane roads have the capacity to serve 12,000 to 15,000 vehicles daily. The results show that one lane in each direction has enough capacity for the forecasted ADT results at each of the project access roads.

**TABLE 9-1
 PROJECT ACCESS INTERSECTION ADT FORECASTS**

	Project Access Intersection	Peak Hour Volume (PM)	ADT
33	Gerald Ford & Oasis Way/Project Access Intersection	234	2,800
34	Monterey Avenue & Shadow Ridge Road/Project Access Intersection North	748	8,900
35	Bob Hope Drive & Sunnylands Center/Project Access Intersection	190	2,300
36	Monterey Avenue & Project Access Intersection South	169	2,100
37	Frank Sinatra Drive & Kavendish Way/Project Access Intersection	156	1,900

Source: Fehr & Peers, 2019

PROJECT SITE ACCESS

Project site access is provided by five major access intersections and three minor access driveways to the residential, hotel and retail areas. All four residential entrances are gated. There is a public entry point on Monterey Avenue at Shadow Ridge Road that provides access to the Town Center, which is composed of retail, hotel, and residential land uses. There will also be three right-in/right-out driveways; one on Gerald Ford Drive and the other two on Monterey Avenue. The project access intersections on Monterey Avenue, Frank Sinatra Drive and N Kavendish Drive, Bob Hope Drive and the entrance to Sunnylands Center and Gardens, and Gerald Ford Drive and Oasis Way all provide access to residential areas. The first two right-in/right-out driveways on Gerald Ford Drive and Monterey Avenue will provide access to the Town Center area. The third right-in/right-out driveway on Monterey Avenue will offer access to both the Town Center area and a residential area.

VEHICLE ACCESS

Access to the Project site is provided by the five Project access intersections and three right-in/right-out driveways. The entire Project is accessible from all Project access points. Project access intersections were sized according to future traffic volumes. The turn pocket lengths for project access intersections are summarized in **Table 9-2**. The Synchro queueing reports are included in **Appendix H**.

**TABLE 9-2
PROJECT ACCESS INTERSECTION STORAGE LENGTHS**

	Intersection	Minimum Outbound Left Turn Storage Length (feet)	Minimum Inbound Left Turn Storage Length (feet)
33	Gerald Ford & Oasis Way/Project Access Intersection	50	50
34	Monterey Avenue & Shadow Ridge Road/Project Access Intersection North	430	220
35	Bob Hope Drive & Sunnylands Center/Project Access Intersection	50	60
36	Monterey Avenue & Project Access Intersection South	50	50
37	Frank Sinatra Drive & Kavendish Way/Project Access Intersection	50	50

Source: Fehr & Peers, 2019

HCM analysis concluded that Project access intersections at operate at LOS D or better in all scenarios. Therefore, the Project access intersections can accommodate the proposed number of trips generated by the Project. A summary of peak the peak hour signal warrants for the project access intersections are summarized in **Table 9-3**. As shown in the table below, not all intersections have traffic volumes high enough to warrant a traffic signal. LOS calculations were conducted as side-street stop-controlled for intersections not meeting signal warrant and these intersections would operate acceptably at LOS D or better with the inclusion of a two-way left turn lanes for vehicles to stage and merge into traffic. Signal warrant reports are included in **Appendix G**.

**TABLE 9-3
PROJECT ACCESS INTERSECTION PEAK HOUR WARRANT SUMMARY**

	Intersection	Peak Hour	Warrant Met?	
			Warrant 3A	Warrant 3B
33	Gerald Ford & Oasis Way/Project Access Intersection	AM	YES	YES
		PM	YES	YES
35	Bob Hope Drive & Sunnylands Center/Project Access Intersection	AM	NO	YES
		PM	NO	NO
36	Monterey Avenue & Project Access Intersection South	AM	NO	NO
		PM	NO	NO
37	Frank Sinatra Drive & Kavendish Way/Project Access Intersection	AM	NO	NO
		PM	NO	NO

Source: Fehr & Peers, 2019

Emergency Vehicle Access

Another consideration related to the Project site plan review is the provision of adequate emergency vehicle access. Providing adequate emergency vehicle access ensures that these vehicles are able to easily and quickly respond to service calls. The Project site provides eight access points to the Project. The site plan provides for wide travel lanes with wide turning radii throughout the site. However, it is recommended that the Fire Department review the site plan to confirm that adequate emergency accessibility is provided.

PEDESTRIAN ACCESS

Pedestrian facilities are currently provided along parts of Gerald Ford Drive, Monterrey Avenue, Frank Sinatra Drive, and Bob Hope Drive on the frontage of the Project site. The Project proposes to complete all of the pedestrian access along the frontage of the Project site into a multi-modal pathway that will serve pedestrians, bicyclists, and golf carts. These pathways will connect all four sides of Section 31 to the current circulation system of sidewalks. The overall intent and design of the Specific Plan is geared toward creating a transportation environment that accommodates vehicles, but also minimizes barriers to and promotes convenient pedestrian connectivity between the diverse uses within the Specific Plan. While pedestrian access will be incorporated at all levels, most trips will not be undertaken by foot

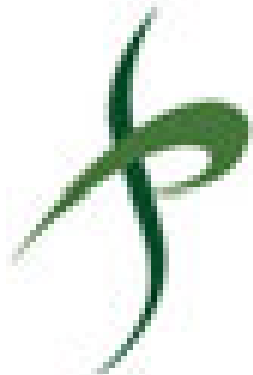
BICYCLE ACCESS

Along with pedestrian facilities, the Project will encourage the use of active and sustainable mode of transportation such as biking. There are several existing Class II bicycle facilities that provide access to the Project site are along Gerald Ford Drive, Monterrey Avenue, Frank Sinatra Drive, and Bob Hope Drive in front of the Project site. These bicycle facilities are adjacent to the Project access intersections and provide direct access into the Project site. The Project proposes to create a multi-modal pathway along the project frontage that will accommodate to bicyclists.

TRANSIT ACCESS

Bus lines are located adjacent to the Project site along Bob Hope Drive and Monterrey Avenue. There is a bus stop on the corner of Bob Hope Drive and Gerald Ford Drive. The Project does not change or prohibit bus facilities or transit routes. Given that there is direct access to transit facilities adjacent to the Project, transit access is deemed adequate.

APPENDIX A: TRAFFIC COUNTS



INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Bob Hope
EAST & WEST: I-10 EB Ramps

PROJECT #: SC1659
LOCATION #: 6
CONTROL: SIGNAL

NOTES:	AM	▲	N
	PM	◀	W
	MD		E ▶
	OTHER		S
	OTHER		▼

Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	2.5	1.5	2	2	X	1.3	0.3	1.3	X	X	X	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

AM	7:00 AM			7:15 AM			7:30 AM			7:45 AM			8:00 AM			8:15 AM			8:30 AM			8:45 AM			TOTAL
		0	40	2	13	125	0	57	1	94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

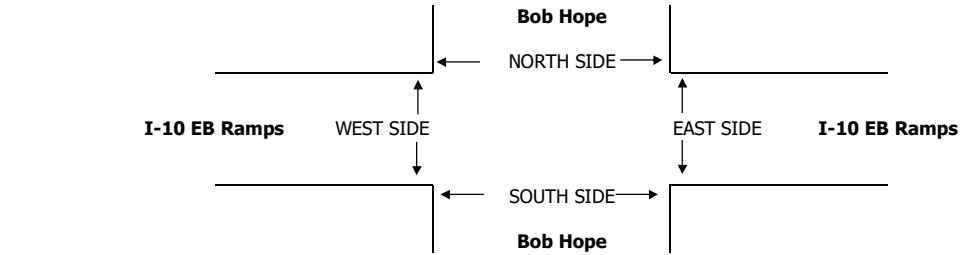
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

VOLUMES	0	456	49	110	1,257	0	449	2	1,098	0	0	0	3,421
APPROACH %	0%	90%	10%	8%	92%	0%	29%	0%	71%	0%	0%	0%	
APP/DEPART	505	/	905	1,367	/	2,355	1,549	/	161	0	/	0	0

PM	4:00 PM			4:15 PM			4:30 PM			4:45 PM			5:00 PM			5:15 PM			5:30 PM			5:45 PM			TOTAL
		0	172	10	59	168	0	41	1	96	0	0	0	0	0	0	0	1	0	0	0	0	0	0	

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1

VOLUMES	0	1,118	87	251	1,269	0	307	6	650	0	0	0	3,688
APPROACH %	0%	93%	7%	17%	83%	0%	32%	1%	67%	0%	0%	0%	
APP/DEPART	1,205	/	1,426	1,520	/	1,919	963	/	343	0	/	0	0



AM	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:15 AM				

PM	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

AM	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:15 AM				

PM	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

INTERSECTION TURNING MOVEMENT COUNTS

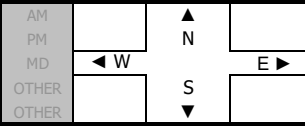
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Bob Hope
EAST & WEST: Ramon

PROJECT #: SC1659
LOCATION #: 5
CONTROL: SIGNAL

NOTES:

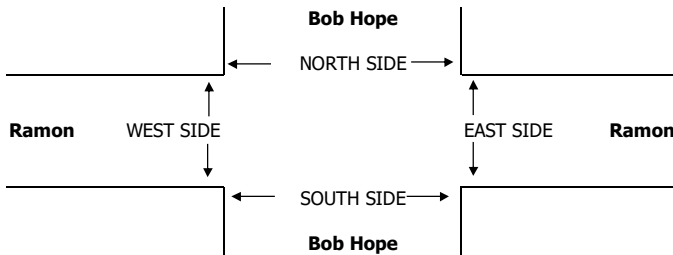


Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	Bob Hope			Bob Hope			Ramon			Ramon				
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		
AM	7:00 AM	13	40	10	4	111	117	14	184	22	21	96	2	634
	7:15 AM	28	40	16	6	112	128	11	179	37	14	132	4	707
	7:30 AM	39	45	22	13	214	144	18	216	55	23	142	1	932
	7:45 AM	40	36	19	15	223	163	29	237	74	16	116	1	969
	8:00 AM	29	38	22	8	160	106	25	189	53	16	82	1	729
	8:15 AM	18	55	19	14	185	103	14	181	39	25	71	1	725
	8:30 AM	26	49	21	8	132	88	23	159	50	20	67	0	643
	8:45 AM	32	42	23	10	188	109	21	133	47	23	68	0	696
	VOLUMES	225	345	152	78	1,325	958	155	1,478	377	158	774	10	6,035
	APPROACH %	31%	48%	21%	3%	56%	41%	8%	74%	19%	17%	82%	1%	
	APP/DEPART	722	/	511	2,361	/	1,858	2,010	/	1,709	942	/	1,957	0
	BEGIN PEAK HR	7:30 AM												
	VOLUMES	126	174	82	50	782	516	86	823	221	80	411	4	3,355
	APPROACH %	33%	46%	21%	4%	58%	38%	8%	73%	20%	16%	83%	1%	
	PEAK HR FACTOR	0.901			0.840			0.831			0.745			0.866
	APP/DEPART	382	/	265	1,348	/	1,082	1,130	/	955	495	/	1,053	0
PM	4:00 PM	82	139	56	19	123	135	24	208	44	12	88	4	934
	4:15 PM	62	133	42	20	124	127	17	193	41	12	79	7	857
	4:30 PM	65	132	56	10	113	137	15	160	51	27	101	5	872
	4:45 PM	70	116	54	18	105	123	12	172	58	24	74	3	829
	5:00 PM	74	172	71	17	90	128	11	198	43	13	78	10	905
	5:15 PM	76	143	60	15	89	145	17	208	56	18	85	2	914
	5:30 PM	78	109	60	15	86	101	8	155	40	10	72	5	739
	5:45 PM	55	91	44	10	72	101	12	179	47	16	78	4	709
	VOLUMES	562	1,035	443	124	802	997	116	1,473	380	132	655	40	6,759
	APPROACH %	28%	51%	22%	6%	42%	52%	6%	75%	19%	16%	79%	5%	
	APP/DEPART	2,040	/	1,192	1,923	/	1,310	1,969	/	2,043	827	/	2,214	0
	BEGIN PEAK HR	4:30 PM												
	VOLUMES	285	563	241	60	397	533	55	738	208	82	338	20	3,520
	APPROACH %	26%	52%	22%	6%	40%	54%	5%	74%	21%	19%	77%	5%	
	PEAK HR FACTOR	0.859			0.952			0.891			0.827			0.963
	APP/DEPART	1,089	/	638	990	/	685	1,001	/	1,041	440	/	1,156	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	1	0	2	3

0	0	0	0	0
0	1	0	1	2
0	0	0	1	1
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	1	0	4	5



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0
	7:15 AM	0	0	0	0
	7:30 AM	0	0	0	0
	7:45 AM	0	0	0	0
	8:00 AM	0	0	0	0
	8:15 AM	0	0	0	0
	8:30 AM	0	0	0	0
	8:45 AM	0	0	0	0
	TOTAL	0	0	0	0
	AM BEGIN PEAK HR	7:30 AM			
PM	4:00 PM	0	0	0	0
	4:15 PM	0	0	0	0
	4:30 PM	0	0	0	0
	4:45 PM	0	0	0	0
	5:00 PM	0	0	0	0
	5:15 PM	0	0	0	0
	5:30 PM	0	0	0	0
	5:45 PM	0	0	0	0
	TOTAL	0	0	0	0
	PM BEGIN PEAK HR	4:30 PM			

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0
	7:15 AM	0	0	0	0
	7:30 AM	0	0	0	0
	7:45 AM	0	0	0	0
	8:00 AM	0	0	0	0
	8:15 AM	0	0	0	0
	8:30 AM	0	0	0	0
	8:45 AM	0	0	0	0
	TOTAL	0	0	0	0
	AM BEGIN PEAK HR	7:30 AM			
PM	4:00 PM	0	0	0	0
	4:15 PM	0	0	0	0
	4:30 PM	0	0	0	0
	4:45 PM	0	0	0	0
	5:00 PM	0	0	0	0
	5:15 PM	0	0	0	0
	5:30 PM	0	0	0	0
	5:45 PM	0	0	0	0
	TOTAL	0	0	0	0
	PM BEGIN PEAK HR	4:30 PM			

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0
	7:15 AM	0	0	0	0
	7:30 AM	0	0	0	0
	7:45 AM	0	0	0	0
	8:00 AM	0	0	0	0
	8:15 AM	0	0	0	0
	8:30 AM	0	0	0	0
	8:45 AM	0	0	0	0
	TOTAL	0	0	0	0
	AM BEGIN PEAK HR	7:30 AM			
PM	4:00 PM	0	0	0	0
	4:15 PM	0	0	0	0
	4:30 PM	0	0	0	0
	4:45 PM	0	0	0	0
	5:00 PM	0	0	0	0
	5:15 PM	0	0	0	0
	5:30 PM	0	0	0	0
	5:45 PM	0	0	0	0
	TOTAL	0	0	0	0
	PM BEGIN PEAK HR	4:30 PM			

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Bob Hope
EAST & WEST: Dinah Shore

PROJECT #: SC1659
LOCATION #: 17
CONTROL: SIGNAL

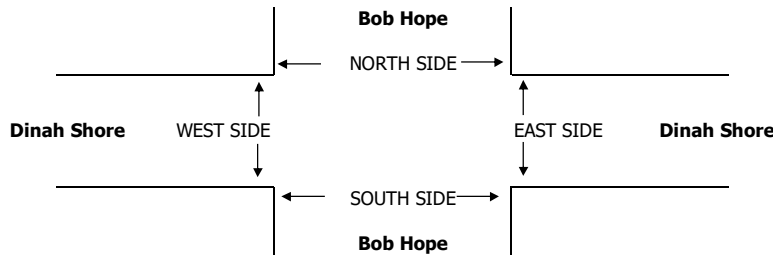
NOTES: 	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼	
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Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	Bob Hope			Bob Hope			Dinah Shore			Dinah Shore				
LANES:	NL 2	NT 3	NR 1	SL 2	ST 2.5	SR 0.5	EL 1	ET 2	ER 1	WL 1	WT 2	WR 1		
AM	7:00 AM	22	29	8	8	126	12	48	13	10	66	9	363	
	7:15 AM	20	58	10	11	129	9	13	79	20	13	103	15	480
	7:30 AM	22	57	20	23	191	22	15	98	32	16	111	17	624
	7:45 AM	15	68	17	36	272	20	14	105	44	26	89	20	726
	8:00 AM	27	65	15	23	167	20	11	109	38	21	91	19	606
	8:15 AM	24	53	24	15	185	16	14	88	33	16	97	23	588
	8:30 AM	33	69	21	23	170	17	11	84	37	22	64	20	571
	8:45 AM	33	68	27	27	174	23	10	82	33	19	88	18	602
	VOLUMES	196	467	142	166	1,414	139	100	693	250	143	709	141	4,560
	APPROACH %	24%	58%	18%	10%	82%	8%	10%	66%	24%	14%	71%	14%	
APP/DEPART	805	/	708	1,719	/	1,814	1,043	/	1,000	993	/	1,038	0	
PM	BEGIN PEAK HR	7:30 AM												
	VOLUMES	88	243	76	97	815	78	54	400	147	79	388	79	2,544
	APPROACH %	22%	60%	19%	10%	82%	8%	9%	67%	24%	14%	71%	14%	
	PEAK HR FACTOR	0.951			0.755			0.922			0.948			0.876
	APP/DEPART	407	/	375	990	/	1,042	601	/	573	546	/	554	0
AM	4:00 PM	60	185	24	22	152	13	20	134	35	23	148	61	877
	4:15 PM	63	158	46	25	110	22	13	133	35	23	162	48	838
	4:30 PM	52	135	50	41	113	18	21	161	39	28	153	57	868
	4:45 PM	66	181	45	34	133	10	20	129	40	33	134	37	862
	5:00 PM	54	208	41	36	84	17	15	137	38	27	165	55	877
	5:15 PM	59	173	47	32	99	17	23	123	38	20	125	57	813
	5:30 PM	40	145	29	31	86	11	25	112	41	24	140	48	732
	5:45 PM	42	122	29	31	70	17	25	86	25	16	150	37	650
	VOLUMES	436	1,307	311	252	847	125	162	1,015	291	194	1,177	400	6,517
	APPROACH %	21%	64%	15%	21%	69%	10%	11%	69%	20%	11%	66%	23%	
APP/DEPART	2,054	/	1,868	1,224	/	1,367	1,468	/	1,576	1,771	/	1,706	0	
PM	BEGIN PEAK HR	4:15 PM												
	VOLUMES	235	682	182	136	440	67	69	560	152	111	614	197	3,445
	APPROACH %	21%	62%	17%	21%	68%	10%	9%	72%	19%	12%	67%	21%	
	PEAK HR FACTOR	0.907			0.860			0.883			0.933			0.982
	APP/DEPART	1,099	/	947	643	/	720	781	/	877	922	/	901	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
2	1	0	0	3
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
1	0	0	0	1
3	0	0	0	3
1	0	0	0	1
7	1	1	0	9

8	0	1	0	9
4	0	0	0	4
3	0	0	0	3
8	0	1	0	9
2	1	1	0	4
3	0	0	0	3
4	1	0	0	5
3	0	0	0	3
35	2	3	0	40



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Monterey
EAST & WEST: Dinah Shore

PROJECT #: SC1659
LOCATION #: 18
CONTROL: SIGNAL

NOTES:	AM		▲	
	PM		N	
	MD	◀ W	S	E ▶
	OTHER	OTHER	▼	

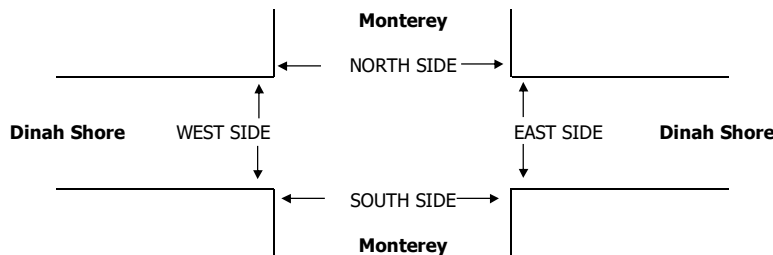
Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Monterey			Monterey			Dinah Shore			Dinah Shore			
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	0	2	3	1	2	2	1	1	2	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		
AM	7:00 AM	23	85	2	74	209	86	37	27	17	4	28	61	653
	7:15 AM	22	91	4	65	257	89	58	36	17	5	41	53	738
	7:30 AM	29	86	2	88	372	104	73	65	46	6	52	82	1,005
	7:45 AM	46	111	4	105	419	112	68	62	33	8	44	84	1,096
	8:00 AM	31	125	5	84	325	73	65	59	52	11	52	53	935
	8:15 AM	37	102	5	78	309	85	62	47	43	9	53	93	923
	8:30 AM	32	82	4	74	336	75	73	72	47	11	54	57	917
	8:45 AM	40	131	7	92	352	102	48	51	44	7	53	73	1,000
VOLUMES	260	813	33	660	2,579	726	484	419	299	61	377	556	7,267	
APPROACH %	24%	74%	3%	17%	65%	18%	40%	35%	25%	6%	38%	56%		
APP/DEPART	1,106	/	1,855	3,965	/	2,948	1,202	/	1,110	994	/	1,354	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	143	424	16	355	1,425	374	268	233	174	34	201	312	3,959	
APPROACH %	25%	73%	3%	16%	66%	17%	40%	35%	26%	6%	37%	57%		
PEAK HR FACTOR	0.905			0.847			0.917			0.882			0.903	
APP/DEPART	583	/	1,004	2,154	/	1,638	675	/	604	547	/	713	0	
PM	4:00 PM	95	242	6	87	240	125	139	85	91	11	105	116	1,342
	4:15 PM	104	325	5	76	262	115	129	64	63	11	80	114	1,348
	4:30 PM	73	212	7	79	223	81	152	90	117	20	90	139	1,283
	4:45 PM	107	277	5	80	222	102	101	88	84	7	76	110	1,259
	5:00 PM	86	244	3	58	211	97	164	70	76	18	103	163	1,293
	5:15 PM	97	301	5	81	215	88	147	80	77	6	78	128	1,303
	5:30 PM	78	224	8	81	203	105	146	69	67	10	80	120	1,191
	5:45 PM	94	261	3	76	163	91	123	52	57	10	70	101	1,101
VOLUMES	734	2,086	42	618	1,739	804	1,101	598	632	93	682	991	10,120	
APPROACH %	26%	73%	1%	20%	55%	25%	47%	26%	27%	5%	39%	56%		
APP/DEPART	2,862	/	4,177	3,161	/	2,474	2,331	/	1,255	1,766	/	2,214	0	
BEGIN PEAK HR	4:00 PM													
VOLUMES	379	1,056	23	322	947	423	521	327	355	49	351	479	5,232	
APPROACH %	26%	72%	2%	19%	56%	25%	43%	27%	30%	6%	40%	54%		
PEAK HR FACTOR	0.840			0.934			0.838			0.883			0.970	
APP/DEPART	1,458	/	2,056	1,692	/	1,356	1,203	/	669	879	/	1,151	0	

NB	SB	EB	WB	TTL
0	0	0	0	0
1	1	0	0	2
1	0	0	0	1
1	0	0	0	1
1	0	0	0	1
2	0	0	0	2
1	0	0	0	1
2	1	0	0	3
9	2	0	0	11
0	3	2	0	5
0	0	1	0	1
1	0	0	0	1
4	0	0	0	4
4	1	0	1	6
1	0	1	0	2
1	0	1	0	2
0	0	0	0	0
11	4	5	1	21



	PEDESTRIAN + BIKE CROSSINGS				TOTAL
	N SIDE	S SIDE	E SIDE	W SIDE	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

	PEDESTRIAN CROSSINGS				TOTAL
	N SIDE	S SIDE	E SIDE	W SIDE	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

	BICYCLE CROSSINGS				TOTAL
	NS	SS	ES	WS	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Date Palm
EAST & WEST: Gerald Ford

PROJECT #: SC1659
LOCATION #: 19
CONTROL: SIGNAL

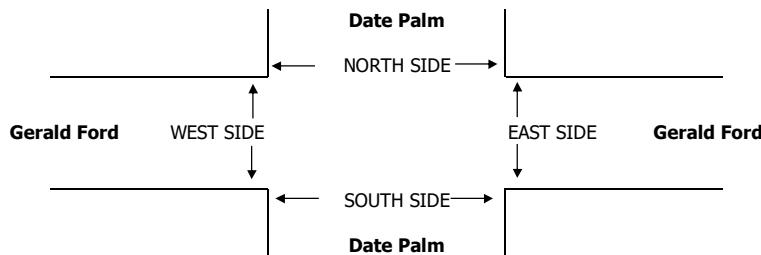
<p>NOTES:</p>	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼	
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Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	Date Palm			Date Palm			Gerald Ford			Gerald Ford				
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1.5	WT 0.5	WR 1		
AM	7:00 AM	0	44	21	26	78	14	2	6	5	45	5	23	269
	7:15 AM	4	51	30	34	99	20	6	12	7	73	10	23	369
	7:30 AM	4	48	32	46	122	23	10	13	5	64	6	26	399
	7:45 AM	3	53	36	49	118	22	11	15	2	88	10	30	437
	8:00 AM	7	46	42	43	117	19	12	8	9	61	18	31	413
	8:15 AM	10	52	41	39	105	12	11	16	3	74	15	51	429
	8:30 AM	7	72	42	33	130	9	13	12	7	55	13	35	428
	8:45 AM	7	73	44	30	116	8	12	12	6	53	9	30	400
	VOLUMES	42	439	288	300	885	127	77	94	44	513	86	249	3,144
	APPROACH %	5%	57%	37%	23%	67%	10%	36%	44%	20%	60%	10%	29%	
APP/DEPART	769	/	765	1,312	/	1,442	215	/	682	848	/	255	0	
BEGIN PEAK HR	7:45 AM													
VOLUMES	27	223	161	164	470	62	47	51	21	278	56	147	1,707	
APPROACH %	7%	54%	39%	24%	68%	9%	39%	43%	18%	58%	12%	31%		
PEAK HR FACTOR	0.849			0.921			0.930			0.859			0.977	
APP/DEPART	411	/	417	696	/	769	119	/	376	481	/	145	0	
PM	4:00 PM	3	150	65	33	99	16	13	5	2	48	11	38	483
	4:15 PM	5	134	65	34	95	8	13	11	9	34	12	33	453
	4:30 PM	6	136	63	31	93	14	12	12	6	48	15	37	473
	4:45 PM	6	136	51	32	108	11	12	11	10	68	7	38	490
	5:00 PM	9	184	77	27	119	13	6	10	7	54	17	40	563
	5:15 PM	10	150	60	21	93	7	22	6	4	65	17	51	506
	5:30 PM	6	137	83	24	97	9	9	4	2	48	9	37	465
	5:45 PM	10	126	51	43	86	15	19	15	4	48	8	33	458
	VOLUMES	55	1,153	515	245	790	93	106	74	44	413	96	307	3,891
	APPROACH %	3%	67%	30%	22%	70%	8%	47%	33%	20%	51%	12%	38%	
APP/DEPART	1,723	/	1,567	1,128	/	1,246	224	/	834	816	/	244	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	31	606	251	111	413	45	52	39	27	235	56	166	2,032	
APPROACH %	3%	68%	28%	20%	73%	8%	44%	33%	23%	51%	12%	36%		
PEAK HR FACTOR	0.822			0.895			0.894			0.859			0.902	
APP/DEPART	888	/	824	569	/	674	118	/	402	457	/	132	0	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	1	0	0	1
0	0	0	0	0
0	1	0	1	2



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Da Vall
EAST & WEST: Gerald Ford

PROJECT #: SC1659
LOCATION #: 20
CONTROL: SIGNAL

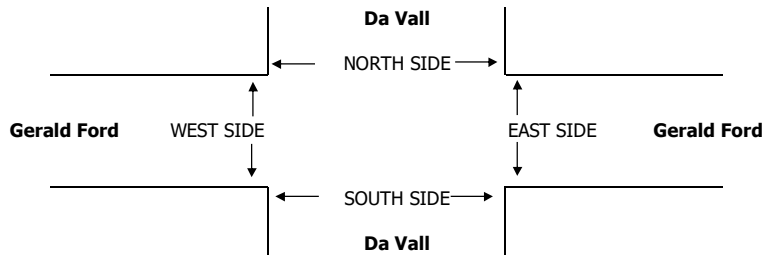
<p>NOTES:</p>	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼	
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Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	
	Da Vall			Da Vall			Gerald Ford			Gerald Ford				
LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0		
AM	7:00 AM	18	36	8	12	58	14	5	52	29	4	56	12	304
	7:15 AM	18	40	7	16	86	12	14	55	49	5	74	18	394
	7:30 AM	9	62	7	19	121	14	5	78	66	9	65	27	482
	7:45 AM	19	66	6	46	151	12	14	109	51	10	88	32	604
	8:00 AM	25	51	5	38	111	25	9	86	41	9	87	24	511
	8:15 AM	22	41	11	24	103	17	9	106	33	12	60	10	448
	8:30 AM	25	53	7	26	111	11	9	72	42	7	73	20	456
	8:45 AM	21	46	9	30	88	20	7	85	41	8	60	14	429
	VOLUMES	157	395	60	211	829	125	72	643	352	64	563	157	3,628
	APPROACH %	26%	65%	10%	18%	71%	11%	7%	60%	33%	8%	72%	20%	
APP/DEPART	612	/	626	1,165	/	1,247	1,067	/	913	784	/	842	0	
BEGIN PEAK HR	7:30 AM													
VOLUMES	75	220	29	127	486	68	37	379	191	40	300	93	2,045	
APPROACH %	23%	68%	9%	19%	71%	10%	6%	62%	31%	9%	69%	21%		
PEAK HR FACTOR	0.890			0.815			0.872			0.833			0.846	
APP/DEPART	324	/	351	681	/	717	607	/	535	433	/	442	0	
PM	4:00 PM	34	105	5	13	72	16	13	87	29	8	64	35	481
	4:15 PM	21	85	15	16	86	17	10	85	26	12	71	30	474
	4:30 PM	41	102	13	20	59	7	17	77	18	13	95	26	488
	4:45 PM	29	89	15	18	62	10	11	77	15	11	95	20	452
	5:00 PM	35	121	18	20	55	19	15	83	13	7	91	26	503
	5:15 PM	30	93	6	23	80	10	12	75	12	11	105	36	493
	5:30 PM	30	76	11	20	83	10	9	84	21	8	79	21	452
	5:45 PM	24	75	10	15	58	8	9	79	19	3	74	24	398
	VOLUMES	244	746	93	145	555	97	96	647	153	73	674	218	3,741
	APPROACH %	23%	69%	9%	18%	70%	12%	11%	72%	17%	8%	70%	23%	
APP/DEPART	1,083	/	1,057	797	/	782	896	/	888	965	/	1,014	0	
BEGIN PEAK HR	4:30 PM													
VOLUMES	135	405	52	81	256	46	55	312	58	42	386	108	1,936	
APPROACH %	23%	68%	9%	21%	67%	12%	13%	73%	14%	8%	72%	20%		
PEAK HR FACTOR	0.851			0.847			0.949			0.882			0.962	
APP/DEPART	592	/	567	383	/	357	425	/	447	536	/	565	0	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
1	0	0	0	1
0	0	0	1	1
0	0	0	0	0
2	1	0	0	3
0	0	0	0	0
3	2	0	1	6

1	0	1	0	2
0	0	0	1	1
0	0	1	0	1
1	0	0	0	1
2	0	0	1	3
0	0	0	1	1
0	0	1	0	1
0	0	0	0	0
4	0	3	3	10



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

INTERSECTION TURNING MOVEMENT COUNTS

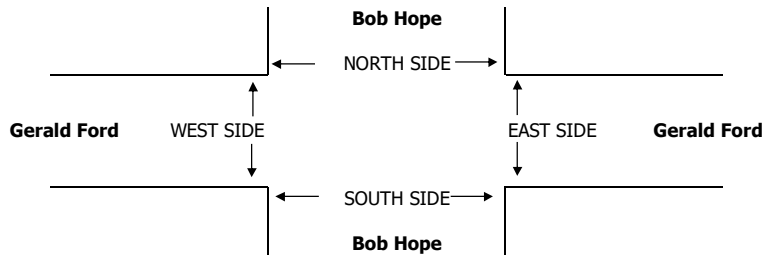
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE: Thu, Mar 22, 18	LOCATION: NORTH & SOUTH: Rancho Mirage EAST & WEST: Bob Hope Gerald Ford	PROJECT #: SC1659 LOCATION #: 21 CONTROL: SIGNAL																	
NOTES:		<table border="1" style="margin: auto;"> <tr> <td style="text-align: center;">AM</td> <td style="text-align: center;">▲</td> <td style="text-align: center;">N</td> <td style="text-align: center;">▶</td> </tr> <tr> <td style="text-align: center;">PM</td> <td style="text-align: center;">◀</td> <td style="text-align: center;">W</td> <td style="text-align: center;">E ▶</td> </tr> <tr> <td style="text-align: center;">OTHER</td> <td style="text-align: center;">▼</td> <td style="text-align: center;">S</td> <td style="text-align: center;">◀</td> </tr> <tr> <td style="text-align: center;">OTHER</td> <td></td> <td></td> <td></td> </tr> </table>	AM	▲	N	▶	PM	◀	W	E ▶	OTHER	▼	S	◀	OTHER				<input checked="" type="checkbox"/> Add U-Turns to Left Turns
AM	▲	N	▶																
PM	◀	W	E ▶																
OTHER	▼	S	◀																
OTHER																			

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Bob Hope			Bob Hope			Gerald Ford			Gerald Ford			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	5	42	6	10	112	12	12	49	17	7	74	9	355
7:15 AM	11	49	6	12	129	16	23	71	22	17	109	11	476
7:30 AM	10	72	7	14	171	17	25	104	31	19	90	12	572
7:45 AM	10	55	3	15	255	20	25	115	35	36	104	28	701
8:00 AM	18	66	9	10	209	13	23	80	31	24	94	22	599
8:15 AM	18	67	7	15	194	14	24	87	43	35	80	18	602
8:30 AM	20	75	6	17	163	26	22	91	28	29	70	21	568
8:45 AM	14	82	11	21	159	23	25	98	37	26	92	30	618
VOLUMES	106	508	55	114	1,392	141	179	695	244	193	713	151	4,491
APPROACH %	16%	76%	8%	7%	85%	9%	16%	62%	22%	18%	67%	14%	
APP/DEPART	669	/	877	1,647	/	1,830	1,118	/	826	1,057	/	958	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	56	260	26	54	829	64	97	386	140	114	368	80	2,474
APPROACH %	16%	76%	8%	6%	88%	7%	16%	62%	22%	20%	65%	14%	
PEAK HR FACTOR	0.919			0.816			0.890			0.836			0.882
APP/DEPART	342	/	453	947	/	1,081	623	/	452	562	/	488	0
4:00 PM	43	184	13	22	163	24	32	86	28	22	75	12	704
4:15 PM	44	171	17	16	148	26	37	101	28	9	91	23	711
4:30 PM	25	186	19	19	130	27	45	99	23	31	114	16	734
4:45 PM	33	187	15	20	164	21	43	84	25	15	94	21	722
5:00 PM	30	204	20	25	119	22	46	89	28	13	104	11	711
5:15 PM	25	165	21	16	124	16	34	113	27	15	114	25	695
5:30 PM	26	146	18	18	119	16	48	95	18	13	87	17	621
5:45 PM	23	117	9	9	106	15	40	89	22	13	85	15	543
VOLUMES	249	1,360	132	145	1,073	167	325	756	199	131	764	140	5,441
APPROACH %	14%	78%	8%	10%	77%	12%	25%	59%	16%	13%	74%	14%	
APP/DEPART	1,741	/	1,822	1,385	/	1,405	1,280	/	1,021	1,035	/	1,193	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	132	748	71	80	561	96	171	373	104	68	403	71	2,878
APPROACH %	14%	79%	7%	11%	76%	13%	26%	58%	16%	13%	74%	13%	
PEAK HR FACTOR	0.936			0.899			0.970			0.842			0.980
APP/DEPART	951	/	990	737	/	731	648	/	516	542	/	641	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
1	6	0	0	7
0	3	0	0	3
0	4	0	1	5
0	4	0	0	4
0	5	0	1	6
0	6	0	0	6
2	8	1	0	11
3	40	1	2	46

2	3	2	0	7
0	5	2	1	8
0	3	4	1	8
0	2	4	0	6
0	0	0	0	0
2	1	1	0	4
0	0	3	0	3
0	0	1	0	1
4	14	17	2	37



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

INTERSECTION TURNING MOVEMENT COUNTS

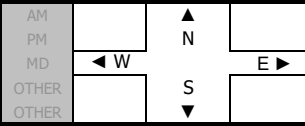
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Monterey
EAST & WEST: Gerald Ford

PROJECT #: SC1659
LOCATION #: 22
CONTROL: SIGNAL

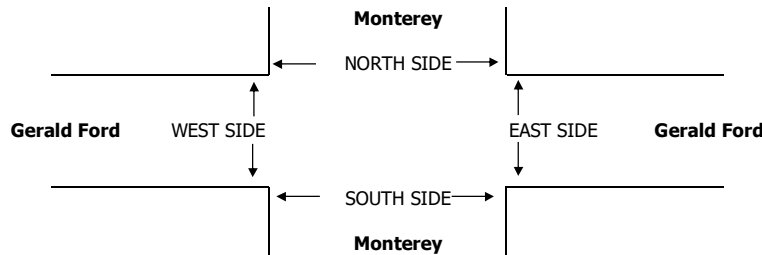
NOTES:



	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Monterey			Monterey			Gerald Ford			Gerald Ford			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
AM													
7:00 AM	25	96	1	6	165	18	14	38	12	11	80	8	474
7:15 AM	11	112	6	5	223	23	14	56	30	12	79	9	580
7:30 AM	23	123	10	6	324	23	15	91	47	26	104	9	801
7:45 AM	23	141	7	10	415	32	23	74	41	28	96	10	900
8:00 AM	30	156	8	12	276	29	21	66	28	23	98	9	756
8:15 AM	15	144	7	7	283	42	18	55	35	24	78	17	725
8:30 AM	26	122	12	13	274	27	17	70	28	21	86	14	710
8:45 AM	28	161	7	14	319	28	29	58	40	17	58	19	778
VOLUMES	181	1,055	58	73	2,279	222	151	508	261	162	679	95	5,724
APPROACH %	14%	82%	4%	3%	89%	9%	16%	55%	28%	17%	73%	10%	
APP/DEPART	1,294	/	1,301	2,574	/	2,702	920	/	640	936	/	1,081	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	91	564	32	35	1,298	126	77	286	151	101	376	45	3,182
APPROACH %	13%	82%	5%	2%	89%	9%	15%	56%	29%	19%	72%	9%	
PEAK HR FACTOR	0.885			0.798			0.840			0.939			0.884
APP/DEPART	687	/	686	1,459	/	1,550	514	/	353	522	/	593	0
PM													
4:00 PM	32	348	11	13	280	25	32	71	38	17	68	21	956
4:15 PM	48	334	19	18	320	19	27	68	35	23	62	19	992
4:30 PM	40	307	19	15	268	33	37	87	36	40	98	19	999
4:45 PM	41	288	17	15	261	24	34	58	33	17	63	24	875
5:00 PM	48	339	12	12	251	30	35	80	32	35	67	23	964
5:15 PM	39	287	16	15	278	34	30	80	35	15	69	18	916
5:30 PM	33	263	10	12	234	30	37	95	30	22	71	19	856
5:45 PM	35	251	11	12	205	28	24	54	22	17	45	16	720
VOLUMES	316	2,417	115	112	2,097	223	256	593	261	186	543	159	7,278
APPROACH %	11%	85%	4%	5%	86%	9%	23%	53%	24%	21%	61%	18%	
APP/DEPART	2,848	/	2,836	2,432	/	2,543	1,110	/	819	888	/	1,080	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	177	1,268	67	60	1,100	106	133	293	136	115	290	85	3,830
APPROACH %	12%	84%	4%	5%	87%	8%	24%	52%	24%	23%	59%	17%	
PEAK HR FACTOR	0.943			0.887			0.878			0.780			0.958
APP/DEPART	1,512	/	1,487	1,266	/	1,351	562	/	421	490	/	571	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
1	0	0	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
1	0	0	1	2

0	1	0	0	1
1	1	0	0	2
0	0	0	1	1
1	0	0	0	1
0	0	0	1	1
0	0	0	0	0
0	1	0	1	2
0	1	0	0	1
2	4	0	3	9



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
PM					
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
PM					
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
PM					
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Portola
EAST & WEST: Gerald Ford

PROJECT #: SC1659
LOCATION #: 23
CONTROL: SIGNAL

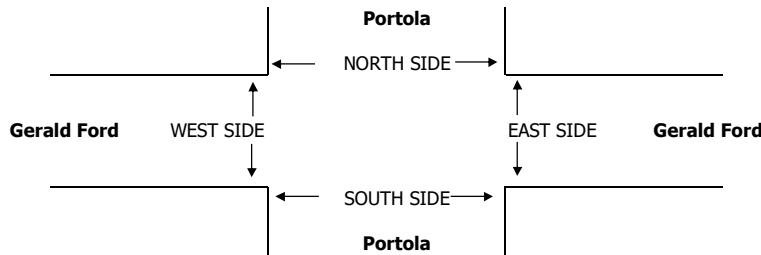
NOTES: 	AM PM MD OTHER OTHER	▲ N ◀ W E ▶ S ▼	
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Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Portola			Portola			Gerald Ford			Gerald Ford			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
AM													
7:00 AM	16	41	13	10	38	0	1	39	18	5	90	18	289
7:15 AM	7	54	9	10	29	0	4	81	28	8	94	39	363
7:30 AM	30	62	12	8	61	0	2	75	41	18	107	34	450
7:45 AM	32	61	9	22	63	1	3	62	36	9	121	47	466
8:00 AM	25	78	17	21	41	2	1	80	35	10	102	38	450
8:15 AM	27	85	10	12	43	1	3	70	27	6	79	34	397
8:30 AM	31	53	9	8	36	3	1	76	31	12	75	33	368
8:45 AM	32	61	6	20	43	0	4	65	23	10	69	30	363
VOLUMES	200	495	85	111	354	7	19	548	239	78	737	273	3,146
APPROACH %	26%	63%	11%	24%	75%	1%	2%	68%	30%	7%	68%	25%	
APP/DEPART	780	/	779	472	/	670	806	/	745	1,088	/	952	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	114	286	48	63	208	4	9	287	139	43	409	153	1,763
APPROACH %	25%	64%	11%	23%	76%	1%	2%	66%	32%	7%	68%	25%	
PEAK HR FACTOR	0.918			0.799			0.922			0.855			0.946
APP/DEPART	448	/	445	275	/	390	435	/	398	605	/	530	0
PM													
4:00 PM	23	66	9	25	53	1	1	68	24	7	70	30	377
4:15 PM	32	70	15	21	51	3	1	82	37	8	79	31	430
4:30 PM	30	71	10	38	56	2	3	98	30	9	94	20	461
4:45 PM	31	76	7	25	64	0	3	80	35	7	83	42	453
5:00 PM	34	85	8	36	48	1	0	92	34	14	67	22	441
5:15 PM	33	93	11	29	46	0	3	95	30	13	75	31	459
5:30 PM	24	53	2	34	55	2	2	110	33	7	79	24	425
5:45 PM	20	71	4	20	41	1	3	69	14	6	63	17	329
VOLUMES	227	585	66	228	414	10	16	694	237	71	610	217	3,375
APPROACH %	26%	67%	8%	35%	63%	2%	2%	73%	25%	8%	68%	24%	
APP/DEPART	878	/	815	652	/	722	947	/	986	898	/	852	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	128	325	36	128	214	3	9	365	129	43	319	115	1,814
APPROACH %	26%	66%	7%	37%	62%	1%	2%	73%	26%	9%	67%	24%	
PEAK HR FACTOR	0.892			0.898			0.960			0.903			0.984
APP/DEPART	489	/	448	345	/	386	503	/	528	477	/	452	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	3	0	3
0	0	1	0	1
0	0	1	0	1
0	0	1	0	1
0	0	0	0	0
0	0	1	0	1
0	0	1	1	2
0	0	8	1	9

0	1	1	0	2
0	0	1	0	1
0	1	1	0	2
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	1	0	1
0	0	0	0	0
0	2	5	0	7



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
PM					
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
PM					
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
PM					
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

INTERSECTION TURNING MOVEMENT COUNTS

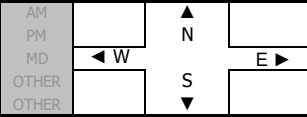
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Cook
EAST & WEST: I-10 WB Ramps

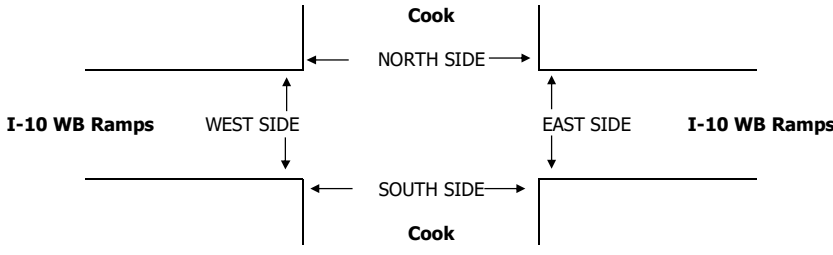
PROJECT #: SC1662
LOCATION #: 37
CONTROL: SIGNAL

NOTES:



Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS				
	Cook			Cook			I-10 WB Ramps			I-10 WB Ramps				NB	SB	EB	WB	TTL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR		0	0	0	0	0
7:00 AM	0	40	68	0	53	3	0	0	0	168	0	17	349	0	0	0	0	0
7:15 AM	0	81	73	0	81	8	0	0	0	162	2	15	422	0	0	0	0	0
7:30 AM	0	108	79	0	115	13	0	0	0	250	1	33	599	0	0	0	0	0
7:45 AM	0	164	66	0	127	11	0	0	0	244	0	25	637	0	0	0	0	0
8:00 AM	0	58	85	0	95	8	0	0	0	192	0	10	448	0	0	0	0	0
8:15 AM	0	41	83	0	64	12	0	0	0	185	0	8	393	0	0	0	0	0
8:30 AM	0	44	91	0	53	4	0	0	0	176	1	6	375	0	0	0	0	0
8:45 AM	0	60	86	0	45	7	0	0	0	168	0	6	372	0	0	0	0	0
VOLUMES	0	596	631	0	633	66	0	0	0	1,545	4	120	3,595	0	0	0	0	0
APPROACH %	0%	49%	51%	0%	91%	9%	0%	0%	0%	93%	0%	7%						
APP/DEPART	1,227	/	716	699	/	2,178	0	/	631	1,669	/	70	0					
BEGIN PEAK HR	7:15 AM																	
VOLUMES	0	411	303	0	418	40	0	0	0	848	3	83	2,106					
APPROACH %	0%	58%	42%	0%	91%	9%	0%	0%	0%	91%	0%	9%						
PEAK HR FACTOR	0.776			0.830			0.000			0.822			0.827					
APP/DEPART	714	/	494	458	/	1,266	0	/	303	934	/	43	0					
4:00 PM	0	79	142	0	50	11	0	0	0	110	1	16	409	0	0	0	0	0
4:15 PM	0	76	144	0	53	7	0	0	0	101	2	9	392	0	0	0	0	0
4:30 PM	0	81	144	0	52	8	0	0	0	108	0	15	408	0	0	0	0	0
4:45 PM	0	75	142	0	61	5	0	0	0	130	0	10	423	0	0	0	0	0
5:00 PM	0	72	178	0	58	12	0	0	0	112	2	9	443	0	0	0	0	0
5:15 PM	0	68	184	0	52	8	0	0	0	124	0	7	443	0	0	0	0	0
5:30 PM	0	49	132	0	47	7	0	0	0	102	1	7	345	0	0	0	0	0
5:45 PM	0	61	90	0	44	5	0	0	0	96	0	8	304	0	0	0	0	0
VOLUMES	0	561	1,156	0	417	63	0	0	0	883	6	81	3,167	0	0	0	0	0
APPROACH %	0%	33%	67%	0%	87%	13%	0%	0%	0%	91%	1%	8%						
APP/DEPART	1,717	/	642	480	/	1,300	0	/	1,156	970	/	69	0					
BEGIN PEAK HR	4:30 PM																	
VOLUMES	0	296	648	0	223	33	0	0	0	474	2	41	1,717					
APPROACH %	0%	31%	69%	0%	87%	13%	0%	0%	0%	92%	0%	8%						
PEAK HR FACTOR	0.937			0.914			0.000			0.923			0.969					
APP/DEPART	944	/	337	256	/	697	0	/	648	517	/	35	0					



	AM	PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM		0	0	0	0	0
7:15 AM		0	0	0	0	0
7:30 AM		0	0	0	0	0
7:45 AM		0	0	0	0	0
8:00 AM		0	0	0	0	0
8:15 AM		0	0	0	0	0
8:30 AM		0	0	0	0	0
8:45 AM		0	0	0	0	0
TOTAL		0	0	0	0	0
AM BEGIN PEAK HR		7:15 AM				
4:00 PM		0	0	0	0	0
4:15 PM		0	0	0	0	0
4:30 PM		0	0	0	0	0
4:45 PM		0	0	0	0	0
5:00 PM		0	0	0	0	0
5:15 PM		0	0	0	0	0
5:30 PM		0	0	0	0	0
5:45 PM		0	0	0	0	0
TOTAL		0	0	0	0	0
PM BEGIN PEAK HR		4:30 PM				

	AM	PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM		0	0	0	0	0
7:15 AM		0	0	0	0	0
7:30 AM		0	0	0	0	0
7:45 AM		0	0	0	0	0
8:00 AM		0	0	0	0	0
8:15 AM		0	0	0	0	0
8:30 AM		0	0	0	0	0
8:45 AM		0	0	0	0	0
TOTAL		0	0	0	0	0
AM BEGIN PEAK HR		7:15 AM				
4:00 PM		0	0	0	0	0
4:15 PM		0	0	0	0	0
4:30 PM		0	0	0	0	0
4:45 PM		0	0	0	0	0
5:00 PM		0	0	0	0	0
5:15 PM		0	0	0	0	0
5:30 PM		0	0	0	0	0
5:45 PM		0	0	0	0	0
TOTAL		0	0	0	0	0
PM BEGIN PEAK HR		4:30 PM				

	AM	BICYCLE CROSSINGS				
		NS	SS	ES	WS	TOTAL
7:00 AM		0	0	0	0	0
7:15 AM		0	0	0	0	0
7:30 AM		0	0	0	0	0
7:45 AM		0	0	0	0	0
8:00 AM		0	0	0	0	0
8:15 AM		0	0	0	0	0
8:30 AM		0	0	0	0	0
8:45 AM		0	0	0	0	0
TOTAL		0	0	0	0	0
AM BEGIN PEAK HR		7:15 AM				
4:00 PM		0	0	0	0	0
4:15 PM		0	0	0	0	0
4:30 PM		0	0	0	0	0
4:45 PM		0	0	0	0	0
5:00 PM		0	0	0	0	0
5:15 PM		0	0	0	0	0
5:30 PM		0	0	0	0	0
5:45 PM		0	0	0	0	0
TOTAL		0	0	0	0	0
PM BEGIN PEAK HR		4:30 PM				

INTERSECTION TURNING MOVEMENT COUNTS

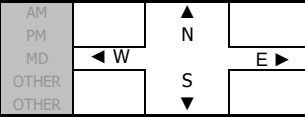
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Cook
EAST & WEST: I-10 EB Ramps

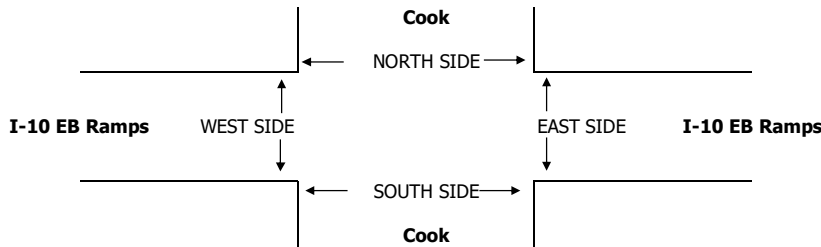
PROJECT #: SC1662
LOCATION #: 38
CONTROL: SIGNAL

NOTES:



Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS				
	Cook			Cook			I-10 EB Ramps			I-10 EB Ramps				NB	SB	EB	WB	TTL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR						
7:00 AM	0	93	58	8	213	0	15	0	158	0	0	0						
7:15 AM	0	135	82	9	234	0	19	0	218	0	0	0						
7:30 AM	0	163	86	9	356	0	25	0	221	0	0	0						
7:45 AM	0	203	84	23	348	0	29	0	304	0	0	0						
8:00 AM	0	127	86	7	278	0	16	2	186	0	0	0						
8:15 AM	0	114	96	6	243	0	10	2	175	0	0	0						
8:30 AM	0	128	92	6	221	0	7	0	132	0	0	0						
8:45 AM	0	143	81	5	208	0	4	0	167	0	0	0						
VOLUMES	0	1,106	665	73	2,101	0	125	4	1,561	0	0	0	5,635	0	0	0	0	
APPROACH %	0%	62%	38%	3%	97%	0%	7%	0%	92%	0%	0%	0%		0	0	0	0	
APP/DEPART	1,771	/	1,231	2,174	/	3,662	1,690	/	742	0	/	0	0	0	0	0	0	
BEGIN PEAK HR	7:15 AM																	
VOLUMES	0	628	338	48	1,216	0	89	2	929	0	0	0	3,250	0	0	0	0	
APPROACH %	0%	65%	35%	4%	96%	0%	9%	0%	91%	0%	0%	0%		0	0	0	0	
PEAK HR FACTOR	0.841			0.852			0.766			0.000			0.820					
APP/DEPART	966	/	717	1,264	/	2,145	1,020	/	388	0	/	0	0	0	0	0	0	
4:00 PM	0	207	155	16	144	0	14	1	138	0	0	0	675	0	0	0	0	
4:15 PM	0	209	128	10	144	0	12	1	127	0	0	0	631	0	0	0	0	
4:30 PM	0	208	165	8	131	0	17	0	150	0	0	0	679	0	0	0	0	
4:45 PM	0	203	152	11	198	0	14	0	166	0	0	0	744	0	0	0	0	
5:00 PM	0	239	189	12	158	0	11	0	149	0	0	0	758	0	0	0	0	
5:15 PM	0	245	197	7	169	0	9	1	137	0	0	0	765	0	0	0	0	
5:30 PM	0	172	173	8	134	0	9	0	118	0	0	0	614	0	0	0	0	
5:45 PM	0	145	110	11	133	0	8	0	116	0	0	0	523	0	0	0	0	
VOLUMES	0	1,628	1,269	83	1,211	0	94	3	1,101	0	0	0	5,389	0	0	0	0	
APPROACH %	0%	56%	44%	6%	94%	0%	8%	0%	92%	0%	0%	0%		0	0	0	0	
APP/DEPART	2,897	/	1,722	1,294	/	2,312	1,198	/	1,355	0	/	0	0	0	0	0	0	
BEGIN PEAK HR	4:30 PM																	
VOLUMES	0	895	703	38	656	0	51	1	602	0	0	0	2,946	0	0	0	0	
APPROACH %	0%	56%	44%	5%	95%	0%	8%	0%	92%	0%	0%	0%		0	0	0	0	
PEAK HR FACTOR	0.904			0.830			0.908			0.000			0.963					
APP/DEPART	1,598	/	946	694	/	1,258	654	/	742	0	/	0	0	0	0	0	0	



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:15 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:15 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:15 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

INTERSECTION TURNING MOVEMENT COUNTS

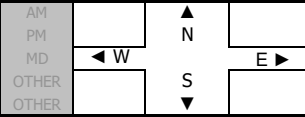
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Cook
EAST & WEST: Gerald Ford

PROJECT #: SC1662
LOCATION #: 39
CONTROL: SIGNAL

NOTES:



Add U-Turns to Left Turns

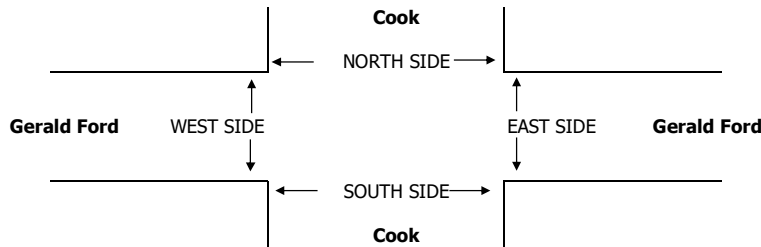
LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Cook NL	Cook NT	Cook NR	Cook SL	Cook ST	Cook SR	Gerald Ford EL	Gerald Ford ET	Gerald Ford ER	Gerald Ford WL	Gerald Ford WT	Gerald Ford WR	
	2	3	1	2	3	1	2	2	1	2	2	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Cook NL	Cook NT	Cook NR	Cook SL	Cook ST	Cook SR	Gerald Ford EL	Gerald Ford ET	Gerald Ford ER	Gerald Ford WL	Gerald Ford WT	Gerald Ford WR	
AM													
7:00 AM	19	73	4	45	234	66	34	19	23	2	39	26	584
7:15 AM	43	108	8	55	318	65	70	15	30	6	49	23	790
7:30 AM	44	145	6	54	348	88	70	28	21	13	51	41	909
7:45 AM	31	181	8	64	460	109	68	29	28	13	66	52	1,109
8:00 AM	46	102	11	51	317	89	60	33	42	4	55	28	838
8:15 AM	44	134	11	78	277	62	52	40	23	12	53	32	818
8:30 AM	41	111	15	60	221	56	62	36	24	10	56	20	712
8:45 AM	48	136	10	39	268	68	64	35	33	17	43	26	787
VOLUMES	316	990	73	446	2,443	603	480	235	224	77	412	248	6,547
APPROACH %	23%	72%	5%	13%	70%	17%	51%	25%	24%	10%	56%	34%	
APP/DEPART	1,379	/	1,861	3,492	/	2,740	939	/	608	737	/	1,338	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	165	562	36	247	1,402	348	250	130	114	42	225	153	3,674
APPROACH %	22%	74%	5%	12%	70%	17%	51%	26%	23%	10%	54%	36%	
PEAK HR FACTOR	0.867			0.789			0.915			0.802			0.828
APP/DEPART	763	/	1,036	1,997	/	1,556	494	/	340	420	/	742	0
PM													
4:00 PM	44	214	9	47	187	34	73	45	29	14	52	27	775
4:15 PM	39	228	7	58	198	36	69	41	24	29	66	45	840
4:30 PM	55	226	8	46	186	32	112	57	39	48	56	32	897
4:45 PM	48	206	5	49	272	47	81	37	42	14	49	41	891
5:00 PM	36	248	9	65	213	29	111	60	33	15	47	41	907
5:15 PM	52	274	6	63	207	48	91	47	27	11	43	38	907
5:30 PM	44	206	6	28	197	38	97	61	25	15	33	35	785
5:45 PM	40	165	5	47	184	30	69	37	23	12	35	26	673
VOLUMES	358	1,767	55	403	1,644	294	703	385	242	158	381	285	6,675
APPROACH %	16%	81%	3%	17%	70%	13%	53%	29%	18%	19%	46%	35%	
APP/DEPART	2,180	/	2,868	2,341	/	2,046	1,330	/	705	824	/	1,056	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	191	954	28	223	878	156	395	201	141	88	195	152	3,602
APPROACH %	16%	81%	2%	18%	70%	12%	54%	27%	19%	20%	45%	35%	
PEAK HR FACTOR	0.883			0.854			0.886			0.800			0.993
APP/DEPART	1,173	/	1,572	1,257	/	1,109	737	/	371	435	/	550	0

NB	SB	EB	WB	TTL
0	20	0	1	21
0	22	0	1	23
0	17	0	0	17
0	23	3	0	26
0	17	2	1	20
1	19	0	2	22
0	19	3	1	23
1	15	1	0	17
2	152	9	6	169

NB	SB	EB	WB	TTL
0	15	3	0	18
1	23	7	1	32
0	14	3	1	18
0	14	3	0	17
2	30	3	0	35
1	24	2	0	27
0	10	5	0	15
0	10	1	0	11
4	140	27	2	173



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

INTERSECTION TURNING MOVEMENT COUNTS

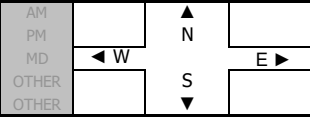
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirabe
NORTH & SOUTH: SR-111
EAST & WEST: Frank Sinatra

PROJECT #: SC1662
LOCATION #: 36
CONTROL: SIGNAL

NOTES:



Add U-Turns to Left Turns

LANES:	NORTHBOUND SR-111			SOUTHBOUND SR-111			EASTBOUND Frank Sinatra			WESTBOUND Frank Sinatra			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	

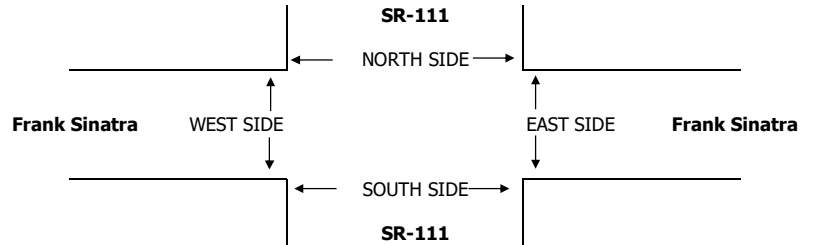
U-TURNS				
NB	SB	EB	WB	TTL

7:00 AM	8	116	18	32	129	10	1	2	1	25	15	54	411
7:15 AM	4	171	18	32	165	4	5	6	2	41	12	76	536
7:30 AM	7	187	32	44	237	12	6	1	3	48	15	84	676
7:45 AM	7	188	25	78	289	20	4	8	4	72	35	104	834
8:00 AM	8	180	15	77	315	4	3	5	2	80	15	66	770
8:15 AM	4	187	19	53	277	7	0	7	6	70	7	67	704
8:30 AM	6	213	22	50	263	8	6	7	8	70	11	65	729
8:45 AM	11	232	27	52	301	8	5	8	10	66	8	50	778
VOLUMES	55	1,474	176	418	1,976	73	30	44	36	472	118	566	5,438
APPROACH %	3%	86%	10%	17%	80%	3%	27%	40%	33%	41%	10%	49%	
APP/DEPART	1,705	/	2,070	2,467	/	2,501	110	/	638	1,156	/	229	0
BEGIN PEAK HR	7:45 AM												
VOLUMES	25	768	81	258	1,144	39	13	27	20	292	68	302	3,037
APPROACH %	3%	88%	9%	18%	79%	3%	22%	45%	33%	44%	10%	46%	
PEAK HR FACTOR	0.907			0.910			0.714			0.784			0.910
APP/DEPART	874	/	1,083	1,441	/	1,460	60	/	366	662	/	128	0

5	0	0	0	5
2	0	0	0	2
1	0	0	0	1
1	0	0	0	1
1	0	0	0	1
0	0	0	0	0
2	0	0	0	2
5	0	0	0	5
17	0	0	0	17

4:00 PM	9	311	32	65	280	3	10	13	7	43	8	76	857
4:15 PM	14	378	41	78	322	7	8	11	7	44	10	72	992
4:30 PM	7	352	41	72	338	8	20	18	10	34	11	78	989
4:45 PM	8	375	46	70	305	16	10	16	12	39	8	72	977
5:00 PM	11	341	57	75	293	7	12	20	5	41	7	85	954
5:15 PM	7	376	65	82	312	10	4	11	7	36	13	78	1,001
5:30 PM	2	373	49	59	247	4	13	9	12	33	12	79	892
5:45 PM	8	319	39	54	284	12	5	5	10	38	4	84	862
VOLUMES	66	2,825	370	555	2,381	67	82	103	70	308	73	624	7,524
APPROACH %	2%	87%	11%	18%	79%	2%	32%	40%	27%	31%	7%	62%	
APP/DEPART	3,261	/	3,532	3,003	/	2,775	255	/	1,027	1,005	/	190	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	33	1,444	209	299	1,248	41	46	65	34	150	39	313	3,921
APPROACH %	2%	86%	12%	19%	79%	3%	32%	45%	23%	30%	8%	62%	
PEAK HR FACTOR	0.941			0.950			0.755			0.944			0.979
APP/DEPART	1,686	/	1,803	1,588	/	1,443	145	/	573	502	/	102	0

2	0	0	0	2
3	0	0	0	3
1	0	0	0	1
2	0	0	0	2
4	0	0	0	4
4	0	0	0	4
0	1	0	0	1
0	0	0	0	0
16	1	0	0	17



Time	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

Time	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

Time	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

INTERSECTION TURNING MOVEMENT COUNTS

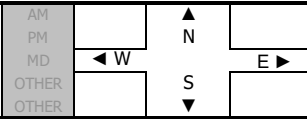
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Bob Hope
EAST & WEST: Frank Sinatra

PROJECT #: SC1659
LOCATION #: 24
CONTROL: SIGNAL

NOTES:



Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	2.5	0.5	2	3	1	2	1.5	0.5	2	2	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	14	59	10	15	115	11	10	48	24	37	73	3	419
7:15 AM	16	62	11	14	148	11	13	61	44	27	87	14	508
7:30 AM	24	54	9	11	249	17	11	72	59	48	124	11	689
7:45 AM	21	79	11	20	218	29	13	63	56	60	121	11	702
8:00 AM	18	83	10	11	216	23	8	72	44	35	97	8	625
8:15 AM	18	69	18	10	215	19	16	71	42	44	80	17	619
8:30 AM	24	80	20	18	159	22	11	68	57	52	77	18	606
8:45 AM	19	91	10	12	149	33	13	59	41	28	71	23	549
VOLUMES	154	577	99	111	1,469	165	95	514	367	331	730	105	4,717
APPROACH %	19%	70%	12%	6%	84%	9%	10%	53%	38%	28%	63%	9%	
APP/DEPART	830	/	785	1,745	/	2,176	976	/	717	1,166	/	1,039	0

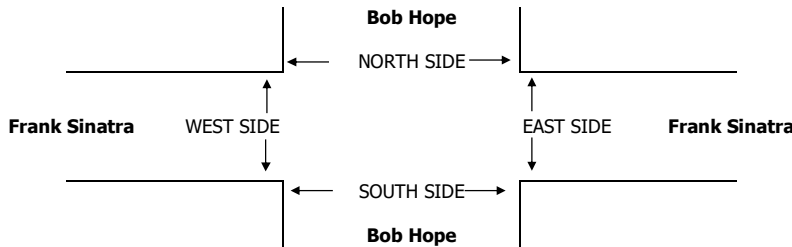
NB	SB	EB	WB	TTL
1	0	0	0	1
1	1	0	0	2
0	0	0	0	0
1	0	0	1	2
3	1	0	0	4
3	2	0	0	5
1	2	0	0	3
0	2	0	0	2
10	8	0	1	19

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
VOLUMES	81	285	48	52	898	88	48	278	201	187	422	47	2,635
APPROACH %	20%	69%	12%	5%	87%	8%	9%	53%	38%	29%	64%	7%	
PEAK HR FACTOR	0.932			0.937			0.928			0.854			0.938
APP/DEPART	414	/	383	1,038	/	1,292	527	/	376	656	/	584	0

2	3	0	1	6
2	1	0	0	3
3	4	0	0	7
2	3	0	0	5
0	2	0	0	2
1	2	0	0	3
0	0	0	0	0
1	0	1	0	2
11	15	1	1	28

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	45	227	40	30	166	34	20	84	25	14	95	21	801
4:15 PM	48	202	31	27	145	26	16	88	25	13	84	18	723
4:30 PM	53	211	58	20	155	15	15	85	15	20	88	23	758
4:45 PM	41	208	46	24	154	20	16	108	20	13	104	14	768
5:00 PM	59	247	71	18	131	19	23	103	18	9	84	8	790
5:15 PM	32	172	38	9	134	14	13	97	11	14	94	17	645
5:30 PM	42	141	25	18	111	11	17	86	30	24	83	16	604
5:45 PM	30	158	24	10	117	12	19	70	14	14	80	14	562
VOLUMES	350	1,566	333	156	1,113	151	139	721	158	121	712	131	5,651
APPROACH %	16%	70%	15%	11%	78%	11%	14%	71%	16%	13%	74%	14%	
APP/DEPART	2,249	/	1,850	1,420	/	1,402	1,018	/	1,196	964	/	1,203	0
BEGIN PEAK HR	4:00 PM			7:30 AM			4:00 PM			7:30 AM			
VOLUMES	187	848	175	101	620	95	67	365	85	60	371	76	3,050
APPROACH %	15%	70%	14%	12%	76%	12%	13%	71%	16%	12%	73%	15%	
PEAK HR FACTOR	0.939			0.887			0.898			0.968			0.952
APP/DEPART	1,210	/	1,002	816	/	773	517	/	631	507	/	644	0

2	3	0	1	6
2	1	0	0	3
3	4	0	0	7
2	3	0	0	5
0	2	0	0	2
1	2	0	0	3
0	0	0	0	0
1	0	1	0	2
11	15	1	1	28



AM	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

AM	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

AM	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirabe
NORTH & SOUTH: Monterey
EAST & WEST: Frank Sinatra

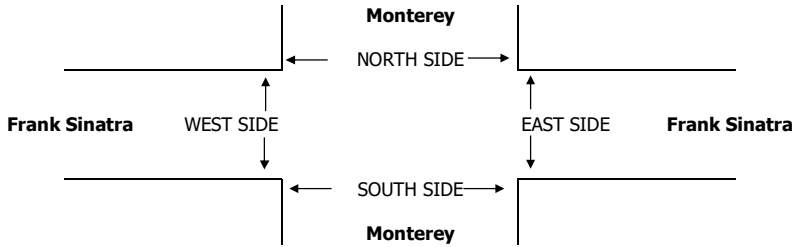
PROJECT #: SC1662
LOCATION #: 31
CONTROL: SIGNAL

NOTES:

AM	▲	N	▶
PM	◀	W	▶
MD			
OTHER	▼	S	▶
OTHER			

Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL	U-TURNS				
	Monterey			Monterey			Frank Sinatra			Frank Sinatra				NB	SB	EB	WB	TTL
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR						
7:00 AM	10	98	3	8	153	11	6	31	13	20	86	5	444	0	0	0	0	0
7:15 AM	7	124	13	7	241	15	4	49	32	23	114	12	641	0	0	0	0	0
7:30 AM	19	140	20	6	365	21	5	68	16	25	121	16	822	0	0	0	0	0
7:45 AM	24	162	13	21	408	41	6	54	32	36	136	12	945	0	0	0	0	0
8:00 AM	14	166	8	6	301	26	10	72	16	26	118	19	782	0	1	0	0	1
8:15 AM	21	147	8	7	310	14	10	57	26	29	114	18	761	1	0	0	0	1
8:30 AM	21	135	12	8	312	15	11	59	27	20	96	17	733	0	0	0	0	0
8:45 AM	9	160	13	10	345	24	8	50	38	32	103	22	814	0	1	0	0	1
VOLUMES	125	1,132	90	73	2,435	167	60	440	200	211	888	121	5,942	1	2	0	0	3
APPROACH %	9%	84%	7%	3%	91%	6%	9%	63%	29%	17%	73%	10%						
APP/DEPART	1,347	/	1,315	2,675	/	2,847	700	/	601	1,220	/	1,179	0					
BEGIN PEAK HR	7:30 AM																	
VOLUMES	78	615	49	40	1,384	102	31	251	90	116	489	65	3,310					
APPROACH %	11%	83%	7%	3%	91%	7%	8%	67%	24%	17%	73%	10%						
PEAK HR FACTOR	0.932			0.812			0.949			0.910				0.876				
APP/DEPART	742	/	712	1,526	/	1,591	372	/	339	670	/	668	0					
4:00 PM	36	331	19	25	288	13	23	132	21	19	90	22	1,019	1	0	0	0	1
4:15 PM	31	374	22	34	336	17	28	82	33	26	59	21	1,063	0	1	0	2	3
4:30 PM	30	289	33	20	308	9	30	127	21	18	106	20	1,011	0	1	0	0	1
4:45 PM	14	327	30	24	302	22	24	120	33	20	81	16	1,013	0	0	0	0	0
5:00 PM	26	327	26	23	271	13	22	151	31	32	74	23	1,019	1	0	0	0	1
5:15 PM	16	316	20	23	297	13	24	107	26	38	90	11	981	0	1	1	0	2
5:30 PM	20	271	17	22	272	18	8	107	22	26	92	21	896	0	2	0	1	3
5:45 PM	14	273	27	14	224	8	16	77	16	20	82	10	781	2	0	0	0	2
VOLUMES	187	2,508	194	185	2,298	113	175	903	203	199	674	144	7,783	4	5	1	3	13
APPROACH %	6%	87%	7%	7%	89%	4%	14%	70%	16%	20%	66%	14%						
APP/DEPART	2,889	/	2,831	2,596	/	2,701	1,281	/	1,280	1,017	/	971	0					
BEGIN PEAK HR	4:15 PM																	
VOLUMES	101	1,317	111	101	1,217	61	104	480	118	96	320	80	4,106					
APPROACH %	7%	86%	7%	7%	88%	4%	15%	68%	17%	19%	65%	16%						
PEAK HR FACTOR	0.895			0.891			0.860			0.861				0.966				
APP/DEPART	1,529	/	1,503	1,379	/	1,430	702	/	692	496	/	481	0					



	PEDESTRIAN + BIKE CROSSINGS					PEDESTRIAN CROSSINGS					BICYCLE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM					0	0	0	0	0					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM					0	0	0	0	0					

INTERSECTION TURNING MOVEMENT COUNTS

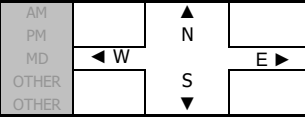
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Cook
EAST & WEST: Frank Sinatra

PROJECT #: SC1662
LOCATION #: 33
CONTROL: SIGNAL

NOTES:



Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Cook NL	Cook NT	Cook NR	Cook SL	Cook ST	Cook SR	Frank Sinatra EL	Frank Sinatra ET	Frank Sinatra ER	Frank Sinatra WL	Frank Sinatra WT	Frank Sinatra WR	

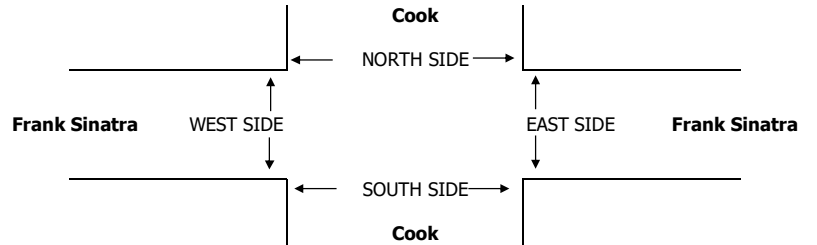
U-TURNS				
NB	SB	EB	WB	TTL

7:00 AM	10	105	4	7	207	47	28	19	21	8	39	6	501
7:15 AM	30	121	6	9	261	79	31	20	32	13	50	8	660
7:30 AM	34	158	4	10	287	85	48	22	27	14	71	10	770
7:45 AM	31	167	5	12	343	94	32	31	31	12	72	20	850
8:00 AM	25	159	8	15	291	78	31	30	37	13	58	14	759
8:15 AM	30	168	5	11	225	71	30	27	39	10	55	13	684
8:30 AM	25	163	7	8	206	60	30	26	33	13	54	15	640
8:45 AM	33	179	6	8	253	65	22	24	31	11	49	16	697
VOLUMES	218	1,220	45	80	2,073	579	252	199	251	94	448	102	5,561
APPROACH %	15%	82%	3%	3%	76%	21%	36%	28%	36%	15%	70%	16%	
APP/DEPART	1,483	/	1,566	2,732	/	2,423	702	/	324	644	/	1,248	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	120	652	22	48	1,146	328	141	110	134	49	256	57	3,063
APPROACH %	15%	82%	3%	3%	75%	22%	37%	29%	35%	14%	71%	16%	
PEAK HR FACTOR	0.978			0.847			0.982			0.870			0.901
APP/DEPART	794	/	848	1,522	/	1,331	385	/	180	362	/	704	0

0	0	2	0	2
1	0	2	0	3
2	0	0	0	2
0	0	1	0	1
0	1	2	1	4
1	0	0	0	1
1	1	1	1	4
2	0	2	0	4
7	2	10	2	21

4:00 PM	37	227	19	15	221	34	68	49	25	6	46	11	758
4:15 PM	45	258	27	19	239	42	55	57	38	8	39	14	841
4:30 PM	49	220	16	17	212	41	51	60	37	17	37	10	767
4:45 PM	46	212	12	17	205	45	61	77	46	14	39	15	789
5:00 PM	44	244	15	15	177	40	59	81	35	13	40	12	775
5:15 PM	39	229	17	14	181	42	67	84	33	13	47	11	777
5:30 PM	40	170	11	11	163	39	57	62	27	10	36	14	640
5:45 PM	30	138	14	13	178	37	53	59	25	15	34	13	609
VOLUMES	330	1,698	131	121	1,576	320	471	529	266	96	318	100	5,956
APPROACH %	15%	79%	6%	6%	78%	16%	37%	42%	21%	19%	62%	19%	
APP/DEPART	2,159	/	2,262	2,017	/	1,979	1,266	/	772	514	/	943	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	184	934	70	68	833	168	226	275	156	52	155	51	3,172
APPROACH %	15%	79%	6%	6%	78%	16%	34%	42%	24%	20%	60%	20%	
PEAK HR FACTOR	0.900			0.891			0.893			0.949			0.943
APP/DEPART	1,188	/	1,210	1,069	/	1,066	657	/	406	258	/	490	0

5	1	5	0	11
8	2	4	0	14
6	1	2	1	10
5	3	3	0	11
7	2	0	0	9
3	0	2	1	6
5	1	1	0	7
4	1	1	0	6
43	11	18	2	74



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL

7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

INTERSECTION TURNING MOVEMENT COUNTS

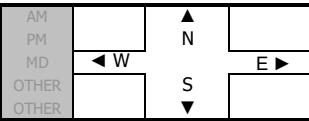
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION:
NORTH & SOUTH: Rancho Mirage
EAST & WEST: Bob Hope Country Club

PROJECT #: SC1659
LOCATION #: 25
CONTROL: SIGNAL

NOTES:

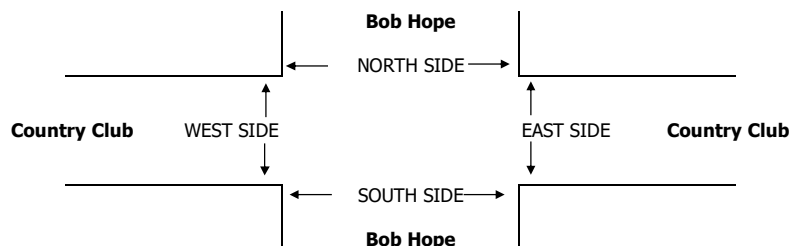


Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Bob Hope			Bob Hope			Country Club			Country Club			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	7	40	8	22	46	5	16	28	6	27	50	23	278
7:15 AM	10	43	15	22	72	12	8	38	17	32	41	25	335
7:30 AM	15	47	24	37	85	8	12	50	20	33	67	23	421
7:45 AM	16	61	25	36	142	11	21	67	26	54	67	40	566
8:00 AM	14	90	35	42	139	12	11	58	26	47	64	42	580
8:15 AM	13	62	23	40	138	15	12	57	17	41	63	40	521
8:30 AM	14	61	24	32	124	11	19	64	38	41	64	54	546
8:45 AM	18	75	16	34	132	7	22	71	30	56	66	39	566
VOLUMES	107	479	170	265	878	81	121	433	180	331	482	286	3,813
APPROACH %	14%	63%	22%	22%	72%	7%	16%	59%	25%	30%	44%	26%	
APP/DEPART	756	/	886	1,224	/	1,407	734	/	868	1,099	/	652	0
BEGIN PEAK HR	8:00 AM												
VOLUMES	59	288	98	148	533	45	64	250	111	185	257	175	2,213
APPROACH %	13%	65%	22%	20%	73%	6%	15%	59%	26%	30%	42%	28%	
PEAK HR FACTOR	0.800			0.940			0.864			0.958			0.954
APP/DEPART	445	/	527	726	/	836	425	/	496	617	/	354	0
4:00 PM	26	149	49	60	133	11	9	62	19	57	67	48	690
4:15 PM	31	154	48	34	157	6	11	61	32	54	64	39	691
4:30 PM	35	140	55	42	129	16	11	52	26	42	87	52	687
4:45 PM	18	140	38	44	156	14	17	63	23	47	86	42	688
5:00 PM	31	145	53	41	124	9	19	77	20	63	94	46	722
5:15 PM	23	123	42	38	117	11	12	63	16	55	80	34	614
5:30 PM	23	119	44	33	108	9	11	44	21	45	78	43	578
5:45 PM	20	121	45	40	115	6	9	63	15	32	52	31	549
VOLUMES	207	1,091	374	332	1,039	82	99	485	172	395	608	335	5,219
APPROACH %	12%	65%	22%	23%	72%	6%	13%	64%	23%	30%	45%	25%	
APP/DEPART	1,672	/	1,525	1,453	/	1,607	756	/	1,196	1,338	/	891	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	115	579	194	161	566	45	58	253	101	206	331	179	2,788
APPROACH %	13%	65%	22%	21%	73%	6%	14%	61%	25%	29%	46%	25%	
PEAK HR FACTOR	0.953			0.902			0.888			0.882			0.965
APP/DEPART	888	/	816	772	/	871	412	/	613	716	/	488	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
1	0	0	0	1
1	0	0	0	1
3	0	0	0	3
6	0	0	0	6
4	0	0	0	4
1	0	0	0	1
1	0	0	0	1
1	0	0	0	1
18	0	0	0	18

1	0	0	0	1
1	0	0	0	1
1	0	0	2	3
0	0	0	2	2
1	0	0	1	2
1	0	0	0	1
1	0	0	0	1
0	0	0	0	0
6	0	0	5	11



		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
TOTAL		0	0	0	0	0
AM BEGIN PEAK HR		8:00 AM				
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
TOTAL		0	0	0	0	0
PM BEGIN PEAK HR		4:15 PM				

		PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
TOTAL		0	0	0	0	0
AM BEGIN PEAK HR		8:00 AM				
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
TOTAL		0	0	0	0	0
PM BEGIN PEAK HR		4:15 PM				

		BICYCLE CROSSINGS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
TOTAL		0	0	0	0	0
AM BEGIN PEAK HR		8:00 AM				
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
TOTAL		0	0	0	0	0
PM BEGIN PEAK HR		4:15 PM				

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION:
NORTH & SOUTH: Rancho Mirage
EAST & WEST: Monterey Country Club

PROJECT #: SC1662
LOCATION #: 35
CONTROL: SIGNAL

NOTES:

AM	▲	N
PM	◀	W
MD	▶	E
OTHER	▼	S
OTHER		

Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	1	2	3	1	2	3	1	2	3	1	

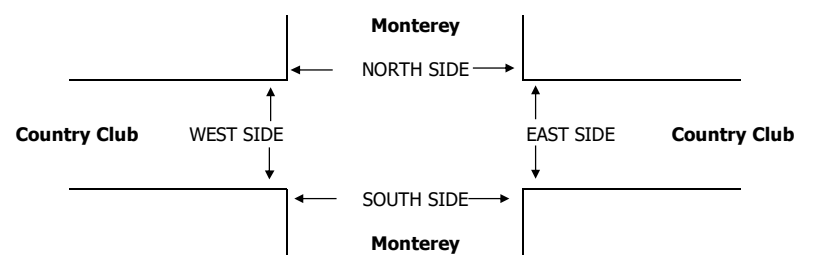
U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	42	93	12	25	137	21	9	42	11	28	98	21	539
7:15 AM	62	117	14	24	209	29	10	41	11	27	90	26	660
7:30 AM	52	128	10	42	309	33	25	65	43	39	145	26	917
7:45 AM	102	137	14	42	328	48	15	68	33	35	178	26	1,026
8:00 AM	64	151	15	44	286	37	17	76	37	52	150	25	954
8:15 AM	89	117	26	45	267	37	16	92	36	48	174	30	977
8:30 AM	62	120	21	35	265	45	18	78	36	53	133	25	891
8:45 AM	84	115	21	41	319	36	19	94	43	48	147	35	1,002
VOLUMES	557	978	133	298	2,120	286	129	556	250	330	1,115	214	6,966
APPROACH %	33%	59%	8%	11%	78%	11%	14%	59%	27%	20%	67%	13%	
APP/DEPART	1,668	/	1,328	2,704	/	2,721	935	/	982	1,659	/	1,935	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	307	533	65	173	1,190	155	73	301	149	174	647	107	3,874
APPROACH %	34%	59%	7%	11%	78%	10%	14%	58%	28%	19%	70%	12%	
PEAK HR FACTOR	0.894			0.908			0.908			0.921			0.944
APP/DEPART	905	/	719	1,518	/	1,520	523	/	535	928	/	1,100	0

2	0	0	0	2
3	0	0	0	3
3	1	0	0	4
2	2	0	0	4
0	1	0	2	3
4	2	0	0	6
4	0	0	0	4
5	1	0	0	6
23	7	0	2	32

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
4:00 PM	56	336	48	62	260	27	40	174	56	59	96	36	1,250
4:15 PM	60	286	53	83	279	16	37	144	65	47	84	41	1,195
4:30 PM	50	283	56	54	297	24	50	179	52	65	100	57	1,267
4:45 PM	49	278	52	42	261	32	42	139	75	41	80	33	1,124
5:00 PM	44	307	43	57	264	25	48	200	76	66	105	37	1,272
5:15 PM	41	239	45	63	266	27	27	192	58	57	102	47	1,164
5:30 PM	45	250	46	42	284	14	32	98	47	73	78	36	1,045
5:45 PM	43	208	27	26	223	19	26	142	52	42	67	51	926
VOLUMES	388	2,187	370	429	2,134	184	302	1,268	481	450	712	338	9,243
APPROACH %	13%	74%	13%	16%	78%	7%	15%	62%	23%	30%	47%	23%	
APP/DEPART	2,945	/	2,855	2,747	/	3,099	2,051	/	2,040	1,500	/	1,249	0
BEGIN PEAK HR	4:15 PM												
VOLUMES	203	1,154	204	236	1,101	97	177	662	268	219	369	168	4,858
APPROACH %	13%	74%	13%	16%	77%	7%	16%	60%	24%	29%	49%	22%	
PEAK HR FACTOR	0.978			0.948			0.854			0.851			0.955
APP/DEPART	1,561	/	1,517	1,434	/	1,607	1,107	/	1,084	756	/	650	0

1	6	0	0	7
7	3	0	0	10
2	5	0	0	7
7	5	1	0	13
4	6	0	1	11
7	4	1	0	12
2	1	0	2	5
7	0	0	0	7
37	30	2	3	72



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:30 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:15 PM				

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Wed, Jan 23, 19

LOCATION: Rancho Mirage
NORTH & SOUTH: Portola
EAST & WEST: Country Club

PROJECT #: SC2031
LOCATION #: 2
CONTROL: SIGNAL

NOTES:

	AM PM MD OTHER OTHER	← W	N S ↓	E →
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Add U-Turns to Left Turns

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Portola	Portola	Portola	Portola	Portola	Portola	Country Club	Country Club	Country Club	Country Club	Country Club		
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	1	2	1	1	2	0	1	2	1	1	2	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

AM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Portola	Portola	Portola	Portola	Portola	Portola	Country Club	Country Club	Country Club	Country Club	Country Club		
7:00 AM	30	63	20	6	54	11	6	64	19	19	105	10	407
7:15 AM	41	76	26	8	81	14	5	85	21	18	100	10	485
7:30 AM	44	111	32	6	118	10	7	89	34	38	164	12	665
7:45 AM	63	137	42	22	132	12	11	102	44	41	185	16	807
8:00 AM	48	136	59	10	77	14	14	76	21	32	167	17	671
8:15 AM	59	110	38	21	74	8	22	73	33	39	155	11	643
8:30 AM	39	93	37	14	82	15	10	111	51	33	171	18	674
8:45 AM	50	83	34	14	85	8	9	111	48	37	173	20	672
VOLUMES	374	809	288	101	703	92	84	711	271	257	1,220	114	5,024
APPROACH %	25%	55%	20%	11%	78%	10%	8%	67%	25%	16%	77%	7%	
APP/DEPART	1,471	/	1,006	896	/	1,227	1,066	/	1,104	1,591	/	1,687	0

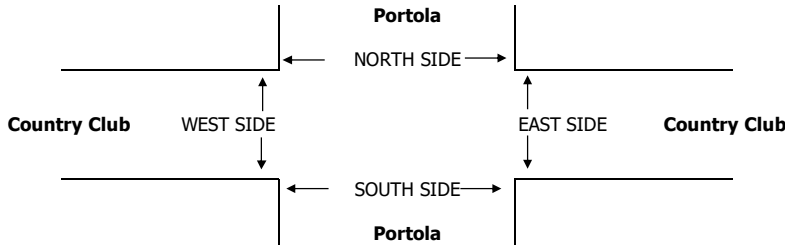
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	2	2
0	0	0	1	1
0	0	0	1	1
0	0	1	4	5

VOLUMES	209	476	176	67	365	49	57	362	149	145	678	62	2,795
APPROACH %	24%	55%	20%	14%	76%	10%	10%	64%	26%	16%	77%	7%	
PEAK HR FACTOR	0.886			0.724			0.826			0.914			0.866
APP/DEPART	861	/	594	481	/	656	568	/	608	885	/	937	0

0	0	1	0	1
0	1	1	0	2
0	0	0	1	1
0	0	0	1	1
0	0	0	3	3
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0

PM	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Portola	Portola	Portola	Portola	Portola	Portola	Country Club	Country Club	Country Club	Country Club	Country Club		
4:00 PM	38	145	30	28	96	12	15	185	55	32	117	29	782
4:15 PM	33	98	47	11	76	9	14	180	49	43	123	19	702
4:30 PM	41	114	42	20	111	18	11	194	55	41	115	22	784
4:45 PM	34	116	32	12	123	3	7	168	39	33	133	36	736
5:00 PM	31	135	34	24	89	8	10	179	43	48	147	44	792
5:15 PM	41	95	34	12	81	13	9	197	37	36	143	34	732
5:30 PM	32	101	42	18	87	10	8	153	40	46	147	27	711
5:45 PM	31	81	36	16	87	5	5	148	33	55	133	34	664
VOLUMES	281	885	297	141	750	78	79	1,404	351	334	1,058	245	5,903
APPROACH %	19%	60%	20%	15%	77%	8%	4%	77%	19%	20%	65%	15%	
APP/DEPART	1,463	/	1,207	969	/	1,430	1,834	/	1,846	1,637	/	1,420	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	147	460	142	68	404	42	37	738	174	158	538	136	3,044
APPROACH %	20%	61%	19%	13%	79%	8%	4%	78%	18%	19%	65%	16%	
PEAK HR FACTOR	0.936			0.862			0.913			0.870			0.961
APP/DEPART	749	/	632	514	/	731	949	/	953	832	/	728	0

0	0	1	0	1
0	1	1	0	2
0	0	0	1	1
0	0	0	1	1
0	0	0	3	3
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	1	3	5	9



AM	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

AM	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

AM	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

AM	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

INTERSECTION TURNING MOVEMENT COUNTS

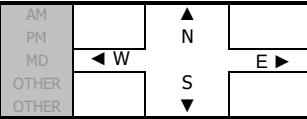
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Monterey
EAST & WEST: Fred Waring

PROJECT #: SC1662
LOCATION #: 40
CONTROL: SIGNAL

NOTES:



Add U-Turns to Left Turns

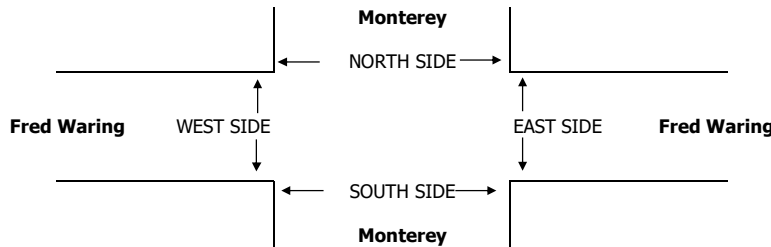
LANES:	NORTHBOUND <small>Monterey</small>			SOUTHBOUND <small>Monterey</small>			EASTBOUND <small>Fred Waring</small>			WESTBOUND <small>Fred Waring</small>			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	3	0	2	3	1	2	3	0	2	3	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	

	NORTHBOUND <small>Monterey</small>			SOUTHBOUND <small>Monterey</small>			EASTBOUND <small>Fred Waring</small>			WESTBOUND <small>Fred Waring</small>			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
AM													
7:00 AM	5	63	18	29	79	13	6	43	3	21	69	22	371
7:15 AM	7	96	24	39	95	25	10	48	5	41	107	34	531
7:30 AM	7	84	20	41	115	45	10	72	2	42	120	65	623
7:45 AM	7	114	19	61	169	35	16	72	7	61	155	69	785
8:00 AM	15	118	24	64	142	38	30	70	10	66	187	87	851
8:15 AM	9	115	24	34	158	45	25	56	15	76	176	73	806
8:30 AM	16	99	25	46	161	39	33	77	9	55	157	60	777
8:45 AM	12	111	35	38	218	50	32	95	7	86	156	89	929
VOLUMES	78	800	189	352	1,137	290	162	533	58	448	1,127	499	5,673
APPROACH %	7%	75%	18%	20%	64%	16%	22%	71%	8%	22%	54%	24%	
APP/DEPART	1,067	/	1,461	1,779	/	1,617	753	/	1,099	2,074	/	1,496	0
BEGIN PEAK HR	8:00 AM												
VOLUMES	52	443	108	182	679	172	120	298	41	283	676	309	3,363
APPROACH %	9%	73%	18%	18%	66%	17%	26%	65%	9%	22%	53%	24%	
PEAK HR FACTOR	0.954			0.844			0.856			0.932			0.905
APP/DEPART	603	/	870	1,033	/	984	459	/	607	1,268	/	902	0
PM													
4:00 PM	25	204	61	80	201	56	112	230	27	104	170	59	1,329
4:15 PM	24	216	89	68	196	66	65	169	18	73	186	83	1,253
4:30 PM	17	172	69	82	173	56	84	220	29	70	158	45	1,175
4:45 PM	18	176	58	71	237	53	72	186	13	84	173	56	1,197
5:00 PM	21	192	62	70	175	62	83	205	23	90	155	77	1,215
5:15 PM	22	188	76	66	195	68	68	213	20	74	157	56	1,203
5:30 PM	19	176	60	67	190	61	76	217	23	82	141	54	1,166
5:45 PM	17	151	56	44	192	67	58	151	17	61	148	54	1,016
VOLUMES	163	1,475	531	548	1,559	489	618	1,591	170	638	1,288	484	9,554
APPROACH %	8%	68%	24%	21%	60%	19%	26%	67%	7%	26%	53%	20%	
APP/DEPART	2,169	/	2,572	2,596	/	2,359	2,379	/	2,678	2,410	/	1,945	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	84	768	277	301	807	231	333	805	87	331	687	243	4,954
APPROACH %	7%	68%	25%	22%	60%	17%	27%	66%	7%	26%	54%	19%	
PEAK HR FACTOR	0.858			0.927			0.830			0.922			0.932
APP/DEPART	1,129	/	1,341	1,339	/	1,223	1,225	/	1,387	1,261	/	1,003	0

NB	SB	EB	WB	TTL
1	0	0	0	1
0	1	0	3	4
0	1	0	2	3
0	0	0	3	3
0	0	1	4	5
0	0	0	4	4
0	0	1	7	8
0	0	0	4	4
1	2	2	27	32

NB	SB	EB	WB	TTL
1	0	0	2	3
1	0	1	0	2
0	0	0	1	1
0	0	2	1	3
0	1	2	1	4
0	0	1	3	4
0	1	1	1	3
0	0	0	1	1
2	2	7	10	21



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	8:00 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	8:00 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	8:00 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

INTERSECTION TURNING MOVEMENT COUNTS

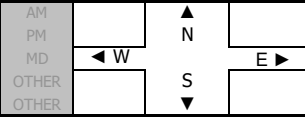
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Thu, Mar 22, 18

LOCATION: Rancho Mirage
NORTH & SOUTH: Monterey
EAST & WEST: SR-111

PROJECT #: SC1662
LOCATION #: 42
CONTROL: SIGNAL

NOTES:



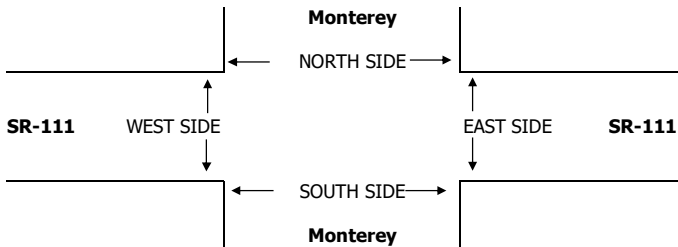
Add U-Turns to Left Turns

LANES:	NORTHBOUND Monterey			SOUTHBOUND Monterey			EASTBOUND SR-111			WESTBOUND SR-111			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	2	2	1	2	2	1	2	3	1	2	3	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

	NORTHBOUND Monterey			SOUTHBOUND Monterey			EASTBOUND SR-111			WESTBOUND SR-111			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
AM													
7:00 AM	30	57	28	18	63	8	15	76	14	30	90	25	454
7:15 AM	25	81	36	21	79	12	9	69	17	31	123	22	525
7:30 AM	26	101	44	50	85	14	12	100	23	44	158	30	687
7:45 AM	28	100	55	34	107	18	13	132	29	46	160	49	771
8:00 AM	44	116	42	41	130	20	19	128	13	52	134	39	778
8:15 AM	41	80	34	47	99	11	21	162	25	51	153	29	753
8:30 AM	43	102	41	55	116	26	24	147	22	47	143	31	797
8:45 AM	38	104	43	67	123	29	16	187	23	72	122	32	856
VOLUMES	275	741	323	333	802	138	129	1,001	166	373	1,083	257	5,621
APPROACH %	21%	55%	24%	26%	63%	11%	10%	77%	13%	22%	63%	15%	
APP/DEPART	1,339	/	1,126	1,273	/	1,302	1,296	/	1,696	1,713	/	1,497	0
BEGIN PEAK HR	8:00 AM												
VOLUMES	166	402	160	210	468	86	80	624	83	222	552	131	3,184
APPROACH %	23%	55%	22%	27%	61%	11%	10%	79%	11%	25%	61%	14%	
PEAK HR FACTOR	0.901			0.872			0.871			0.971			0.930
APP/DEPART	728	/	612	764	/	743	787	/	1,024	905	/	805	0
PM													
4:00 PM	54	115	44	74	111	46	40	279	35	62	264	65	1,189
4:15 PM	59	118	41	83	128	40	61	299	33	43	226	46	1,177
4:30 PM	60	106	45	72	118	26	46	271	38	55	222	51	1,110
4:45 PM	76	113	45	84	124	50	53	281	38	60	199	50	1,173
5:00 PM	52	130	45	68	120	31	60	257	39	74	235	50	1,161
5:15 PM	68	102	40	87	121	29	41	237	39	66	222	48	1,100
5:30 PM	69	98	36	83	104	33	38	232	35	52	213	59	1,052
5:45 PM	59	93	55	67	125	33	46	222	43	57	220	45	1,065
VOLUMES	497	875	351	618	951	288	385	2,078	300	469	1,801	414	9,027
APPROACH %	29%	51%	20%	33%	51%	16%	14%	75%	11%	17%	67%	15%	
APP/DEPART	1,723	/	1,661	1,857	/	1,641	2,763	/	3,125	2,684	/	2,600	0
BEGIN PEAK HR	4:00 PM												
VOLUMES	249	452	175	313	481	162	200	1,130	144	220	911	212	4,649
APPROACH %	28%	52%	20%	33%	50%	17%	14%	77%	10%	16%	68%	16%	
PEAK HR FACTOR	0.936			0.926			0.938			0.859			0.978
APP/DEPART	876	/	861	956	/	806	1,474	/	1,656	1,343	/	1,326	0

NB	SB	EB	WB	TTL
0	0	0	0	1
0	0	0	2	2
0	0	0	4	4
0	0	0	2	2
0	0	0	9	9
0	0	0	1	1
0	0	0	8	8
0	0	1	12	13
0	0	1	39	40
0	1	0	13	14
0	0	3	10	13
0	0	1	8	9
0	0	0	8	8
0	0	2	11	13
0	0	3	14	17
0	0	1	8	9
0	0	4	7	11
0	1	14	79	94



	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	8:00 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	8:00 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	8:00 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:00 PM				

INTERSECTION TURNING MOVEMENT COUNTS

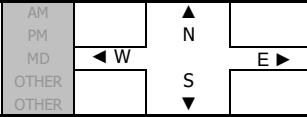
PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Wed, Jan 23, 19

LOCATION: Rancho Mirage
NORTH & SOUTH: Oasis
EAST & WEST: Gerald Ford

PROJECT #: SC2031
LOCATION #: 4
CONTROL: STOP S

NOTES:

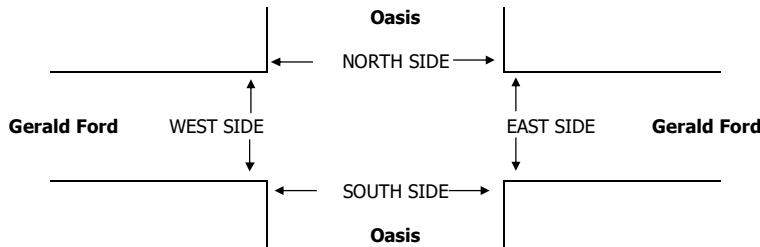


Add U-Turns to Left Turns

	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	Oasis			Oasis			Gerald Ford			Gerald Ford			
LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
7:00 AM	0	0	0	2	0	6	4	72	0	0	92	8	184
7:15 AM	0	0	0	6	0	8	6	94	0	0	118	10	242
7:30 AM	0	0	0	9	0	11	7	113	0	0	112	13	265
7:45 AM	0	0	0	7	0	8	8	115	0	0	148	17	303
8:00 AM	0	0	0	5	0	10	6	102	0	0	132	14	269
8:15 AM	0	0	0	6	0	7	5	99	0	0	116	12	245
8:30 AM	0	0	0	2	0	4	4	110	0	0	124	9	253
8:45 AM	0	0	0	3	0	3	5	112	0	0	127	10	260
VOLUMES	0	0	0	40	0	57	45	817	0	0	969	93	2,021
APPROACH %	0%	0%	0%	41%	0%	59%	5%	95%	0%	0%	91%	9%	
APP/DEPART	0	/	137	97	/	0	862	/	857	1,062	/	1,027	0
BEGIN PEAK HR	7:30 AM												
VOLUMES	0	0	0	27	0	36	26	429	0	0	508	56	1,082
APPROACH %	0%	0%	0%	43%	0%	57%	6%	94%	0%	0%	90%	10%	
PEAK HR FACTOR	0.000				0.788			0.925			0.855		0.893
APP/DEPART	0	/	82	63	/	0	455	/	456	564	/	544	0
4:00 PM	0	0	0	13	0	10	7	87	0	0	105	6	228
4:15 PM	0	0	0	11	0	4	6	145	0	0	119	4	289
4:30 PM	0	0	0	12	0	10	8	134	0	0	121	2	287
4:45 PM	0	0	0	9	0	10	9	129	0	0	119	5	281
5:00 PM	0	0	0	17	0	15	5	141	0	0	117	12	307
5:15 PM	0	0	0	17	0	7	10	153	0	0	134	6	327
5:30 PM	0	0	0	14	0	8	3	111	0	0	112	4	252
5:45 PM	0	0	0	6	0	2	4	117	0	0	97	2	228
VOLUMES	0	0	0	99	0	66	52	1,017	0	0	924	41	2,199
APPROACH %	0%	0%	0%	60%	0%	40%	5%	95%	0%	0%	96%	4%	
APP/DEPART	0	/	90	165	/	0	1,069	/	1,116	965	/	993	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	0	0	0	55	0	42	32	557	0	0	491	25	1,202
APPROACH %	0%	0%	0%	57%	0%	43%	5%	95%	0%	0%	95%	5%	
PEAK HR FACTOR	0.000				0.758			0.903			0.921		0.919
APP/DEPART	0	/	54	97	/	0	589	/	612	516	/	536	0

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	1	0	1
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	1	0	1

0	0	0	0	0
0	0	0	0	0
0	0	1	0	1
0	0	2	0	2
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	3	0	3



		PEDESTRIAN + BIKE CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
TOTAL		0	0	0	0	0
AM BEGIN PEAK HR		7:30 AM				
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
TOTAL		0	0	0	0	0
PM BEGIN PEAK HR		4:30 PM				

		PEDESTRIAN CROSSINGS				
		N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
TOTAL		0	0	0	0	0
AM BEGIN PEAK HR		7:30 AM				
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
TOTAL		0	0	0	0	0
PM BEGIN PEAK HR		4:30 PM				

		BICYCLE CROSSINGS				
		NS	SS	ES	WS	TOTAL
AM	7:00 AM	0	0	0	0	0
	7:15 AM	0	0	0	0	0
	7:30 AM	0	0	0	0	0
	7:45 AM	0	0	0	0	0
	8:00 AM	0	0	0	0	0
	8:15 AM	0	0	0	0	0
	8:30 AM	0	0	0	0	0
	8:45 AM	0	0	0	0	0
TOTAL		0	0	0	0	0
AM BEGIN PEAK HR		7:30 AM				
PM	4:00 PM	0	0	0	0	0
	4:15 PM	0	0	0	0	0
	4:30 PM	0	0	0	0	0
	4:45 PM	0	0	0	0	0
	5:00 PM	0	0	0	0	0
	5:15 PM	0	0	0	0	0
	5:30 PM	0	0	0	0	0
	5:45 PM	0	0	0	0	0
TOTAL		0	0	0	0	0
PM BEGIN PEAK HR		4:30 PM				

INTERSECTION TURNING MOVEMENT COUNTS

PREPARED BY: AimTD LLC. tel: 714 253 7888 cs@aimtd.com

DATE:
Wed, Jan 23, 19

LOCATION: Rancho Mirage
NORTH & SOUTH: Monterey
EAST & WEST: Shadow Ridge

PROJECT #: SC2031
LOCATION #: 5
CONTROL: SIGNAL

NOTES:

AM	▲	N
PM	▼	S
MD	←	W
OTHER	→	E
OTHER		

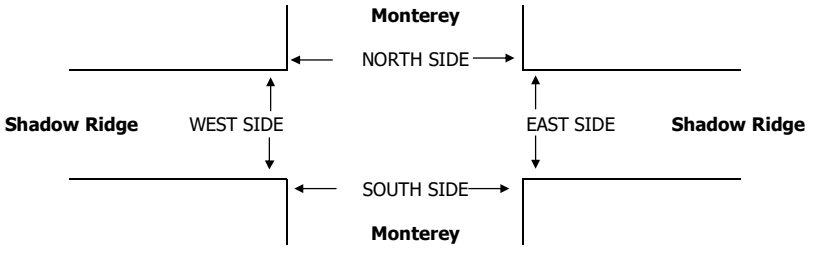
Add U-Turns to Left Turns

LANES:	NORTHBOUND <small>Monterey</small>			SOUTHBOUND <small>Monterey</small>			EASTBOUND <small>Shadow Ridge</small>			WESTBOUND <small>Shadow Ridge</small>			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	X	3	1	1	3	X	X	X	X	1	X	1	

U-TURNS				
NB	SB	EB	WB	TTL
0	0	0	0	0

	NORTHBOUND <small>Monterey</small>			SOUTHBOUND <small>Monterey</small>			EASTBOUND <small>Shadow Ridge</small>			WESTBOUND <small>Shadow Ridge</small>			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
AM													
7:00 AM	0	93	10	4	205	0	0	0	0	1	0	6	319
7:15 AM	0	100	12	12	226	0	0	0	0	3	0	8	361
7:30 AM	0	144	16	20	300	0	0	0	0	8	0	7	495
7:45 AM	0	174	7	8	410	0	0	0	0	6	0	5	610
8:00 AM	0	147	14	9	242	0	0	0	0	3	0	5	420
8:15 AM	0	157	7	5	328	0	0	0	0	3	0	9	509
8:30 AM	0	183	10	5	289	0	0	0	0	16	0	19	522
8:45 AM	0	170	4	4	323	0	0	0	0	10	0	13	524
VOLUMES	0	1,168	80	67	2,323	0	0	0	0	50	0	72	3,760
APPROACH %	0%	94%	6%	3%	97%	0%	0%	0%	0%	41%	0%	59%	
APP/DEPART	1,248	/	1,243	2,390	/	2,373	0	/	144	122	/	0	0
BEGIN PEAK HR	7:45 AM												
VOLUMES	0	661	38	27	1,269	0	0	0	0	28	0	38	2,061
APPROACH %	0%	95%	5%	2%	98%	0%	0%	0%	0%	42%	0%	58%	
PEAK HR FACTOR	0.905			0.775			0.000			0.471			0.845
APP/DEPART	699	/	700	1,296	/	1,297	0	/	64	66	/	0	0
PM													
4:00 PM	0	376	11	14	259	0	0	0	0	4	0	8	672
4:15 PM	0	319	10	17	292	0	0	0	0	18	0	12	668
4:30 PM	0	353	12	9	314	0	0	0	0	18	0	17	723
4:45 PM	0	291	12	12	260	0	0	0	0	19	0	24	618
5:00 PM	0	342	10	16	266	0	0	0	0	19	0	14	667
5:15 PM	0	381	12	13	262	1	0	0	0	26	0	12	707
5:30 PM	0	321	12	12	245	0	0	0	0	10	0	11	611
5:45 PM	0	238	6	8	210	0	0	0	0	16	0	14	492
VOLUMES	0	2,621	85	101	2,108	1	0	0	0	130	0	112	5,158
APPROACH %	0%	97%	3%	5%	95%	0%	0%	0%	0%	54%	0%	46%	
APP/DEPART	2,706	/	2,735	2,210	/	2,237	0	/	185	242	/	1	0
BEGIN PEAK HR	4:30 PM												
VOLUMES	0	1,367	46	50	1,102	1	0	0	0	82	0	67	2,715
APPROACH %	0%	97%	3%	4%	96%	0%	0%	0%	0%	55%	0%	45%	
PEAK HR FACTOR	0.899			0.892			0.000			0.866			0.939
APP/DEPART	1,413	/	1,434	1,153	/	1,183	0	/	97	149	/	1	0

NB	SB	EB	WB	TTL
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	0	0	0	0
0	1	0	0	1
0	0	0	0	0
0	1	0	0	1
0	3	0	0	3
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	1	1
0	0	0	0	0
0	2	0	0	2
0	0	0	0	0
0	2	0	1	3

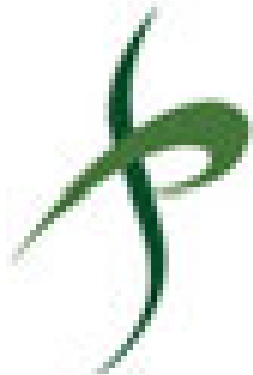


	PEDESTRIAN + BIKE CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

	PEDESTRIAN CROSSINGS				
	N SIDE	S SIDE	E SIDE	W SIDE	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

	BICYCLE CROSSINGS				
	NS	SS	ES	WS	TOTAL
AM					
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL	0	0	0	0	0
AM BEGIN PEAK HR	7:45 AM				
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL	0	0	0	0	0
PM BEGIN PEAK HR	4:30 PM				

**APPENDIX B: LEVEL OF SERVICE CALCULATION SHEETS
EXISTING YEAR (2018) CONDITIONS**



HCM 6th Signalized Intersection Summary
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↖	↗	↘↙	↘↖			↗↘	↗
Traffic Volume (veh/h)	0	0	0	559	1	231	143	347	0	0	154	165
Future Volume (veh/h)	0	0	0	559	1	231	143	347	0	0	154	165
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				622	0	0	159	386	0	0	171	36
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				994	0		426	2025	0	0	705	219
Arrive On Green				0.28	0.00	0.00	0.12	0.40	0.00	0.00	0.14	0.14
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1585
Grp Volume(v), veh/h				622	0	0	159	386	0	0	171	36
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1585
Q Serve(g_s), s				4.5	0.0	0.0	1.3	1.5	0.0	0.0	0.9	0.6
Cycle Q Clear(g_c), s				4.5	0.0	0.0	1.3	1.5	0.0	0.0	0.9	0.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				994	0		426	2025	0	0	705	219
V/C Ratio(X)				0.63	0.00		0.37	0.19	0.00	0.00	0.24	0.16
Avail Cap(c_a), veh/h				4815	0		2919	7764	0	0	7764	2410
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				9.3	0.0	0.0	11.9	5.8	0.0	0.0	11.4	11.2
Incr Delay (d2), s/veh				0.5	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.2	0.0	0.0	0.3	0.1	0.0	0.0	0.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				9.8	0.0	0.0	12.1	5.9	0.0	0.0	11.5	11.5
LnGrp LOS				A	A		B	A	A	A	B	B
Approach Vol, veh/h					622	A		545			207	
Approach Delay, s/veh					9.8			7.7			11.5	
Approach LOS					A			A			B	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		16.5			7.6	8.9		13.1				
Change Period (Y+Rc), s		4.8			4.0	4.8		4.8				
Max Green Setting (Gmax), s		45.0			25.0	45.0		40.0				
Max Q Clear Time (g_c+I1), s		3.5			3.3	2.9		6.5				
Green Ext Time (p_c), s		1.9			0.2	0.9		1.8				

Intersection Summary

HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

02/20/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	559	1	231	143	347	0	0	154	165
Future Volume (veh/h)	0	0	0	559	1	231	143	347	0	0	154	165
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				622	0	0	159	386	0	0	171	36
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Opposing Right Turn Influence				Yes			Yes			No		
Cap, veh/h				994	0		426	2025	0	0	705	219
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.28	0.00	0.00	0.12	0.40	0.00	0.00	0.14	0.14
Unsig. Movement Delay												
Ln Grp Delay, s/veh				9.8	0.0	0.0	12.1	5.9	0.0	0.0	11.5	11.5
Ln Grp LOS				A	A		B	A	A	A	B	B
Approach Vol, veh/h					622			545			207	
Approach Delay, s/veh					9.8			7.7			11.5	
Approach LOS					A			A			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8		5	6					
Case No			4.0	9.0		2.0	7.0					
Phs Duration (G+Y+Rc), s			16.5	13.1		7.6	8.9					
Change Period (Y+Rc), s			4.8	4.8		4.0	4.8					
Max Green (Gmax), s			45.0	40.0		25.0	45.0					
Max Allow Headway (MAH), s			4.2	3.3		2.6	4.1					
Max Q Clear (g_c+I1), s			3.5	6.5		3.3	2.9					
Green Ext Time (g_e), s			1.9	1.8		0.2	0.9					
Prob of Phs Call (p_c)			0.96	0.99		0.73	0.82					
Prob of Max Out (p_x)			0.00	0.00		0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt				3		5	1					
Mvmt Sat Flow, veh/h				3563		3456	0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			5274	0			5274					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			0	1585			1585					
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	0	0				
Lane Assignment			L		L (Prot)							

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

02/20/2019

Lanes in Grp	0	0	2	0	2	0	0	0
Grp Vol (v), veh/h	0	0	622	0	159	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1728	0	0	0
Q Serve Time (g_s), s	0.0	0.0	4.5	0.0	1.3	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	4.5	0.0	1.3	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	994	0	426	0	0	0
V/C Ratio (X)	0.00	0.00	0.63	0.00	0.37	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	4815	0	2919	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	9.3	0.0	11.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.0	0.2	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	9.8	0.0	12.1	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.1	0.0	0.3	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.2	0.0	0.3	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.03	0.00	0.03	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	386	0	0	0	171	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	1.5	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	0.0	0.0	0.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	2025	0	0	0	705	0	0
V/C Ratio (X)	0.00	0.19	0.00	0.00	0.00	0.24	0.00	0.00
Avail Cap (c_a), veh/h	0	7764	0	0	0	7764	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.8	0.0	0.0	0.0	11.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.9	0.0	0.0	0.0	11.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	36	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	442	0	0	219	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	0	2142	0	0	2410	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	11.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	11.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	9.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	259	0	636	0	0	0	0	233	29	49	669	0
Future Volume (veh/h)	259	0	636	0	0	0	0	233	29	49	669	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	196	0	696				0	265	9	56	760	0
Peak Hour Factor	0.88	0.88	0.88				0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	612	0	1090				0	830	234	214	1742	0
Arrive On Green	0.34	0.00	0.34				0.00	0.15	0.15	0.06	0.34	0.00
Sat Flow, veh/h	1781	0	3170				0	5611	1585	3456	5274	0
Grp Volume(v), veh/h	196	0	696				0	265	9	56	760	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1870	1585	1728	1702	0
Q Serve(g_s), s	2.5	0.0	5.6				0.0	1.3	0.1	0.5	3.5	0.0
Cycle Q Clear(g_c), s	2.5	0.0	5.6				0.0	1.3	0.1	0.5	3.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	612	0	1090				0	830	234	214	1742	0
V/C Ratio(X)	0.32	0.00	0.64				0.00	0.32	0.04	0.26	0.44	0.00
Avail Cap(c_a), veh/h	2338	0	4161				0	8286	2341	2835	7540	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.4	0.0	8.4				0.0	11.6	11.1	13.6	7.8	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.5				0.0	0.2	0.0	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	1.3				0.0	0.3	0.0	0.1	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.6	0.0	8.9				0.0	11.8	11.2	13.9	7.9	0.0
LnGrp LOS	A	A	A				A	B	B	B	A	A
Approach Vol, veh/h		892						274			816	
Approach Delay, s/veh		8.6						11.8			8.3	
Approach LOS		A						B			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	5.9	9.3	15.3	15.2								
Change Period (Y+Rc), s	4.0	4.8	4.8	4.8								
Max Green Setting (Gmax), s	25.0	45.0	40.0	45.0								
Max Q Clear Time (g_c+I), s	12.5	3.3	7.6	5.5								
Green Ext Time (p_c), s	0.1	1.3	2.9	4.0								

Intersection Summary

HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Ramp/I-10 EB On Ramp

02/20/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	259	0	636	0	0	0	0	233	29	49	669	0
Future Volume (veh/h)	259	0	636	0	0	0	0	233	29	49	669	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	196	0	696				0	265	9	56	760	0
Peak Hour Factor	0.88	0.88	0.88				0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	612	0	1090				0	830	234	214	1742	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.34	0.00	0.34				0.00	0.15	0.15	0.06	0.34	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	7.6	0.0	8.9				0.0	11.8	11.2	13.9	7.9	0.0
Ln Grp LOS	A	A	A				A	B	B	B	A	A
Approach Vol, veh/h		892						274			816	
Approach Delay, s/veh		8.6						11.8			8.3	
Approach LOS		A						B			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		5.9	9.3		15.3		15.2					
Change Period (Y+Rc), s		4.0	4.8		4.8		4.8					
Max Green (Gmax), s		25.0	45.0		40.0		45.0					
Max Allow Headway (MAH), s		2.6	4.2		3.5		4.2					
Max Q Clear (g_c+I1), s		2.5	3.3		7.6		5.5					
Green Ext Time (g_e), s		0.1	1.3		2.9		4.0					
Prob of Phs Call (p_c)		0.38	0.90		1.00		1.00					
Prob of Max Out (p_x)		0.00	0.00		0.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5611		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

02/20/2019

Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	56	0	0	196	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	0.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.5	0.0	0.0	2.5	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	214	0	0	612	0	0	0	0
V/C Ratio (X)	0.26	0.00	0.00	0.32	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	2835	0	0	2338	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	13.6	0.0	0.0	7.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.9	0.0	0.0	7.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	265	0	0	0	760	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	1.3	0.0	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.3	0.0	0.0	0.0	3.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	830	0	0	0	1742	0	0
V/C Ratio (X)	0.00	0.32	0.00	0.00	0.00	0.44	0.00	0.00
Avail Cap (c_a), veh/h	0	8286	0	0	0	7540	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	0.0	0.0	7.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	0.0	0.0	7.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	0.0	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	0.0	0.0	0.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	9	0	696	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.1	0.0	5.6	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	5.6	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	234	0	1090	0	0	0	0
V/C Ratio (X)	0.00	0.04	0.00	0.64	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	2341	0	4161	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.1	0.0	8.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.2	0.0	8.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

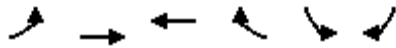
Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: Ramon Rd & Rattler Rd

02/20/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖↗	↑↑↑	↑↑↑	↖	↖↗	↖	
Traffic Volume (veh/h)	44	997	865	73	51	36	
Future Volume (veh/h)	44	997	865	73	51	36	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	48	1084	940	55	55	12	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	160	3940	3266	1104	202	90	
Arrive On Green	0.05	0.77	0.64	0.64	0.06	0.06	
Sat Flow, veh/h	3456	5274	5274	1585	3563	1585	
Grp Volume(v), veh/h	48	1084	940	55	55	12	
Grp Sat Flow(s),veh/h/ln1728	1702	1702	1702	1585	1781	1585	
Q Serve(g_s), s	0.8	3.6	4.7	0.6	0.9	0.4	
Cycle Q Clear(g_c), s	0.8	3.6	4.7	0.6	0.9	0.4	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	160	3940	3266	1104	202	90	
V/C Ratio(X)	0.30	0.28	0.29	0.05	0.27	0.13	
Avail Cap(c_a), veh/h	889	3940	3266	1104	2138	951	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	26.9	1.9	4.6	2.8	26.3	26.1	
Incr Delay (d2), s/veh	1.0	0.2	0.2	0.1	0.7	0.7	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.8	0.1	0.4	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	27.9	2.1	4.9	2.9	27.1	26.8	
LnGrp LOS	C	A	A	A	C	C	
Approach Vol, veh/h		1132	995		67		
Approach Delay, s/veh		3.2	4.8		27.0		
Approach LOS		A	A		C		
Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			50.0		8.3	7.7	42.3
Change Period (Y+Rc), s			5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s			45.0		35.0	15.0	29.0
Max Q Clear Time (g_c+I1), s			5.6		2.9	2.8	6.7
Green Ext Time (p_c), s			7.9		0.2	0.1	6.0
Intersection Summary							
HCM 6th Ctrl Delay			4.6				
HCM 6th LOS			A				
Notes							
User approved volume balancing among the lanes for turning movement.							

HCM 6th Signalized Intersection Capacity Analysis
 3: Ramon Rd & Rattler Rd

02/20/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖↗	↑↑↑	↑↑↑	↖	↖↗	↖			
Traffic Volume (veh/h)	44	997	865	73	51	36			
Future Volume (veh/h)	44	997	865	73	51	36			
Number	7	4	8	18	1	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	48	1084	940	55	55	12			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	160	3940	3266	1104	202	90			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.05	0.77	0.64	0.64	0.06	0.06			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	27.9	2.1	4.9	2.9	27.1	26.8			
Ln Grp LOS	C	A	A	A	C	C			
Approach Vol, veh/h		1132	995		67				
Approach Delay, s/veh		3.2	4.8		27.0				
Approach LOS		A	A		C				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		6			4			7	8
Case No		9.0			4.0			2.0	7.0
Phs Duration (G+Y+Rc), s		8.3			50.0			7.7	42.3
Change Period (Y+Rc), s		5.0			5.0			5.0	5.0
Max Green (Gmax), s		35.0			45.0			15.0	29.0
Max Allow Headway (MAH), s		3.8			4.7			3.6	4.7
Max Q Clear (g_c+I1), s		2.9			5.6			2.8	6.7
Green Ext Time (g_e), s		0.2			7.9			0.1	6.0
Prob of Phs Call (p_c)		0.66			1.00			0.54	1.00
Prob of Max Out (p_x)		0.00			0.00			0.00	0.00
Left-Turn Movement Data									
Assigned Mvmt		1						7	3
Mvmt Sat Flow, veh/h		3563						3456	0
Through Movement Data									
Assigned Mvmt		6			4				8
Mvmt Sat Flow, veh/h		0			5274				5274
Right-Turn Movement Data									
Assigned Mvmt		16			14				18
Mvmt Sat Flow, veh/h		1585			0				1585
Left Lane Group Data									
Assigned Mvmt		1	0	0	0	0	0	7	3
Lane Assignment		L						L (Prot)	

HCM 6th Signalized Intersection Capacity Analysis
 3: Ramon Rd & Rattler Rd

02/20/2019

Lanes in Grp	2	0	0	0	0	0	2	0
Grp Vol (v), veh/h	55	0	0	0	0	0	48	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	0	0	0	1728	0
Q Serve Time (g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	0.9	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1781	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.3
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	202	0	0	0	0	0	160	0
V/C Ratio (X)	0.27	0.00	0.00	0.00	0.00	0.00	0.30	0.00
Avail Cap (c_a), veh/h	2138	0	0	0	0	0	889	0
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.3	0.0	0.0	0.0	0.0	0.0	26.9	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	27.1	0.0	0.0	0.0	0.0	0.0	27.9	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.0	0.0	0.0	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
%ile Back of Q (50%), veh/ln	0.4	0.0	0.0	0.0	0.0	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.04	0.00	0.00	0.00	0.00	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	6	0	0	4	0	0	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1084	0	0	0	940
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	3.6	0.0	0.0	0.0	4.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.6	0.0	0.0	0.0	4.7
Lane Grp Cap (c), veh/h	0	0	0	3940	0	0	0	3266
V/C Ratio (X)	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.29
Avail Cap (c_a), veh/h	0	0	0	3940	0	0	0	3266
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	1.9	0.0	0.0	0.0	4.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	2.1	0.0	0.0	0.0	4.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis 3: Ramon Rd & Rattler Rd

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	16	0	0	14	0	0	0	18
Lane Assignment	R							R
Lanes in Grp	1	0	0	0	0	0	0	1
Grp Vol (v), veh/h	12	0	0	0	0	0	0	55
Grp Sat Flow (s), veh/h/ln	1585	0	0	0	0	0	0	1585
Q Serve Time (g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Cycle Q Clear Time (g_c), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	90	0	0	0	0	0	0	1104
V/C Ratio (X)	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Avail Cap (c_a), veh/h	951	0	0	0	0	0	0	1104
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	26.1	0.0	0.0	0.0	0.0	0.0	0.0	2.8
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.8	0.0	0.0	0.0	0.0	0.0	0.0	2.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	4.6
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Bob Hope Dr & Ramon Rd

























02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	86	823	221	80	411	4	126	174	82	50	782	516
Future Volume (veh/h)	86	823	221	80	411	4	126	174	82	50	782	516
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	946	144	92	472	2	145	200	30	57	899	341
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	321	1090	486	318	1086	485	333	1498	465	306	1457	452
Arrive On Green	0.09	0.31	0.31	0.09	0.31	0.31	0.10	0.29	0.29	0.09	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	99	946	144	92	472	2	145	200	30	57	899	341
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	3.0	28.4	7.8	2.8	12.0	0.1	4.5	3.3	1.5	1.7	17.3	22.1
Cycle Q Clear(g_c), s	3.0	28.4	7.8	2.8	12.0	0.1	4.5	3.3	1.5	1.7	17.3	22.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	321	1090	486	318	1086	485	333	1498	465	306	1457	452
V/C Ratio(X)	0.31	0.87	0.30	0.29	0.43	0.00	0.44	0.13	0.06	0.19	0.62	0.75
Avail Cap(c_a), veh/h	612	1258	561	612	1258	561	459	2034	631	1070	2034	631
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.8	37.0	29.9	47.9	31.4	27.3	48.2	29.4	28.8	47.7	35.0	36.8
Incr Delay (d2), s/veh	0.2	6.0	0.3	0.2	0.3	0.0	0.3	0.0	0.1	0.1	0.5	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	12.4	2.9	1.2	4.9	0.0	1.9	1.3	0.6	0.7	6.8	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.0	43.0	30.2	48.0	31.7	27.3	48.5	29.4	28.8	47.8	35.5	40.5
LnGrp LOS	D	D	C	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		1189			566			375			1297	
Approach Delay, s/veh		41.9			34.3			36.7			37.4	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.4	40.6	15.8	41.2	16.3	39.8	15.9	41.0				
Change Period (Y+Rc), s	5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5				
Max Green Setting (Gmax), s	35.0	45.0	20.0	40.0	15.0	45.0	20.0	40.0				
Max Q Clear Time (g_c+1), s	13.7	5.3	4.8	30.4	6.5	24.1	5.0	14.0				
Green Ext Time (p_c), s	0.0	1.5	0.1	4.3	0.1	8.1	0.1	2.7				
Intersection Summary												
HCM 6th Ctrl Delay			38.4									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Capacity Analysis
4: Bob Hope Dr & Ramon Rd

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	823	221	80	411	4	126	174	82	50	782	516
Future Volume (veh/h)	86	823	221	80	411	4	126	174	82	50	782	516
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	946	144	92	472	2	145	200	30	57	899	341
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	321	1090	486	318	1086	485	333	1498	465	306	1457	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.31	0.31	0.09	0.31	0.31	0.10	0.29	0.29	0.09	0.29	0.29
Unsig. Movement Delay												
Ln Grp Delay, s/veh	48.0	43.0	30.2	48.0	31.7	27.3	48.5	29.4	28.8	47.8	35.5	40.5
Ln Grp LOS	D	D	C	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		1189			566			375			1297	
Approach Delay, s/veh		41.9			34.3			36.7			37.4	
Approach LOS		D			C			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.4	40.6	15.8	41.2	16.3	39.8	15.9	41.0			
Change Period (Y+Rc), s		5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5			
Max Green (Gmax), s		35.0	45.0	20.0	40.0	15.0	45.0	20.0	40.0			
Max Allow Headway (MAH), s		2.1	5.1	2.1	4.6	2.1	5.0	2.1	4.7			
Max Q Clear (g_c+I1), s		3.7	5.3	4.8	30.4	6.5	24.1	5.0	14.0			
Green Ext Time (g_e), s		0.0	1.5	0.1	4.3	0.1	8.1	0.1	2.7			
Prob of Phs Call (p_c)		0.83	1.00	0.94	1.00	0.99	1.00	0.96	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.49	0.00	0.21	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	57	0	92	0	145	0	99	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	1.7	0.0	2.8	0.0	4.5	0.0	3.0	0.0
Cycle Q Clear Time (g_c), s	1.7	0.0	2.8	0.0	4.5	0.0	3.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	306	0	318	0	333	0	321	0
V/C Ratio (X)	0.19	0.00	0.29	0.00	0.44	0.00	0.31	0.00
Avail Cap (c_a), veh/h	1070	0	612	0	459	0	612	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	47.7	0.0	47.9	0.0	48.2	0.0	47.8	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.3	0.0	0.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	47.8	0.0	48.0	0.0	48.5	0.0	48.0	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	1.2	0.0	1.8	0.0	1.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	1.2	0.0	1.9	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.09	0.00	0.23	0.00	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	200	0	946	0	899	0	472
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	3.3	0.0	28.4	0.0	17.3	0.0	12.0
Cycle Q Clear Time (g_c), s	0.0	3.3	0.0	28.4	0.0	17.3	0.0	12.0
Lane Grp Cap (c), veh/h	0	1498	0	1090	0	1457	0	1086
V/C Ratio (X)	0.00	0.13	0.00	0.87	0.00	0.62	0.00	0.43
Avail Cap (c_a), veh/h	0	2034	0	1258	0	2034	0	1258
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.4	0.0	37.0	0.0	35.0	0.0	31.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	6.0	0.0	0.5	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.4	0.0	43.0	0.0	35.5	0.0	31.7
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	11.4	0.0	6.7	0.0	4.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.9	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	12.4	0.0	6.8	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.27	0.00	0.15	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	30	0	144	0	341	0	2
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.5	0.0	7.8	0.0	22.1	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	7.8	0.0	22.1	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	465	0	486	0	452	0	485
V/C Ratio (X)	0.00	0.06	0.00	0.30	0.00	0.75	0.00	0.00
Avail Cap (c_a), veh/h	0	631	0	561	0	631	0	561
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.8	0.0	29.9	0.0	36.8	0.0	27.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	3.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.8	0.0	30.2	0.0	40.5	0.0	27.3
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	2.8	0.0	8.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	2.9	0.0	8.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.06	0.00	0.94	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
 5: Bob Hope Dr & Dinah Shore Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	400	147	79	388	79	88	243	76	97	815	78
Future Volume (veh/h)	54	400	147	79	388	79	88	243	76	97	815	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	455	58	90	441	22	100	276	0	110	926	89
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	709	316	117	752	335	235	1582		244	1478	142
Arrive On Green	0.05	0.20	0.20	0.07	0.21	0.21	0.07	0.31	0.00	0.07	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	5106	1585	3456	4731	453
Grp Volume(v), veh/h	61	455	58	90	441	22	100	276	0	110	665	350
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1585	1728	1702	1780
Q Serve(g_s), s	2.0	7.0	1.8	2.9	6.6	0.7	1.6	2.3	0.0	1.8	9.9	10.0
Cycle Q Clear(g_c), s	2.0	7.0	1.8	2.9	6.6	0.7	1.6	2.3	0.0	1.8	9.9	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	95	709	316	117	752	335	235	1582		244	1063	556
V/C Ratio(X)	0.64	0.64	0.18	0.77	0.59	0.07	0.42	0.17		0.45	0.63	0.63
Avail Cap(c_a), veh/h	601	2099	936	601	2099	936	1167	3878		1167	2585	1352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	21.8	19.7	27.2	21.0	18.7	26.5	14.9	0.0	26.4	17.4	17.4
Incr Delay (d2), s/veh	2.7	1.0	0.3	4.0	0.7	0.1	0.5	0.1	0.0	0.5	0.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.5	0.6	1.2	2.4	0.2	0.6	0.7	0.0	0.7	3.1	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	22.7	20.0	31.3	21.8	18.8	26.9	15.0	0.0	26.9	18.0	18.6
LnGrp LOS	C	C	B	C	C	B	C	B		C	B	B
Approach Vol, veh/h		574			553			376	A		1125	
Approach Delay, s/veh		23.2			23.2			18.2			19.1	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	24.9	7.9	18.3	8.0	25.0	7.2	19.0				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0				
Max Q Clear Time (g_c+1), s	13.8	4.3	4.9	9.0	3.6	12.0	4.0	8.6				
Green Ext Time (p_c), s	0.1	1.7	0.1	2.9	0.1	6.6	0.0	2.7				

Intersection Summary



































HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
5: Bob Hope Dr & Dinah Shore Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	  		 	  	  
Traffic Volume (veh/h)	54	400	147	79	388	79	88	243	76	97	815	78
Future Volume (veh/h)	54	400	147	79	388	79	88	243	76	97	815	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	455	58	90	441	22	100	276	0	110	926	89
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	95	709	316	117	752	335	235	1582		244	1478	142
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.20	0.20	0.07	0.21	0.21	0.07	0.31	0.00	0.07	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	30.1	22.7	20.0	31.3	21.8	18.8	26.9	15.0	0.0	26.9	18.0	18.6
Ln Grp LOS	C	C	B	C	C	B	C	B		C	B	B
Approach Vol, veh/h		574			553			376			1125	
Approach Delay, s/veh		23.2			23.2			18.2			19.1	
Approach LOS		C			C			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		8.2	24.9	7.9	18.3	8.0	25.0	7.2	19.0			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.8	2.7	4.8			
Max Q Clear (g_c+I1), s		3.8	4.3	4.9	9.0	3.6	12.0	4.0	8.6			
Green Ext Time (g_e), s		0.1	1.7	0.1	2.9	0.1	6.6	0.0	2.7			
Prob of Phs Call (p_c)		0.84	0.99	0.77	1.00	0.81	1.00	0.63	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4731		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		453		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

5: Bob Hope Dr & Dinah Shore Dr

02/20/2019

Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	110	0	90	0	100	0	61	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	1.8	0.0	2.9	0.0	1.6	0.0	2.0	0.0
Cycle Q Clear Time (g_c), s	1.8	0.0	2.9	0.0	1.6	0.0	2.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	244	0	117	0	235	0	95	0
V/C Ratio (X)	0.45	0.00	0.77	0.00	0.42	0.00	0.64	0.00
Avail Cap (c_a), veh/h	1167	0	601	0	1167	0	601	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.4	0.0	27.2	0.0	26.5	0.0	27.5	0.0
Incr Delay (d2), s/veh	0.5	0.0	4.0	0.0	0.5	0.0	2.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.9	0.0	31.3	0.0	26.9	0.0	30.1	0.0
1st-Term Q (Q1), veh/ln	0.6	0.0	1.1	0.0	0.6	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	1.2	0.0	0.6	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.14	0.00	0.06	0.00	0.10	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	276	0	455	0	665	0	441
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	2.3	0.0	7.0	0.0	9.9	0.0	6.6
Cycle Q Clear Time (g_c), s	0.0	2.3	0.0	7.0	0.0	9.9	0.0	6.6
Lane Grp Cap (c), veh/h	0	1582	0	709	0	1063	0	752
V/C Ratio (X)	0.00	0.17	0.00	0.64	0.00	0.63	0.00	0.59
Avail Cap (c_a), veh/h	0	3878	0	2099	0	2585	0	2099
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.9	0.0	21.8	0.0	17.4	0.0	21.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.0	0.0	0.6	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.0	0.0	22.7	0.0	18.0	0.0	21.8
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	2.4	0.0	3.0	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
5: Bob Hope Dr & Dinah Shore Dr

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.7	0.0	2.5	0.0	3.1	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.01	0.00	0.04	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	58	0	350	0	22
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1780	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	1.8	0.0	10.0	0.0	0.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.8	0.0	10.0	0.0	0.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.25	0.00	1.00
Lane Grp Cap (c), veh/h	0	491	0	316	0	556	0	335
V/C Ratio (X)	0.00	0.00	0.00	0.18	0.00	0.63	0.00	0.07
Avail Cap (c_a), veh/h	0	1204	0	936	0	1352	0	936
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	19.7	0.0	17.4	0.0	18.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	1.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	20.0	0.0	18.6	0.0	18.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	3.2	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.6	0.0	3.4	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.12	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Monterey Ave & Varner Rd

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	87	201	696	194	108	152	159	48	45	486	14
Future Volume (veh/h)	19	87	201	696	194	108	152	159	48	45	486	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	101	126	809	226	126	177	185	0	52	565	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	138	234	793	944	421	819	1604		124	980	
Arrive On Green	0.05	0.07	0.07	0.23	0.27	0.27	0.24	0.45	0.00	0.07	0.28	0.00
Sat Flow, veh/h	1781	1870	3170	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	22	101	126	809	226	126	177	185	0	52	565	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.6	7.2	5.2	31.2	6.8	8.6	5.6	4.1	0.0	3.8	18.6	0.0
Cycle Q Clear(g_c), s	1.6	7.2	5.2	31.2	6.8	8.6	5.6	4.1	0.0	3.8	18.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	138	234	793	944	421	819	1604		124	980	
V/C Ratio(X)	0.27	0.73	0.54	1.02	0.24	0.30	0.22	0.12		0.42	0.58	
Avail Cap(c_a), veh/h	169	447	758	793	944	421	819	1604		165	980	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.7	61.7	60.7	52.4	39.2	39.8	41.7	21.6	0.0	60.6	42.4	0.0
Incr Delay (d2), s/veh	0.7	7.2	1.9	34.0	0.1	0.3	0.1	0.1	0.0	0.8	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.6	2.1	16.7	2.9	3.3	2.4	1.8	0.0	1.7	8.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.4	68.9	62.7	86.4	39.3	40.1	41.8	21.7	0.0	61.5	44.9	0.0
LnGrp LOS	E	E	E	F	D	D	D	C		E	D	
Approach Vol, veh/h		249			1161			362	A		617	A
Approach Delay, s/veh		65.2			72.2			31.5			46.3	
Approach LOS		E			E			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	67.6	37.7	15.8	38.5	44.0	10.9	42.6				
Change Period (Y+Rc), s	5.4	6.2	6.5	* 5.8	6.2	* 6.5	* 4.7	6.5				
Max Green Setting (Gmax), s	12.6	20.9	31.2	* 33	11.5	* 38	* 13	35.3				
Max Q Clear Time (g_c+1/8), s	15.8	6.1	33.2	9.2	7.6	20.6	3.6	10.6				
Green Ext Time (p_c), s	0.0	0.9	0.0	0.9	0.1	2.9	0.0	1.6				

Intersection Summary

























HCM 6th Ctrl Delay	58.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	87	201	696	194	108	152	159	48	45	486	14
Future Volume (veh/h)	19	87	201	696	194	108	152	159	48	45	486	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	101	126	809	226	126	177	185	0	52	565	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	81	138	234	793	944	421	819	1604		124	980	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.07	0.07	0.23	0.27	0.27	0.24	0.45	0.00	0.07	0.28	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.4	68.9	62.7	86.4	39.3	40.1	41.8	21.7	0.0	61.5	44.9	0.0
Ln Grp LOS	E	E	E	F	D	D	D	C		E	D	
Approach Vol, veh/h		249			1161			362			617	
Approach Delay, s/veh		65.2			72.2			31.5			46.3	
Approach LOS		E			E			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	3.0	3.0	2.0	3.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.9	67.6	15.8	37.7	44.0	38.5	10.9	42.6			
Change Period (Y+Rc), s		5.4	6.2	* 5.8	6.5	* 6.5	6.2	* 4.7	6.5			
Max Green (Gmax), s		12.6	20.9	* 33	31.2	* 38	11.5	* 13	35.3			
Max Allow Headway (MAH), s		2.1	5.2	4.3	2.1	4.7	3.3	2.1	4.4			
Max Q Clear (g_c+I1), s		5.8	6.1	9.2	33.2	20.6	7.6	3.6	10.6			
Green Ext Time (g_e), s		0.0	0.9	0.9	0.0	2.9	0.1	0.0	1.6			
Prob of Phs Call (p_c)		0.86	1.00	1.00	1.00	1.00	1.00	0.56	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	1.00	0.00	0.52	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1781			3456		3456	1781				
Through Movement Data												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			3554	1870		3554			3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			1585	3170		1585			1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		L (Prot)			L (Prot)		L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

6: Monterey Ave & Varner Rd

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Lanes in Grp	1	0	0	2	0	2	1	0
Grp Vol (v), veh/h	52	0	0	809	0	177	22	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1728	0	1728	1781	0
Q Serve Time (g_s), s	3.8	0.0	0.0	31.2	0.0	5.6	1.6	0.0
Cycle Q Clear Time (g_c), s	3.8	0.0	0.0	31.2	0.0	5.6	1.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	124	0	0	793	0	819	81	0
V/C Ratio (X)	0.42	0.00	0.00	1.02	0.00	0.22	0.27	0.00
Avail Cap (c_a), veh/h	165	0	0	793	0	819	169	0
Upstream Filter (I)	1.00	0.00	0.00	0.81	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	60.6	0.0	0.0	52.4	0.0	41.7	62.7	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	34.0	0.0	0.1	0.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	61.5	0.0	0.0	86.4	0.0	41.8	63.4	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	0.0	12.9	0.0	2.4	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	3.7	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.7	0.0	0.0	16.7	0.0	2.4	0.7	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.00	1.41	0.00	0.26	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	4.1	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	1	0	2	0	0	2
Grp Vol (v), veh/h	0	185	101	0	565	0	0	226
Grp Sat Flow (s), veh/h/ln	0	1777	1870	0	1777	0	0	1777
Q Serve Time (g_s), s	0.0	4.1	7.2	0.0	18.6	0.0	0.0	6.8
Cycle Q Clear Time (g_c), s	0.0	4.1	7.2	0.0	18.6	0.0	0.0	6.8
Lane Grp Cap (c), veh/h	0	1604	138	0	980	0	0	944
V/C Ratio (X)	0.00	0.12	0.73	0.00	0.58	0.00	0.00	0.24
Avail Cap (c_a), veh/h	0	1604	447	0	980	0	0	944
Upstream Filter (I)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	0.81
Uniform Delay (d1), s/veh	0.0	21.6	61.7	0.0	42.4	0.0	0.0	39.2
Incr Delay (d2), s/veh	0.0	0.1	7.2	0.0	2.5	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.7	68.9	0.0	44.9	0.0	0.0	39.3
1st-Term Q (Q1), veh/ln	0.0	1.7	3.3	0.0	7.8	0.0	0.0	2.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.3	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Monterey Ave & Varner Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.8	3.6	0.0	8.2	0.0	0.0	2.9
%ile Storage Ratio (RQ%)	0.00	0.19	0.06	0.00	0.26	0.00	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		R	R		R			R
Lanes in Grp	0	1	2	0	1	0	0	1
Grp Vol (v), veh/h	0	0	126	0	0	0	0	126
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	0	1585
Q Serve Time (g_s), s	0.0	0.0	5.2	0.0	0.0	0.0	0.0	8.6
Cycle Q Clear Time (g_c), s	0.0	0.0	5.2	0.0	0.0	0.0	0.0	8.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	716	234	0	437	0	0	421
V/C Ratio (X)	0.00	0.00	0.54	0.00	0.00	0.00	0.00	0.30
Avail Cap (c_a), veh/h	0	716	758	0	437	0	0	421
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.81
Uniform Delay (d1), s/veh	0.0	0.0	60.7	0.0	0.0	0.0	0.0	39.8
Incr Delay (d2), s/veh	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	62.7	0.0	0.0	0.0	0.0	40.1
1st-Term Q (Q1), veh/ln	0.0	0.0	2.0	0.0	0.0	0.0	0.0	3.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	2.1	0.0	0.0	0.0	0.0	3.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.42
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	58.6
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

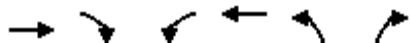
* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

7: I-10 WB Off Ramp & Varner Rd

02/20/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	↑
Traffic Volume (veh/h)	180	0	0	224	771	5
Future Volume (veh/h)	180	0	0	224	771	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	214	0	0	267	918	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	762	0	0	762	1370	628
Arrive On Green	0.21	0.00	0.00	0.21	0.40	0.00
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	214	0	0	267	918	0
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1728	1585
Q Serve(g_s), s	1.4	0.0	0.0	1.8	6.3	0.0
Cycle Q Clear(g_c), s	1.4	0.0	0.0	1.8	6.3	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	762	0	0	762	1370	628
V/C Ratio(X)	0.28	0.00	0.00	0.35	0.67	0.00
Avail Cap(c_a), veh/h	4322	0	0	4322	3602	1652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.4	0.0	0.0	9.6	7.1	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.4	1.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.6	0.0	0.0	9.8	7.6	0.0
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	214			267	918	
Approach Delay, s/veh	9.6			9.8	7.6	
Approach LOS	A			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		12.0			12.0	16.8
Change Period (Y+Rc), s		5.8			5.8	5.4
Max Green Setting (Gmax), s		35.0			35.0	30.0
Max Q Clear Time (g_c+I1), s		3.4			3.8	8.3
Green Ext Time (p_c), s		1.0			1.3	3.1
Intersection Summary						
HCM 6th Ctrl Delay			8.4			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

02/20/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations	↑↑			↑↑	↔↔	↔			
Traffic Volume (veh/h)	180	0	0	224	771	5			
Future Volume (veh/h)	180	0	0	224	771	5			
Number	2	12	1	6	3	18			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)		1.00	1.00		1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870			
Adj Flow Rate, veh/h	214	0	0	267	918	0			
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84			
Percent Heavy Veh, %	2	0	0	2	2	2			
Opposing Right Turn Influence			No		Yes				
Cap, veh/h	762	0	0	762	1370	628			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.21	0.00	0.00	0.21	0.40	0.00			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	9.6	0.0	0.0	9.8	7.6	0.0			
Ln Grp LOS	A	A	A	A	A	A			
Approach Vol, veh/h	214			267	918				
Approach Delay, s/veh	9.6			9.8	7.6				
Approach LOS	A			A	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2	8			6		
Case No			8.0	9.0			8.0		
Phs Duration (G+Y+Rc), s			12.0	16.8			12.0		
Change Period (Y+Rc), s			5.8	5.4			5.8		
Max Green (Gmax), s			35.0	30.0			35.0		
Max Allow Headway (MAH), s			4.4	3.5			4.4		
Max Q Clear (g_c+I1), s			3.4	8.3			3.8		
Green Ext Time (g_e), s			1.0	3.1			1.3		
Prob of Phs Call (p_c)			0.82	1.00			0.88		
Prob of Max Out (p_x)			0.00	0.00			0.00		
Left-Turn Movement Data									
Assigned Mvmt			5	3			1		
Mvmt Sat Flow, veh/h			0	3456			0		
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			3741	0			3741		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			0	1585			0		
Left Lane Group Data									
Assigned Mvmt		0	5	3	0	0	1	0	0
Lane Assignment				L					

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	0	0	2	0	0	0	0	0
Grp Vol (v), veh/h	0	0	918	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1728	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1728	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	6.2	0.0	0.0	0.0	6.2	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1370	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	3602	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	214	0	0	0	267	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	1.4	0.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	0.0	0.0	1.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	762	0	0	0	762	0	0
V/C Ratio (X)	0.00	0.28	0.00	0.00	0.00	0.35	0.00	0.00
Avail Cap (c_a), veh/h	0	4322	0	0	0	4322	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.4	0.0	0.0	0.0	9.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.6	0.0	0.0	0.0	9.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	0.0	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment	R							
Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	628	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1652	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary

8: Monterey Ave & I-10 EB Ramps

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	2	977	0	0	0	0	677	326	173	1182	0
Future Volume (veh/h)	41	2	977	0	0	0	0	677	326	173	1182	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	33	0	1115				0	787	122	201	1374	0
Peak Hour Factor	0.86	0.86	0.86				0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	682	0	1214				0	2063	640	266	1849	0
Arrive On Green	0.38	0.00	0.38				0.00	0.40	0.40	0.08	0.52	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	33	0	1115				0	787	122	201	1374	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	1.4	0.0	40.2				0.0	13.0	6.0	6.8	36.3	0.0
Cycle Q Clear(g_c), s	1.4	0.0	40.2				0.0	13.0	6.0	6.8	36.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	682	0	1214				0	2063	640	266	1849	0
V/C Ratio(X)	0.05	0.00	0.92				0.00	0.38	0.19	0.75	0.74	0.00
Avail Cap(c_a), veh/h	846	0	1506				0	2063	640	518	1849	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.86	0.86	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.3	0.0	35.2				0.0	25.2	23.1	54.3	22.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	7.8				0.0	0.5	0.6	4.3	2.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	16.5				0.0	5.4	2.3	3.1	15.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	0.0	43.0				0.0	25.7	23.7	58.6	25.3	0.0
LnGrp LOS	C	A	D				A	C	C	E	C	A
Approach Vol, veh/h	1148						909			1575		
Approach Delay, s/veh	42.4						25.4			29.5		
Approach LOS	D						C			C		
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	4.0	54.3	51.8	68.2								
Change Period (Y+Rc), s	4.7	5.8	5.8	5.8								
Max Green Setting (Gmax), s	18	28.0	57.0	51.0								
Max Q Clear Time (g_c+I), s	19	15.0	42.2	38.3								
Green Ext Time (p_c), s	0.4	4.8	3.8	7.8								

Intersection Summary

HCM 6th Ctrl Delay	32.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
8: Monterey Ave & I-10 EB Ramps

02/20/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	2	977	0	0	0	0	677	326	173	1182	0
Future Volume (veh/h)	41	2	977	0	0	0	0	677	326	173	1182	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	33	0	1115				0	787	122	201	1374	0
Peak Hour Factor	0.86	0.86	0.86				0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	682	0	1214				0	2063	640	266	1849	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.38	0.00	0.38				0.00	0.40	0.40	0.08	0.52	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	23.3	0.0	43.0				0.0	25.7	23.7	58.6	25.3	0.0
Ln Grp LOS	C	A	D				A	C	C	E	C	A
Approach Vol, veh/h		1148						909			1575	
Approach Delay, s/veh		42.4						25.4			29.5	
Approach LOS		D						C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		14.0	54.3		51.8		68.2					
Change Period (Y+Rc), s		* 4.7	5.8		5.8		5.8					
Max Green (Gmax), s		* 18	28.0		57.0		51.0					
Max Allow Headway (MAH), s		3.8	5.1		3.5		5.2					
Max Q Clear (g_c+I1), s		8.8	15.0		42.2		38.3					
Green Ext Time (g_e), s		0.4	4.8		3.8		7.8					
Prob of Phs Call (p_c)		1.00	1.00		1.00		1.00					
Prob of Max Out (p_x)		0.01	0.00		0.07		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5274		0		3647					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 8: Monterey Ave & I-10 EB Ramps

02/20/2019

Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	201	0	0	33	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	6.8	0.0	0.0	1.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	6.8	0.0	0.0	1.4	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	48.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	266	0	0	682	0	0	0	0
V/C Ratio (X)	0.75	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	518	0	0	846	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	54.3	0.0	0.0	23.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	58.6	0.0	0.0	23.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	3.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	3.1	0.0	0.0	0.6	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.22	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	787	0	0	0	1374	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	13.0	0.0	0.0	0.0	36.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.0	0.0	0.0	0.0	36.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	2063	0	0	0	1849	0	0
V/C Ratio (X)	0.00	0.38	0.00	0.00	0.00	0.74	0.00	0.00
Avail Cap (c_a), veh/h	0	2063	0	0	0	1849	0	0
Upstream Filter (I)	0.00	0.86	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	25.2	0.0	0.0	0.0	22.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	2.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.7	0.0	0.0	0.0	25.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	0.0	0.0	14.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.7	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

8: Monterey Ave & I-10 EB Ramps

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.4	0.0	0.0	0.0	15.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.00	0.00	1.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	122	0	1115	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	6.0	0.0	40.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.0	0.0	40.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	640	0	1214	0	0	0	0
V/C Ratio (X)	0.00	0.19	0.00	0.92	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	640	0	1506	0	0	0	0
Upstream Filter (I)	0.00	0.86	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	23.1	0.0	35.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	7.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.7	0.0	43.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	15.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	16.5	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	4.19	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	32.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 9: Monterey Ave & Dinah Shore Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑	↖	↖↗	↑↑↖		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	268	233	174	34	201	312	143	424	16	355	1425	374
Future Volume (veh/h)	268	233	174	34	201	312	143	424	16	355	1425	374
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	298	259	41	38	223	0	159	471	18	394	1583	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	349	481	214	82	285		212	2639	100	445	3015	
Arrive On Green	0.10	0.14	0.14	0.05	0.08	0.00	0.06	0.52	0.52	0.13	0.59	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	5045	192	3456	5106	1585
Grp Volume(v), veh/h	298	259	41	38	223	0	159	317	172	394	1583	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1702	1833	1728	1702	1585
Q Serve(g_s), s	11.0	8.8	3.0	2.7	8.0	0.0	5.9	6.4	6.4	14.6	23.9	0.0
Cycle Q Clear(g_c), s	11.0	8.8	3.0	2.7	8.0	0.0	5.9	6.4	6.4	14.6	23.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	349	481	214	82	285		212	1780	958	445	3015	
V/C Ratio(X)	0.85	0.54	0.19	0.46	0.78		0.75	0.18	0.18	0.88	0.53	
Avail Cap(c_a), veh/h	505	957	427	110	847		346	1780	958	638	3015	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	0.00	0.98	0.98	0.98	0.45	0.45	0.00
Uniform Delay (d), s/veh	57.5	52.4	49.9	60.5	58.7	0.0	60.0	16.3	16.3	55.7	15.8	0.0
Incr Delay (d2), s/veh	6.0	0.3	0.1	1.5	1.8	0.0	2.0	0.2	0.4	3.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	3.9	1.2	1.2	3.6	0.0	2.5	2.4	2.6	6.3	8.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.5	52.7	50.0	62.0	60.5	0.0	62.0	16.5	16.7	59.5	16.1	0.0
LnGrp LOS	E	D	D	E	E		E	B	B	E	B	
Approach Vol, veh/h		598			261	A		648			1977	A
Approach Delay, s/veh		57.9			60.7			27.7			24.7	
Approach LOS		E			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.0	23.3	13.0	82.8	18.1	16.1	21.8	74.0				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	35.0	35.0	13.0	45.0	19.0	31.0	24.0	34.0				
Max Q Clear Time (g_c+14), s	11.0	10.8	7.9	25.9	13.0	10.0	16.6	8.4				
Green Ext Time (p_c), s	0.0	0.5	0.0	3.7	0.1	0.4	0.2	0.8				

Intersection Summary


































HCM 6th Ctrl Delay	33.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 	  		  	  	
Traffic Volume (veh/h)	268	233	174	34	201	312	143	424	16	355	1425	374
Future Volume (veh/h)	268	233	174	34	201	312	143	424	16	355	1425	374
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	298	259	41	38	223	0	159	471	18	394	1583	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	349	481	214	82	285		212	2639	100	445	3015	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.14	0.14	0.05	0.08	0.00	0.06	0.52	0.52	0.13	0.59	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.5	52.7	50.0	62.0	60.5	0.0	62.0	16.5	16.7	59.5	16.1	0.0
Ln Grp LOS	E	D	D	E	E		E	B	B	E	B	
Approach Vol, veh/h		598			261			648			1977	
Approach Delay, s/veh		57.9			60.7			27.7			24.7	
Approach LOS		E			E			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		11.0	23.3	13.0	82.8	18.1	16.1	21.8	74.0			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		8.0	35.0	13.0	45.0	19.0	31.0	24.0	34.0			
Max Allow Headway (MAH), s		1.7	2.7	1.6	2.7	1.7	2.9	1.6	2.7			
Max Q Clear (g_c+I1), s		4.7	10.8	7.9	25.9	13.0	10.0	16.6	8.4			
Green Ext Time (g_e), s		0.0	0.5	0.0	3.7	0.1	0.4	0.2	0.8			
Prob of Phs Call (p_c)		0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		5045			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		192			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

02/20/2019

Lanes in Grp	1	0	2	0	2	0	2	0
Grp Vol (v), veh/h	38	0	159	0	298	0	394	0
Grp Sat Flow (s), veh/h/ln	1781	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	2.7	0.0	5.9	0.0	11.0	0.0	14.6	0.0
Cycle Q Clear Time (g_c), s	2.7	0.0	5.9	0.0	11.0	0.0	14.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	82	0	212	0	349	0	445	0
V/C Ratio (X)	0.46	0.00	0.75	0.00	0.85	0.00	0.88	0.00
Avail Cap (c_a), veh/h	110	0	346	0	505	0	638	0
Upstream Filter (I)	1.00	0.00	0.98	0.00	0.89	0.00	0.45	0.00
Uniform Delay (d1), s/veh	60.5	0.0	60.0	0.0	57.5	0.0	55.7	0.0
Incr Delay (d2), s/veh	1.5	0.0	2.0	0.0	6.0	0.0	3.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	62.0	0.0	62.0	0.0	63.5	0.0	59.5	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	2.5	0.0	4.7	0.0	6.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.3	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	2.5	0.0	5.0	0.0	6.3	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.24	0.00	0.45	0.00	0.92	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	259	0	1583	0	223	0	317
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	8.8	0.0	23.9	0.0	8.0	0.0	6.4
Cycle Q Clear Time (g_c), s	0.0	8.8	0.0	23.9	0.0	8.0	0.0	6.4
Lane Grp Cap (c), veh/h	0	481	0	3015	0	285	0	1780
V/C Ratio (X)	0.00	0.54	0.00	0.53	0.00	0.78	0.00	0.18
Avail Cap (c_a), veh/h	0	957	0	3015	0	847	0	1780
Upstream Filter (I)	0.00	0.89	0.00	0.45	0.00	1.00	0.00	0.98
Uniform Delay (d1), s/veh	0.0	52.4	0.0	15.8	0.0	58.7	0.0	16.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.3	0.0	1.8	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	52.7	0.0	16.1	0.0	60.5	0.0	16.5
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	8.2	0.0	3.5	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

9: Monterey Ave & Dinah Shore Dr

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.9	0.0	8.3	0.0	3.6	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.16	0.00	0.09	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	41	0	0	0	0	0	172
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1833
Q Serve Time (g_s), s	0.0	3.0	0.0	0.0	0.0	0.0	0.0	6.4
Cycle Q Clear Time (g_c), s	0.0	3.0	0.0	0.0	0.0	0.0	0.0	6.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.10
Lane Grp Cap (c), veh/h	0	214	0	936	0	127	0	958
V/C Ratio (X)	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.18
Avail Cap (c_a), veh/h	0	427	0	936	0	378	0	958
Upstream Filter (I)	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.98
Uniform Delay (d1), s/veh	0.0	49.9	0.0	0.0	0.0	0.0	0.0	16.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	50.0	0.0	0.0	0.0	0.0	0.0	16.7
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.0	0.0	0.0	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.2	0.0	0.0	0.0	0.0	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 12: Portola Rd & Dinah Shore Dr

02/20/2019



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⬇	⬆	⬆	⬆	⬆	⬆	⬆
Traffic Volume (veh/h)	10	120	235	40	100	398	20
Future Volume (veh/h)	10	120	235	40	100	398	20
Initial Q (Qb), veh		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No	No		
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		130	0	43	109	433	22
Peak Hour Factor		0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %		2	2	2	2	2	2
Cap, veh/h		667		134	1451	832	382
Arrive On Green		0.19	0.00	0.08	0.41	0.24	0.24
Sat Flow, veh/h		3647	1585	1781	3647	3456	1585
Grp Volume(v), veh/h		130	0	43	109	433	22
Grp Sat Flow(s),veh/h/ln		1777	1585	1781	1777	1728	1585
Q Serve(g_s), s		1.3	0.0	0.9	0.8	4.5	0.4
Cycle Q Clear(g_c), s		1.3	0.0	0.9	0.8	4.5	0.4
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		667		134	1451	832	382
V/C Ratio(X)		0.19		0.32	0.08	0.52	0.06
Avail Cap(c_a), veh/h		3355		862	3699	3095	1420
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		14.2	0.0	18.1	7.5	13.6	12.1
Incr Delay (d2), s/veh		0.1	0.0	0.5	0.0	0.2	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.4	0.0	0.3	0.2	1.2	0.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh		14.2	0.0	18.6	7.5	13.8	12.1
LnGrp LOS		B		B	A	B	B
Approach Vol, veh/h		130	A		152	455	
Approach Delay, s/veh		14.2			10.6	13.7	
Approach LOS		B			B	B	
Timer - Assigned Phs		2			5	6	8
Phs Duration (G+Y+Rc), s		23.9			9.1	14.8	17.4
Change Period (Y+Rc), s		7.0			6.0	7.0	7.5
Max Green Setting (Gmax), s		43.0			20.0	39.0	37.0
Max Q Clear Time (g_c+I1), s		2.8			2.9	3.3	6.5
Green Ext Time (p_c), s		0.4			0.0	0.5	0.8

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

02/20/2019



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↔	↑↑	↗	↖	↑↑	↖↗	↗		
Traffic Volume (veh/h)	10	120	235	40	100	398	20		
Future Volume (veh/h)	10	120	235	40	100	398	20		
Number		6	16	5	2	3	18		
Initial Q, veh		0	0	0	0	0	0		
Ped-Bike Adj (A_pbT)			1.00	1.00		1.00	1.00		
Parking Bus Adj		1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No	No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h		130	0	43	109	433	22		
Peak Hour Factor		0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %		2	2	2	2	2	2		
Opposing Right Turn Influence				Yes		Yes			
Cap, veh/h		667		134	1451	832	382		
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00		
Prop Arrive On Green		0.19	0.00	0.08	0.41	0.24	0.24		
Unsig. Movement Delay									
Ln Grp Delay, s/veh		14.2	0.0	18.6	7.5	13.8	12.1		
Ln Grp LOS		B		B	A	B	B		
Approach Vol, veh/h		130			152	455			
Approach Delay, s/veh		14.2			10.6	13.7			
Approach LOS		B			B	B			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2	8		5	6		
Case No			4.0	9.0		2.0	7.0		
Phs Duration (G+Y+Rc), s			23.9	17.4		9.1	14.8		
Change Period (Y+Rc), s			7.0	7.5		6.0	7.0		
Max Green (Gmax), s			43.0	37.0		20.0	39.0		
Max Allow Headway (MAH), s			3.9	2.7		2.7	3.9		
Max Q Clear (g_c+I1), s			2.8	6.5		2.9	3.3		
Green Ext Time (g_e), s			0.4	0.8		0.0	0.5		
Prob of Phs Call (p_c)			0.71	0.99		0.39	0.78		
Prob of Max Out (p_x)			0.00	0.00		0.00	0.00		
Left-Turn Movement Data									
Assigned Mvmt				3		5	1		
Mvmt Sat Flow, veh/h				3456		1781	0		
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			3647	0			3647		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			0	1585			1585		
Left Lane Group Data									
Assigned Mvmt		0	0	3	0	5	1	0	0
Lane Assignment				L		L (Prot)			

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	0	0	2	0	1	0	0	0
Grp Vol (v), veh/h	0	0	433	0	43	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1728	0	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	4.5	0.0	0.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	4.5	0.0	0.9	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1728	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	832	0	134	0	0	0
V/C Ratio (X)	0.00	0.00	0.52	0.00	0.32	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	3095	0	862	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	13.6	0.0	18.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	0.5	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	13.8	0.0	18.6	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.2	0.0	0.3	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.2	0.0	0.3	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	109	0	0	0	130	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.8	0.0	0.0	0.0	1.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.8	0.0	0.0	0.0	1.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	1451	0	0	0	667	0	0
V/C Ratio (X)	0.00	0.08	0.00	0.00	0.00	0.19	0.00	0.00
Avail Cap (c_a), veh/h	0	3699	0	0	0	3355	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.5	0.0	0.0	0.0	14.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.5	0.0	0.0	0.0	14.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	22	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	382	0	0	297	0	0
V/C Ratio (X)	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1420	0	0	1496	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

13: Date Palm Dr & Gerald Ford Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	51	21	278	56	147	27	223	161	164	470	62
Future Volume (veh/h)	47	51	21	278	56	147	27	223	161	164	470	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	52	21	325	0	150	28	228	164	167	480	63
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	178	68	440	0	196	47	1806	806	144	1779	232
Arrive On Green	0.07	0.07	0.07	0.12	0.00	0.12	0.03	0.51	0.51	0.08	0.56	0.56
Sat Flow, veh/h	1781	2515	959	3563	0	1585	1781	3554	1585	1781	3160	413
Grp Volume(v), veh/h	48	36	37	325	0	150	28	228	164	167	269	274
Grp Sat Flow(s),veh/h/ln	1781	1777	1698	1781	0	1585	1781	1777	1585	1781	1777	1796
Q Serve(g_s), s	2.8	2.1	2.3	9.7	0.0	10.1	1.7	3.7	6.2	8.9	8.6	8.7
Cycle Q Clear(g_c), s	2.8	2.1	2.3	9.7	0.0	10.1	1.7	3.7	6.2	8.9	8.6	8.7
Prop In Lane	1.00		0.56	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	126	126	120	440	0	196	47	1806	806	144	1000	1011
V/C Ratio(X)	0.38	0.28	0.31	0.74	0.00	0.77	0.60	0.13	0.20	1.16	0.27	0.27
Avail Cap(c_a), veh/h	141	141	134	1023	0	455	96	1806	806	144	1000	1011
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.89	0.00	0.89	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	48.5	48.5	46.5	0.0	46.7	53.0	14.2	14.8	50.5	12.4	12.4
Incr Delay (d2), s/veh	1.9	1.2	1.4	2.2	0.0	5.5	4.6	0.1	0.6	124.0	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.0	1.0	4.3	0.0	4.3	0.8	1.5	2.3	8.8	3.4	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	49.7	50.0	48.7	0.0	52.2	57.6	14.4	15.4	174.5	13.0	13.1
LnGrp LOS	D	D	D	D	A	D	E	B	B	F	B	B
Approach Vol, veh/h	121			475			420			710		
Approach Delay, s/veh	50.2			49.8			17.6			51.0		
Approach LOS	D			D			B			D		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	8.9	68.3	19.9		14.9	62.3	12.9					
Change Period (Y+Rc), s	6.0	6.4	6.3		6.0	6.4	5.1					
Max Green Setting (Gmax), s	5.9	40.0	31.6		8.9	37.0	8.7					
Max Q Clear Time (g_c+1), s	13.7	10.7	12.1		10.9	8.2	4.8					
Green Ext Time (p_c), s	0.0	6.4	1.5		0.0	4.0	0.1					

Intersection Summary

HCM 6th Ctrl Delay	42.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	51	21	278	56	147	27	223	161	164	470	62
Future Volume (veh/h)	47	51	21	278	56	147	27	223	161	164	470	62
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	52	21	325	0	150	28	228	164	167	480	63
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	126	178	68	440	0	196	47	1806	806	144	1779	232
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.07	0.07	0.12	0.00	0.12	0.03	0.51	0.51	0.08	0.56	0.56
Unsig. Movement Delay												
Ln Grp Delay, s/veh	50.7	49.7	50.0	48.7	0.0	52.2	57.6	14.4	15.4	174.5	13.0	13.1
Ln Grp LOS	D	D	D	D	A	D	E	B	B	F	B	B
Approach Vol, veh/h		121			475			420			710	
Approach Delay, s/veh		50.2			49.8			17.6			51.0	
Approach LOS		D			D			B			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	4.0	10.0	9.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		8.9	68.3	12.9	19.9	14.9	62.3					
Change Period (Y+Rc), s		6.0	6.4	5.1	6.3	6.0	6.4					
Max Green (Gmax), s		5.9	40.0	8.7	31.6	8.9	37.0					
Max Allow Headway (MAH), s		2.7	7.0	4.8	3.8	2.7	6.6					
Max Q Clear (g_c+I1), s		3.7	10.7	4.8	12.1	10.9	8.2					
Green Ext Time (g_e), s		0.0	6.4	0.1	1.5	0.0	4.0					
Prob of Phs Call (p_c)		0.57	1.00	0.98	1.00	0.99	1.00					
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	1.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		1781		1781	3563	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3160	2515	0		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			413	959	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

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Lanes in Grp	1	0	1	2	1	0	0	0
Grp Vol (v), veh/h	28	0	48	325	167	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	1.7	0.0	2.8	9.7	8.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	1.7	0.0	2.8	9.7	8.9	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	47	0	126	440	144	0	0	0
V/C Ratio (X)	0.60	0.00	0.38	0.74	1.16	0.00	0.00	0.00
Avail Cap (c_a), veh/h	96	0	141	1023	144	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.89	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	53.0	0.0	48.8	46.5	50.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.6	0.0	1.9	2.2	124.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	57.6	0.0	50.7	48.7	174.5	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.3	4.2	3.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.1	5.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.8	0.0	1.3	4.3	8.8	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.24	0.00	0.34	1.09	1.37	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	5.7	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T			T		
Lanes in Grp	0	1	1	0	0	2	0	0
Grp Vol (v), veh/h	0	269	36	0	0	228	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	1777	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	8.6	2.1	0.0	0.0	3.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.6	2.1	0.0	0.0	3.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	1000	126	0	0	1806	0	0
V/C Ratio (X)	0.00	0.27	0.28	0.00	0.00	0.13	0.00	0.00
Avail Cap (c_a), veh/h	0	1000	141	0	0	1806	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.4	48.5	0.0	0.0	14.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	1.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.0	49.7	0.0	0.0	14.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	0.9	0.0	0.0	1.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.4	1.0	0.0	0.0	1.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.04	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	T+R	R		R		
Lanes in Grp	0	1	1	1	0	1	0	0
Grp Vol (v), veh/h	0	274	37	150	0	164	0	0
Grp Sat Flow (s), veh/h/ln	0	1796	1698	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	8.7	2.3	10.1	0.0	6.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.7	2.3	10.1	0.0	6.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.23	0.56	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1011	120	196	0	806	0	0
V/C Ratio (X)	0.00	0.27	0.31	0.77	0.00	0.20	0.00	0.00
Avail Cap (c_a), veh/h	0	1011	134	455	0	806	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.89	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.4	48.5	46.7	0.0	14.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	1.4	5.5	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.1	50.0	52.2	0.0	15.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	1.0	4.0	0.0	2.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.3	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.4	1.0	4.3	0.0	2.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.04	0.02	0.00	0.68	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	42.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
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




















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	379	191	40	300	93	75	220	29	127	486	68
Future Volume (veh/h)	37	379	191	40	300	93	75	220	29	127	486	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	446	225	47	353	109	88	259	14	149	572	80
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	635	318	81	748	228	115	773	345	191	816	114
Arrive On Green	0.04	0.28	0.28	0.05	0.28	0.28	0.06	0.22	0.22	0.11	0.26	0.26
Sat Flow, veh/h	1781	2293	1147	1781	2683	817	1781	3554	1585	1781	3132	437
Grp Volume(v), veh/h	44	345	326	47	232	230	88	259	14	149	324	328
Grp Sat Flow(s),veh/h/ln	1781	1777	1664	1781	1777	1723	1781	1777	1585	1781	1777	1792
Q Serve(g_s), s	1.4	10.4	10.5	1.5	6.4	6.6	2.9	3.7	0.4	4.9	9.8	9.9
Cycle Q Clear(g_c), s	1.4	10.4	10.5	1.5	6.4	6.6	2.9	3.7	0.4	4.9	9.8	9.9
Prop In Lane	1.00		0.69	1.00		0.47	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	77	492	461	81	495	480	115	773	345	191	463	467
V/C Ratio(X)	0.57	0.70	0.71	0.58	0.47	0.48	0.77	0.33	0.04	0.78	0.70	0.70
Avail Cap(c_a), veh/h	598	1343	1258	598	1343	1303	598	2089	932	598	1045	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	19.3	19.4	27.9	17.8	17.9	27.4	19.7	18.4	25.9	19.9	19.9
Incr Delay (d2), s/veh	2.4	1.8	2.0	2.4	0.7	0.7	4.0	0.3	0.0	2.6	1.9	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	3.7	3.6	0.6	2.3	2.3	1.2	1.3	0.1	2.0	3.7	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.4	21.1	21.4	30.3	18.5	18.6	31.4	19.9	18.4	28.5	21.8	21.9
LnGrp LOS	C	C	C	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		715			509			361			801	
Approach Delay, s/veh		21.8			19.6			22.7			23.1	
Approach LOS		C			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	23.1	10.4	19.5	6.7	23.0	7.8	22.0				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0				
Max Q Clear Time (g_c+1), s	13.4	8.6	6.9	5.7	3.5	12.5	4.9	11.9				
Green Ext Time (p_c), s	0.0	2.5	0.1	1.6	0.0	4.0	0.1	3.6				
Intersection Summary												
HCM 6th Ctrl Delay											21.9	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	379	191	40	300	93	75	220	29	127	486	68
Future Volume (veh/h)	37	379	191	40	300	93	75	220	29	127	486	68
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	446	225	47	353	109	88	259	14	149	572	80
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	77	635	318	81	748	228	115	773	345	191	816	114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.28	0.28	0.05	0.28	0.28	0.06	0.22	0.22	0.11	0.26	0.26
Unsig. Movement Delay												
Ln Grp Delay, s/veh	30.4	21.1	21.4	30.3	18.5	18.6	31.4	19.9	18.4	28.5	21.8	21.9
Ln Grp LOS	C	C	C	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		715			509			361			801	
Approach Delay, s/veh		21.8			19.6			22.7			23.1	
Approach LOS		C			B			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		6.6	23.1	10.4	19.5	6.7	23.0	7.8	22.0			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0			
Max Allow Headway (MAH), s		2.7	4.9	2.7	4.9	2.7	4.9	2.7	4.9			
Max Q Clear (g_c+I1), s		3.4	8.6	6.9	5.7	3.5	12.5	4.9	11.9			
Green Ext Time (g_e), s		0.0	2.5	0.1	1.6	0.0	4.0	0.1	3.6			
Prob of Phs Call (p_c)		0.52	1.00	0.91	0.99	0.54	1.00	0.77	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2683		3554		2293		3132			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			817		1585		1147		437			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	44	0	149	0	47	0	88	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.4	0.0	4.9	0.0	1.5	0.0	2.9	0.0
Cycle Q Clear Time (g_c), s	1.4	0.0	4.9	0.0	1.5	0.0	2.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	77	0	191	0	81	0	115	0
V/C Ratio (X)	0.57	0.00	0.78	0.00	0.58	0.00	0.77	0.00
Avail Cap (c_a), veh/h	598	0	598	0	598	0	598	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	27.9	0.0	25.9	0.0	27.9	0.0	27.4	0.0
Incr Delay (d2), s/veh	2.4	0.0	2.6	0.0	2.4	0.0	4.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	30.4	0.0	28.5	0.0	30.3	0.0	31.4	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	1.8	0.0	0.6	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.6	0.0	2.0	0.0	0.6	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.35	0.00	0.15	0.00	0.16	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	232	0	259	0	345	0	324
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	6.4	0.0	3.7	0.0	10.4	0.0	9.8
Cycle Q Clear Time (g_c), s	0.0	6.4	0.0	3.7	0.0	10.4	0.0	9.8
Lane Grp Cap (c), veh/h	0	495	0	773	0	492	0	463
V/C Ratio (X)	0.00	0.47	0.00	0.33	0.00	0.70	0.00	0.70
Avail Cap (c_a), veh/h	0	1343	0	2089	0	1343	0	1045
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.8	0.0	19.7	0.0	19.3	0.0	19.9
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.3	0.0	1.8	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.5	0.0	19.9	0.0	21.1	0.0	21.8
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	1.3	0.0	3.5	0.0	3.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.2

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	1.3	0.0	3.7	0.0	3.7
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	230	0	14	0	326	0	328
Grp Sat Flow (s), veh/h/ln	0	1723	0	1585	0	1664	0	1792
Q Serve Time (g_s), s	0.0	6.6	0.0	0.4	0.0	10.5	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	6.6	0.0	0.4	0.0	10.5	0.0	9.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.47	0.00	1.00	0.00	0.69	0.00	0.24
Lane Grp Cap (c), veh/h	0	480	0	345	0	461	0	467
V/C Ratio (X)	0.00	0.48	0.00	0.04	0.00	0.71	0.00	0.70
Avail Cap (c_a), veh/h	0	1303	0	932	0	1258	0	1053
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.9	0.0	18.4	0.0	19.4	0.0	19.9
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	2.0	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.6	0.0	18.4	0.0	21.4	0.0	21.9
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	0.1	0.0	3.3	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	0.1	0.0	3.6	0.0	3.7
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.02	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
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






















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	97	386	140	114	368	80	56	260	26	54	829	64
Future Volume (veh/h)	97	386	140	114	368	80	56	260	26	54	829	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	439	35	130	418	16	64	295	13	61	942	32
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	593	264	200	618	276	150	1723	768	148	1720	767
Arrive On Green	0.05	0.17	0.17	0.06	0.17	0.17	0.04	0.48	0.48	0.04	0.48	0.48
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	110	439	35	130	418	16	64	295	13	61	942	32
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.9	10.9	1.7	3.4	10.2	0.8	1.7	4.3	0.4	1.6	17.3	1.0
Cycle Q Clear(g_c), s	2.9	10.9	1.7	3.4	10.2	0.8	1.7	4.3	0.4	1.6	17.3	1.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	176	593	264	200	618	276	150	1723	768	148	1720	767
V/C Ratio(X)	0.62	0.74	0.13	0.65	0.68	0.06	0.43	0.17	0.02	0.41	0.55	0.04
Avail Cap(c_a), veh/h	745	1340	598	745	1340	598	745	1723	768	745	1723	768
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	36.8	32.9	42.8	35.9	32.0	43.3	13.4	12.4	43.3	16.8	12.6
Incr Delay (d2), s/veh	1.4	1.8	0.2	1.3	1.3	0.1	0.7	0.2	0.0	0.7	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.6	0.6	1.4	4.3	0.3	0.7	1.5	0.1	0.7	6.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	38.6	33.2	44.1	37.2	32.1	44.0	13.7	12.5	44.0	17.2	12.6
LnGrp LOS	D	D	C	D	D	C	D	B	B	D	B	B
Approach Vol, veh/h		584			564			372			1035	
Approach Delay, s/veh		39.4			38.7			18.8			18.6	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	51.4	10.4	22.0	9.0	51.5	9.7	22.6				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0				
Max Q Clear Time (g_c+1), s	13.7	19.3	5.4	12.9	3.6	6.3	4.9	12.2				
Green Ext Time (p_c), s	0.1	6.5	0.2	2.6	0.1	1.7	0.1	2.4				
Intersection Summary												
HCM 6th Ctrl Delay											27.8	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	386	140	114	368	80	56	260	26	54	829	64
Future Volume (veh/h)	97	386	140	114	368	80	56	260	26	54	829	64
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	439	35	130	418	16	64	295	13	61	942	32
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	176	593	264	200	618	276	150	1723	768	148	1720	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.17	0.17	0.06	0.17	0.17	0.04	0.48	0.48	0.04	0.48	0.48
Unsig. Movement Delay												
Ln Grp Delay, s/veh	44.5	38.6	33.2	44.1	37.2	32.1	44.0	13.7	12.5	44.0	17.2	12.6
Ln Grp LOS	D	D	C	D	D	C	D	B	B	D	B	B
Approach Vol, veh/h		584			564			372			1035	
Approach Delay, s/veh		39.4			38.7			18.8			18.6	
Approach LOS		D			D			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.0	51.4	10.4	22.0	9.0	51.5	9.7	22.6			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5			
Max Green (Gmax), s		20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.7	2.7	4.8			
Max Q Clear (g_c+I1), s		3.7	19.3	5.4	12.9	3.6	6.3	4.9	12.2			
Green Ext Time (g_e), s		0.1	6.5	0.2	2.6	0.1	1.7	0.1	2.4			
Prob of Phs Call (p_c)		0.81	1.00	0.96	1.00	0.79	1.00	0.94	1.00			
Prob of Max Out (p_x)		0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 15: Bob Hope Dr & Gerald Ford Dr

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	64	0	130	0	61	0	110	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	1.7	0.0	3.4	0.0	1.6	0.0	2.9	0.0
Cycle Q Clear Time (g_c), s	1.7	0.0	3.4	0.0	1.6	0.0	2.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	150	0	200	0	148	0	176	0
V/C Ratio (X)	0.43	0.00	0.65	0.00	0.41	0.00	0.62	0.00
Avail Cap (c_a), veh/h	745	0	745	0	745	0	745	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	43.3	0.0	42.8	0.0	43.3	0.0	43.2	0.0
Incr Delay (d2), s/veh	0.7	0.0	1.3	0.0	0.7	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	44.0	0.0	44.1	0.0	44.0	0.0	44.5	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	1.4	0.0	0.6	0.0	1.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	1.4	0.0	0.7	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.16	0.00	0.08	0.00	0.14	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	942	0	439	0	295	0	418
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	17.3	0.0	10.9	0.0	4.3	0.0	10.2
Cycle Q Clear Time (g_c), s	0.0	17.3	0.0	10.9	0.0	4.3	0.0	10.2
Lane Grp Cap (c), veh/h	0	1720	0	593	0	1723	0	618
V/C Ratio (X)	0.00	0.55	0.00	0.74	0.00	0.17	0.00	0.68
Avail Cap (c_a), veh/h	0	1723	0	1340	0	1723	0	1340
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.8	0.0	36.8	0.0	13.4	0.0	35.9
Incr Delay (d2), s/veh	0.0	0.4	0.0	1.8	0.0	0.2	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.2	0.0	38.6	0.0	13.7	0.0	37.2
1st-Term Q (Q1), veh/ln	0.0	6.1	0.0	4.4	0.0	1.5	0.0	4.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.2	0.0	4.6	0.0	1.5	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.01	0.00	0.02	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	32	0	35	0	13	0	16
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.0	0.0	1.7	0.0	0.4	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	1.0	0.0	1.7	0.0	0.4	0.0	0.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	767	0	264	0	768	0	276
V/C Ratio (X)	0.00	0.04	0.00	0.13	0.00	0.02	0.00	0.06
Avail Cap (c_a), veh/h	0	768	0	598	0	768	0	598
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.6	0.0	32.9	0.0	12.4	0.0	32.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.6	0.0	33.2	0.0	12.5	0.0	32.1
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	0.6	0.0	0.1	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	0.6	0.0	0.1	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.12	0.00	0.02	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	27.8
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 16: Monterey Ave & Gerald Ford Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↔		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	77	286	151	101	376	45	91	564	32	35	1298	126
Future Volume (veh/h)	77	286	151	101	376	45	91	564	32	35	1298	126
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	325	25	115	427	7	103	641	36	40	1475	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	497	222	169	529	236	155	2903	162	105	2921	
Arrive On Green	0.04	0.14	0.14	0.05	0.15	0.15	0.04	0.59	0.59	0.03	0.57	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4948	276	3456	5106	1585
Grp Volume(v), veh/h	88	325	25	115	427	7	103	440	237	40	1475	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1821	1728	1702	1585
Q Serve(g_s), s	3.1	10.6	1.7	4.0	14.2	0.5	3.6	7.5	7.6	1.4	21.2	0.0
Cycle Q Clear(g_c), s	3.1	10.6	1.7	4.0	14.2	0.5	3.6	7.5	7.6	1.4	21.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	138	497	222	169	529	236	155	1997	1068	105	2921	
V/C Ratio(X)	0.64	0.65	0.11	0.68	0.81	0.03	0.66	0.22	0.22	0.38	0.50	
Avail Cap(c_a), veh/h	368	903	403	368	874	390	368	1997	1068	340	2921	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.98	0.98	0.98	0.98	0.98	0.98	0.78	0.78	0.00
Uniform Delay (d), s/veh	57.7	49.7	45.8	57.1	50.2	44.4	57.4	12.0	12.0	58.0	15.7	0.0
Incr Delay (d2), s/veh	1.8	1.5	0.2	1.8	2.9	0.0	1.8	0.2	0.5	0.7	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.6	0.7	1.7	6.2	0.2	1.5	2.6	2.9	0.6	7.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5	51.1	46.1	58.9	53.1	44.4	59.1	12.2	12.5	58.7	16.2	0.0
LnGrp LOS	E	D	D	E	D	D	E	B	B	E	B	
Approach Vol, veh/h		438			549			780			1515	A
Approach Delay, s/veh		52.5			54.2			18.5			17.3	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	76.8	9.9	24.9	8.7	78.6	11.0	23.8				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.7	5.0	7.0	5.0	6.7				
Max Green Setting (Gmax), s	13.0	41.0	13.0	30.0	12.0	42.0	13.0	31.0				
Max Q Clear Time (g_c+1), s	15.6	23.2	5.1	16.2	3.4	9.6	6.0	12.6				
Green Ext Time (p_c), s	0.1	10.2	0.1	2.0	0.0	4.9	0.1	1.7				

Intersection Summary

























HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	286	151	101	376	45	91	564	32	35	1298	126
Future Volume (veh/h)	77	286	151	101	376	45	91	564	32	35	1298	126
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	88	325	25	115	427	7	103	641	36	40	1475	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	138	497	222	169	529	236	155	2903	162	105	2921	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.14	0.14	0.05	0.15	0.15	0.04	0.59	0.59	0.03	0.57	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	59.5	51.1	46.1	58.9	53.1	44.4	59.1	12.2	12.5	58.7	16.2	0.0
Ln Grp LOS	E	D	D	E	D	D	E	B	B	E	B	
Approach Vol, veh/h	438			549			780			1515		
Approach Delay, s/veh	52.5			54.2			18.5			17.3		
Approach LOS	D			D			B			B		
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs	1		2	3	4	5	6	7	8			
Case No	2.0		3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s	10.5		76.8	9.9	24.9	8.7	78.6	11.0	23.8			
Change Period (Y+Rc), s	5.0		7.0	5.0	6.7	5.0	7.0	5.0	6.7			
Max Green (Gmax), s	13.0		41.0	13.0	30.0	12.0	42.0	13.0	31.0			
Max Allow Headway (MAH), s	2.6		5.2	2.7	4.7	2.6	5.2	2.6	4.7			
Max Q Clear (g_c+I1), s	5.6		23.2	5.1	16.2	3.4	9.6	6.0	12.6			
Green Ext Time (g_e), s	0.1		10.2	0.1	2.0	0.0	4.9	0.1	1.7			
Prob of Phs Call (p_c)	0.97		1.00	0.95	1.00	0.74	1.00	0.98	1.00			
Prob of Max Out (p_x)	0.00		0.00	0.00	0.03	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	3456		3456		3456		3456					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	5106			3554			4948			3554		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1585			1585			276			1585		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

02/20/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	103	0	88	0	40	0	115	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	3.6	0.0	3.1	0.0	1.4	0.0	4.0	0.0
Cycle Q Clear Time (g_c), s	3.6	0.0	3.1	0.0	1.4	0.0	4.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	155	0	138	0	105	0	169	0
V/C Ratio (X)	0.66	0.00	0.64	0.00	0.38	0.00	0.68	0.00
Avail Cap (c_a), veh/h	368	0	368	0	340	0	368	0
Upstream Filter (I)	0.98	0.00	1.00	0.00	0.78	0.00	0.98	0.00
Uniform Delay (d1), s/veh	57.4	0.0	57.7	0.0	58.0	0.0	57.1	0.0
Incr Delay (d2), s/veh	1.8	0.0	1.8	0.0	0.7	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.1	0.0	59.5	0.0	58.7	0.0	58.9	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	1.3	0.0	0.6	0.0	1.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	1.3	0.0	0.6	0.0	1.7	0.0
%ile Storage Ratio (RQ%)	0.20	0.00	0.21	0.00	0.08	0.00	0.24	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1475	0	427	0	440	0	325
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	21.2	0.0	14.2	0.0	7.5	0.0	10.6
Cycle Q Clear Time (g_c), s	0.0	21.2	0.0	14.2	0.0	7.5	0.0	10.6
Lane Grp Cap (c), veh/h	0	2921	0	529	0	1997	0	497
V/C Ratio (X)	0.00	0.50	0.00	0.81	0.00	0.22	0.00	0.65
Avail Cap (c_a), veh/h	0	2921	0	874	0	1997	0	903
Upstream Filter (I)	0.00	0.78	0.00	0.98	0.00	0.98	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.7	0.0	50.2	0.0	12.0	0.0	49.7
Incr Delay (d2), s/veh	0.0	0.5	0.0	2.9	0.0	0.2	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.2	0.0	53.1	0.0	12.2	0.0	51.1
1st-Term Q (Q1), veh/ln	0.0	7.3	0.0	6.0	0.0	2.5	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.4	0.0	6.2	0.0	2.6	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.03	0.00	0.04	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	7	0	237	0	25
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1821	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	0.5	0.0	7.6	0.0	1.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.5	0.0	7.6	0.0	1.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.15	0.00	1.00
Lane Grp Cap (c), veh/h	0	907	0	236	0	1068	0	222
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.22	0.00	0.11
Avail Cap (c_a), veh/h	0	907	0	390	0	1068	0	403
Upstream Filter (I)	0.00	0.00	0.00	0.98	0.00	0.98	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	44.4	0.0	12.0	0.0	45.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	44.4	0.0	12.5	0.0	46.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.2	0.0	2.7	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	2.9	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

17: Portola Rd & Gerald Ford Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖↗↘	↖	↖↗	↖↗↘	↖	↖↗	↖↗↘	↖
Traffic Volume (veh/h)	9	287	139	43	409	153	114	286	48	63	208	4
Future Volume (veh/h)	9	287	139	43	409	153	114	286	48	63	208	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	302	146	45	431	0	120	301	8	66	219	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	432	204	251	1122		426	1061	329	321	906	
Arrive On Green	0.02	0.18	0.18	0.07	0.22	0.00	0.12	0.21	0.21	0.09	0.18	0.00
Sat Flow, veh/h	1781	2342	1106	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	9	227	221	45	431	0	120	301	8	66	219	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1671	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.3	6.5	6.7	0.7	3.9	0.0	1.7	2.7	0.2	1.0	2.0	0.0
Cycle Q Clear(g_c), s	0.3	6.5	6.7	0.7	3.9	0.0	1.7	2.7	0.2	1.0	2.0	0.0
Prop In Lane	1.00		0.66	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	327	308	251	1122		426	1061	329	321	906	
V/C Ratio(X)	0.27	0.69	0.72	0.18	0.38		0.28	0.28	0.02	0.21	0.24	
Avail Cap(c_a), veh/h	525	1375	1294	955	3482		1274	3576	1110	955	3388	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.3	20.7	20.8	23.6	18.0	0.0	21.6	18.1	17.1	22.8	19.2	0.0
Incr Delay (d2), s/veh	1.6	1.0	1.2	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.2	2.2	0.2	1.3	0.0	0.6	0.8	0.1	0.3	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	21.7	22.0	23.8	18.1	0.0	21.7	18.1	17.1	22.9	19.2	0.0
LnGrp LOS	C	C	C	C	B		C	B	B	C	B	
Approach Vol, veh/h		457			476	A		429			285	A
Approach Delay, s/veh		21.9			18.7			19.1			20.1	
Approach LOS		C			B			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	18.3	8.9	17.0	11.7	16.6	7.0	18.9				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7				
Max Green Setting (Gmax), s	15.0	38.0	15.0	42.0	20.0	36.0	16.0	* 37				
Max Q Clear Time (g_c+1), s	13.0	4.7	2.7	8.7	3.7	4.0	2.3	5.9				
Green Ext Time (p_c), s	0.0	0.6	0.0	0.7	0.1	0.4	0.0	0.9				

Intersection Summary

HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Notes
























User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	287	139	43	409	153	114	286	48	63	208	4
Future Volume (veh/h)	9	287	139	43	409	153	114	286	48	63	208	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	302	146	45	431	0	120	301	8	66	219	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	33	432	204	251	1122		426	1061	329	321	906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.18	0.18	0.07	0.22	0.00	0.12	0.21	0.21	0.09	0.18	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	27.8	21.7	22.0	23.8	18.1	0.0	21.7	18.1	17.1	22.9	19.2	0.0
Ln Grp LOS	C	C	C	C	B		C	B	B	C	B	
Approach Vol, veh/h		457			476			429			285	
Approach Delay, s/veh		21.9			18.7			19.1			20.1	
Approach LOS		C			B			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.0	18.3	8.9	17.0	11.7	16.6	7.0	18.9			
Change Period (Y+Rc), s		5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7			
Max Green (Gmax), s		15.0	38.0	15.0	42.0	20.0	36.0	16.0	* 37			
Max Allow Headway (MAH), s		1.7	2.7	1.7	2.8	1.6	2.8	1.6	2.8			
Max Q Clear (g_c+I1), s		3.0	4.7	2.7	8.7	3.7	4.0	2.3	5.9			
Green Ext Time (g_e), s		0.0	0.6	0.0	0.7	0.1	0.4	0.0	0.9			
Prob of Phs Call (p_c)		0.63	0.99	0.49	1.00	0.84	0.96	0.13	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		2342		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1106		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

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Lanes in Grp	2	0	2	0	2	0	1	0
Grp Vol (v), veh/h	66	0	45	0	120	0	9	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1781	0
Q Serve Time (g_s), s	1.0	0.0	0.7	0.0	1.7	0.0	0.3	0.0
Cycle Q Clear Time (g_c), s	1.0	0.0	0.7	0.0	1.7	0.0	0.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	321	0	251	0	426	0	33	0
V/C Ratio (X)	0.21	0.00	0.18	0.00	0.28	0.00	0.27	0.00
Avail Cap (c_a), veh/h	955	0	955	0	1274	0	525	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	22.8	0.0	23.6	0.0	21.6	0.0	26.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.1	0.0	1.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	22.9	0.0	23.8	0.0	21.7	0.0	27.8	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.2	0.0	0.6	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	0.2	0.0	0.6	0.0	0.1	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.02	0.00	0.06	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	3	0	3
Grp Vol (v), veh/h	0	301	0	227	0	219	0	431
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1702
Q Serve Time (g_s), s	0.0	2.7	0.0	6.5	0.0	2.0	0.0	3.9
Cycle Q Clear Time (g_c), s	0.0	2.7	0.0	6.5	0.0	2.0	0.0	3.9
Lane Grp Cap (c), veh/h	0	1061	0	327	0	906	0	1122
V/C Ratio (X)	0.00	0.28	0.00	0.69	0.00	0.24	0.00	0.38
Avail Cap (c_a), veh/h	0	3576	0	1375	0	3388	0	3482
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.1	0.0	20.7	0.0	19.2	0.0	18.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.0	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.1	0.0	21.7	0.0	19.2	0.0	18.1
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	2.2	0.0	0.7	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	2.2	0.0	0.7	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	8	0	221	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1671	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.2	0.0	6.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	6.7	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.66	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	329	0	308	0	281	0	348
V/C Ratio (X)	0.00	0.02	0.00	0.72	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1110	0	1294	0	1052	0	1081
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.1	0.0	20.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.1	0.0	22.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	2.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	2.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.9
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 18: Cook St & I-10 WB Ramps

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕	↕		↕	↕		↕	↕
Traffic Volume (veh/h)	0	0	0	848	3	83	0	411	303	0	418	40
Future Volume (veh/h)	0	0	0	848	3	83	0	411	303	0	418	40
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				1022	4	65	0	495	0	0	504	48
Peak Hour Factor				0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				645	3	576	0	1906		0	2546	240
Arrive On Green				0.36	0.36	0.36	0.00	0.18	0.00	0.00	0.54	0.54
Sat Flow, veh/h				1775	7	1585	0	3647	1585	0	4916	447
Grp Volume(v), veh/h				1026	0	65	0	495	0	0	360	192
Grp Sat Flow(s),veh/h/ln				1782	0	1585	0	1777	1585	0	1702	1790
Q Serve(g_s), s				40.0	0.0	3.0	0.0	13.2	0.0	0.0	6.0	6.1
Cycle Q Clear(g_c), s				40.0	0.0	3.0	0.0	13.2	0.0	0.0	6.0	6.1
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.25
Lane Grp Cap(c), veh/h				648	0	576	0	1906		0	1826	960
V/C Ratio(X)				1.58	0.00	0.11	0.00	0.26		0.00	0.20	0.20
Avail Cap(c_a), veh/h				648	0	576	0	1906		0	1826	960
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.90	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.0	0.0	23.2	0.0	26.4	0.0	0.0	13.2	13.2
Incr Delay (d2), s/veh				270.0	0.0	0.1	0.0	0.3	0.0	0.0	0.2	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				65.4	0.0	1.1	0.0	6.4	0.0	0.0	2.1	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				305.0	0.0	23.3	0.0	26.7	0.0	0.0	13.5	13.7
LnGrp LOS				F	A	C	A	C		A	B	B
Approach Vol, veh/h					1091			495	A		552	
Approach Delay, s/veh					288.2			26.7			13.5	
Approach LOS					F			C			B	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		65.0				65.0		45.0				
Change Period (Y+Rc), s		6.0				6.0		5.0				
Max Green Setting (Gmax), s		59.0				59.0		40.0				
Max Q Clear Time (g_c+I1), s		15.2				8.1		42.0				
Green Ext Time (p_c), s		3.8				3.2		0.0				

Intersection Summary



















HCM 6th Ctrl Delay	156.8
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	848	3	83	0	411	303	0	418	40
Future Volume (veh/h)	0	0	0	848	3	83	0	411	303	0	418	40
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				1022	4	65	0	495	0	0	504	48
Peak Hour Factor				0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Opposing Right Turn Influence				Yes			No			No		
Cap, veh/h				645	3	576	0	1906		0	2546	240
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green				0.36	0.36	0.36	0.00	0.18	0.00	0.00	0.54	0.54
Unsig. Movement Delay												
Ln Grp Delay, s/veh				305.0	0.0	23.3	0.0	26.7	0.0	0.0	13.5	13.7
Ln Grp LOS				F	A	C	A	C		A	B	B
Approach Vol, veh/h					1091			495			552	
Approach Delay, s/veh					288.2			26.7			13.5	
Approach LOS					F			C			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8			6					
Case No			7.0	11.0			8.0					
Phs Duration (G+Y+Rc), s			65.0	45.0			65.0					
Change Period (Y+Rc), s			6.0	5.0			6.0					
Max Green (Gmax), s			59.0	40.0			59.0					
Max Allow Headway (MAH), s			5.2	5.3			4.8					
Max Q Clear (g_c+I1), s			15.2	42.0			8.1					
Green Ext Time (g_e), s			3.8	0.0			3.2					
Prob of Phs Call (p_c)			1.00	1.00			1.00					
Prob of Max Out (p_x)			0.00	1.00			0.00					
Left-Turn Movement Data												
Assigned Mvmt			5	3			1					
Mvmt Sat Flow, veh/h			0	1775			0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			3647	7			4916					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			1585	1585			447					
Left Lane Group Data												
Assigned Mvmt	0	5	3	0	0	1	0	0				
Lane Assignment			L+T									

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

02/20/2019

Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	1026	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1782	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	59.0	0.0	0.0	0.0	59.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	648	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	1.58	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	648	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	35.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	270.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	305.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	16.8	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	48.6	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	65.4	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	1.89	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	94.5	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	495	0	0	0	360	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	13.2	0.0	0.0	0.0	6.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.2	0.0	0.0	0.0	6.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1906	0	0	0	1826	0	0
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.20	0.00	0.00
Avail Cap (c_a), veh/h	0	1906	0	0	0	1826	0	0
Upstream Filter (I)	0.00	0.90	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	26.4	0.0	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.7	0.0	0.0	0.0	13.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.3	0.0	0.0	0.0	2.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	6.4	0.0	0.0	0.0	2.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.00	0.00	0.15	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	65	0	0	192	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1790	0	0
Q Serve Time (g_s), s	0.0	0.0	3.0	0.0	0.0	6.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	3.0	0.0	0.0	6.1	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.25	0.00	0.00
Lane Grp Cap (c), veh/h	0	850	576	0	0	960	0	0
V/C Ratio (X)	0.00	0.00	0.11	0.00	0.00	0.20	0.00	0.00
Avail Cap (c_a), veh/h	0	850	576	0	0	960	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	23.2	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	23.3	0.0	0.0	13.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.1	0.0	0.0	2.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.03	0.00	0.00	0.17	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	156.8
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

19: Cook St & I-10 EB Ramps

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	89	2	929	0	0	0	0	628	338	48	1216	0	
Future Volume (veh/h)	89	2	929	0	0	0	0	628	338	48	1216	0	
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0	
Adj Flow Rate, veh/h	109	0	1079				0	766	412	59	1483	0	
Peak Hour Factor	0.82	0.82	0.82				0.82	0.82	0.82	0.82	0.82	0.82	
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0	
Cap, veh/h	486	0	865				0	1849	861	77	3203	0	
Arrive On Green	0.27	0.00	0.27				0.00	0.54	0.54	0.03	0.42	0.00	
Sat Flow, veh/h	1781	0	3170				0	3572	1585	1781	5274	0	
Grp Volume(v), veh/h	109	0	1079				0	766	412	59	1483	0	
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1781	1702	0	
Q Serve(g_s), s	5.2	0.0	30.0				0.0	14.6	17.6	3.6	23.0	0.0	
Cycle Q Clear(g_c), s	5.2	0.0	30.0				0.0	14.6	17.6	3.6	23.0	0.0	
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00	
Lane Grp Cap(c), veh/h	486	0	865				0	1849	861	77	3203	0	
V/C Ratio(X)	0.22	0.00	1.25				0.00	0.41	0.48	0.77	0.46	0.00	
Avail Cap(c_a), veh/h	486	0	865				0	1849	861	405	3203	0	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00	
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.88	0.88	0.99	0.99	0.00	
Uniform Delay (d), s/veh	31.0	0.0	40.0				0.0	14.8	15.5	52.9	18.6	0.0	
Incr Delay (d2), s/veh	0.2	0.0	121.2				0.0	0.6	1.7	5.9	0.5	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	2.3	0.0	26.1				0.0	5.1	5.9	1.8	9.8	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	31.2	0.0	161.2				0.0	15.4	17.2	58.8	19.0	0.0	
LnGrp LOS	C	A	F				A	B	B	E	B	A	
Approach Vol, veh/h		1188						1178			1542		
Approach Delay, s/veh		149.3						16.0			20.5		
Approach LOS		F						B			C		
Timer - Assigned Phs	1	2	4	6									
Phs Duration (G+Y+Rc), s	9.2	65.8	35.0	75.0									
Change Period (Y+Rc), s	4.5	6.0	5.0	6.0									
Max Green Setting (Gmax), s	25.0	37.0	30.0	69.0									
Max Q Clear Time (g_c+I), s	15.6	19.6	32.0	25.0									
Green Ext Time (p_c), s	0.1	6.7	0.0	16.0									

Intersection Summary























HCM 6th Ctrl Delay	58.3
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (veh/h)	89	2	929	0	0	0	0	628	338	48	1216	0
Future Volume (veh/h)	89	2	929	0	0	0	0	628	338	48	1216	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	109	0	1079				0	766	412	59	1483	0
Peak Hour Factor	0.82	0.82	0.82				0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	486	0	865				0	1849	861	77	3203	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Prop Arrive On Green	0.27	0.00	0.27				0.00	0.54	0.54	0.03	0.42	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	31.2	0.0	161.2				0.0	15.4	17.2	58.8	19.0	0.0
Ln Grp LOS	C	A	F				A	B	B	E	B	A
Approach Vol, veh/h		1188						1178			1542	
Approach Delay, s/veh		149.3						16.0			20.5	
Approach LOS		F						B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	8.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		9.2	65.8		35.0		75.0					
Change Period (Y+Rc), s		4.5	6.0		5.0		6.0					
Max Green (Gmax), s		25.0	37.0		30.0		69.0					
Max Allow Headway (MAH), s		2.8	4.8		4.0		5.2					
Max Q Clear (g_c+I1), s		5.6	19.6		32.0		25.0					
Green Ext Time (g_e), s		0.1	6.7		0.0		16.0					
Prob of Phs Call (p_c)		0.84	1.00		1.00		1.00					
Prob of Max Out (p_x)		0.00	0.00		1.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		1781	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			3572		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

02/20/2019

Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	59	0	0	109	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	3.6	0.0	0.0	5.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	3.6	0.0	0.0	5.2	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	59.8	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	77	0	0	486	0	0	0	0
V/C Ratio (X)	0.77	0.00	0.00	0.22	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	405	0	0	486	0	0	0	0
Upstream Filter (I)	0.99	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	52.9	0.0	0.0	31.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.9	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	58.8	0.0	0.0	31.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	0.0	2.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	0.0	2.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.16	0.00	0.00	0.08	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	3	0	0
Grp Vol (v), veh/h	0	766	0	0	0	1483	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	14.6	0.0	0.0	0.0	23.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.6	0.0	0.0	0.0	23.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1849	0	0	0	3203	0	0
V/C Ratio (X)	0.00	0.41	0.00	0.00	0.00	0.46	0.00	0.00
Avail Cap (c_a), veh/h	0	1849	0	0	0	3203	0	0
Upstream Filter (I)	0.00	0.88	0.00	0.00	0.00	0.99	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.8	0.0	0.0	0.0	18.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.4	0.0	0.0	0.0	19.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.9	0.0	0.0	0.0	9.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.1	0.0	0.0	0.0	9.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.00	0.00	0.53	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	412	0	1079	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	17.6	0.0	30.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	17.6	0.0	30.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	861	0	865	0	0	0	0
V/C Ratio (X)	0.00	0.48	0.00	1.25	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	861	0	865	0	0	0	0
Upstream Filter (I)	0.00	0.88	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	15.5	0.0	40.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	121.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.2	0.0	161.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	11.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	14.6	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.9	0.0	26.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	1.59	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	53.6	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	58.3
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
20: Cook St & Gerald Ford Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	250	130	114	42	225	153	165	562	36	247	1402	348
Future Volume (veh/h)	250	130	114	42	225	153	165	562	36	247	1402	348
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	301	157	0	51	271	24	199	677	15	298	1689	289
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	390	594		180	378	168	285	1815	564	387	1966	610
Arrive On Green	0.11	0.17	0.00	0.05	0.11	0.11	0.08	0.36	0.36	0.11	0.39	0.39
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	301	157	0	51	271	24	199	677	15	298	1689	289
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	6.4	2.9	0.0	1.1	5.6	1.0	4.3	7.5	0.5	6.4	23.1	10.4
Cycle Q Clear(g_c), s	6.4	2.9	0.0	1.1	5.6	1.0	4.3	7.5	0.5	6.4	23.1	10.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	390	594		180	378	168	285	1815	564	387	1966	610
V/C Ratio(X)	0.77	0.26		0.28	0.72	0.14	0.70	0.37	0.03	0.77	0.86	0.47
Avail Cap(c_a), veh/h	910	1170		683	1170	522	910	3026	939	910	3026	939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	27.6	0.0	34.6	32.8	30.8	33.9	18.2	15.9	32.8	21.5	17.6
Incr Delay (d2), s/veh	1.2	0.1	0.0	0.3	1.0	0.1	1.2	0.0	0.0	1.2	1.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	1.1	0.0	0.4	2.3	0.4	1.7	2.5	0.1	2.5	7.7	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.0	27.6	0.0	34.9	33.8	30.9	35.1	18.2	15.9	34.0	22.5	17.8
LnGrp LOS	C	C		C	C	C	D	B	B	C	C	B
Approach Vol, veh/h		458	A		346			891			2276	
Approach Delay, s/veh		31.8			33.8			22.0			23.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.5	33.8	9.5	18.2	12.3	36.0	14.1	13.6				
Change Period (Y+Rc), s	6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5				
Max Green Setting (Gmax), s	20.0	45.0	15.0	25.0	20.0	45.0	20.0	25.0				
Max Q Clear Time (g_c+1), s	19.4	9.5	3.1	4.9	6.3	25.1	8.4	7.6				
Green Ext Time (p_c), s	0.1	1.4	0.0	0.3	0.1	4.2	0.2	0.5				

Intersection Summary



































HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	250	130	114	42	225	153	165	562	36	247	1402	348
Future Volume (veh/h)	250	130	114	42	225	153	165	562	36	247	1402	348
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	301	157	0	51	271	24	199	677	15	298	1689	289
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	390	594		180	378	168	285	1815	564	387	1966	610
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.17	0.00	0.05	0.11	0.11	0.08	0.36	0.36	0.11	0.39	0.39
Unsig. Movement Delay												
Ln Grp Delay, s/veh	34.0	27.6	0.0	34.9	33.8	30.9	35.1	18.2	15.9	34.0	22.5	17.8
Ln Grp LOS	C	C		C	C	C	D	B	B	C	C	B
Approach Vol, veh/h		458			346			891			2276	
Approach Delay, s/veh		31.8			33.8			22.0			23.4	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.5	33.8	9.5	18.2	12.3	36.0	14.1	13.6			
Change Period (Y+Rc), s		6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5			
Max Green (Gmax), s		20.0	45.0	15.0	25.0	20.0	45.0	20.0	25.0			
Max Allow Headway (MAH), s		1.6	2.7	1.7	2.8	1.6	2.6	1.7	2.7			
Max Q Clear (g_c+I1), s		8.4	9.5	3.1	4.9	6.3	25.1	8.4	7.6			
Green Ext Time (g_e), s		0.1	1.4	0.0	0.3	0.1	4.2	0.2	0.5			
Prob of Phs Call (p_c)		1.00	1.00	0.66	1.00	0.98	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

02/20/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	298	0	51	0	199	0	301	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	6.4	0.0	1.1	0.0	4.3	0.0	6.4	0.0
Cycle Q Clear Time (g_c), s	6.4	0.0	1.1	0.0	4.3	0.0	6.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	387	0	180	0	285	0	390	0
V/C Ratio (X)	0.77	0.00	0.28	0.00	0.70	0.00	0.77	0.00
Avail Cap (c_a), veh/h	910	0	683	0	910	0	910	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	32.8	0.0	34.6	0.0	33.9	0.0	32.7	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.3	0.0	1.2	0.0	1.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	34.0	0.0	34.9	0.0	35.1	0.0	34.0	0.0
1st-Term Q (Q1), veh/ln	2.4	0.0	0.4	0.0	1.6	0.0	2.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.5	0.0	0.4	0.0	1.7	0.0	2.5	0.0
%ile Storage Ratio (RQ%)	0.22	0.00	0.07	0.00	0.20	0.00	0.29	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	677	0	157	0	1689	0	271
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	7.5	0.0	2.9	0.0	23.1	0.0	5.6
Cycle Q Clear Time (g_c), s	0.0	7.5	0.0	2.9	0.0	23.1	0.0	5.6
Lane Grp Cap (c), veh/h	0	1815	0	594	0	1966	0	378
V/C Ratio (X)	0.00	0.37	0.00	0.26	0.00	0.86	0.00	0.72
Avail Cap (c_a), veh/h	0	3026	0	1170	0	3026	0	1170
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	27.6	0.0	21.5	0.0	32.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.2	0.0	27.6	0.0	22.5	0.0	33.8
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	1.1	0.0	7.5	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	1.1	0.0	7.7	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.04	0.00	0.13	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	0	0	289	0	24
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.5	0.0	0.0	0.0	10.4	0.0	1.0
Cycle Q Clear Time (g_c), s	0.0	0.5	0.0	0.0	0.0	10.4	0.0	1.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	564	0	265	0	610	0	168
V/C Ratio (X)	0.00	0.03	0.00	0.00	0.00	0.47	0.00	0.14
Avail Cap (c_a), veh/h	0	939	0	522	0	939	0	522
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.9	0.0	0.0	0.0	17.6	0.0	30.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.9	0.0	0.0	0.0	17.8	0.0	30.9
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	3.2	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	3.3	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.48	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	24.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 21: SR-111 & Frank Sinatra Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖↗↘	↖↗↘	↖	↖↗	↖↗↘	↖
Traffic Volume (veh/h)	13	27	20	292	68	302	25	768	81	258	1144	39
Future Volume (veh/h)	13	27	20	292	68	302	25	768	81	258	1144	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	30	22	321	75	0	27	844	0	284	1257	17
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	83	61	463	379		45	1242		423	1739	540
Arrive On Green	0.01	0.08	0.08	0.13	0.20	0.00	0.03	0.24	0.00	0.12	0.34	0.34
Sat Flow, veh/h	1781	1003	735	3456	1870	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	14	0	52	321	75	0	27	844	0	284	1257	17
Grp Sat Flow(s),veh/h/ln	1781	0	1738	1728	1870	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.4	0.0	1.4	4.4	1.6	0.0	0.7	7.4	0.0	3.9	10.6	0.4
Cycle Q Clear(g_c), s	0.4	0.0	1.4	4.4	1.6	0.0	0.7	7.4	0.0	3.9	10.6	0.4
Prop In Lane	1.00		0.42	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	0	144	463	379		45	1242		423	1739	540
V/C Ratio(X)	0.56	0.00	0.36	0.69	0.20		0.60	0.68		0.67	0.72	0.03
Avail Cap(c_a), veh/h	726	0	1593	1408	1714		726	3328		1408	2600	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	0.0	21.3	20.3	16.3	0.0	23.7	16.8	0.0	20.6	14.2	10.8
Incr Delay (d2), s/veh	6.9	0.0	1.5	0.7	0.3	0.0	4.8	0.2	0.0	0.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	1.5	0.6	0.0	0.3	2.2	0.0	1.4	3.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.9	0.0	22.8	21.0	16.5	0.0	28.5	17.1	0.0	21.3	14.4	10.8
LnGrp LOS	C	A	C	C	B		C	B		C	B	B
Approach Vol, veh/h		66			396	A		871	A		1558	
Approach Delay, s/veh		24.5			20.1			17.4			15.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	11.1	5.2	22.2	4.7	16.9	10.0	17.4				
Change Period (Y+Rc), s	4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	25.0	20.0	45.0	20.0	32.0				
Max Q Clear Time (g_c+1), s	10.4	3.4	2.7	12.6	2.4	3.6	5.9	9.4				
Green Ext Time (p_c), s	0.3	0.2	0.0	3.9	0.0	0.3	0.3	2.6				

Intersection Summary






























HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 21: SR-111 & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  		 	  	
Traffic Volume (veh/h)	13	27	20	292	68	302	25	768	81	258	1144	39
Future Volume (veh/h)	13	27	20	292	68	302	25	768	81	258	1144	39
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	30	22	321	75	0	27	844	0	284	1257	17
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	25	83	61	463	379		45	1242		423	1739	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.08	0.08	0.13	0.20	0.00	0.03	0.24	0.00	0.12	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	30.9	0.0	22.8	21.0	16.5	0.0	28.5	17.1	0.0	21.3	14.4	10.8
Ln Grp LOS	C	A	C	C	B		C	B		C	B	B
Approach Vol, veh/h		66			396			871			1558	
Approach Delay, s/veh		24.5			20.1			17.4			15.6	
Approach LOS		C			C			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.6	11.1	5.2	22.2	4.7	16.9	10.0	17.4			
Change Period (Y+Rc), s		4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5			
Max Green (Gmax), s		20.0	45.0	20.0	25.0	20.0	45.0	20.0	32.0			
Max Allow Headway (MAH), s		2.2	5.0	2.2	3.5	2.2	4.8	2.2	3.3			
Max Q Clear (g_c+I1), s		6.4	3.4	2.7	12.6	2.4	3.6	5.9	9.4			
Green Ext Time (g_e), s		0.3	0.2	0.0	3.9	0.0	0.3	0.3	2.6			
Prob of Phs Call (p_c)		0.99	0.51	0.31	1.00	0.17	0.64	0.98	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		1781		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1003		5106		1870		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			735		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	1	0	1	0	2	0
Grp Vol (v), veh/h	321	0	27	0	14	0	284	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	4.4	0.0	0.7	0.0	0.4	0.0	3.9	0.0
Cycle Q Clear Time (g_c), s	4.4	0.0	0.7	0.0	0.4	0.0	3.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	463	0	45	0	25	0	423	0
V/C Ratio (X)	0.69	0.00	0.60	0.00	0.56	0.00	0.67	0.00
Avail Cap (c_a), veh/h	1408	0	726	0	726	0	1408	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	20.3	0.0	23.7	0.0	24.0	0.0	20.6	0.0
Incr Delay (d2), s/veh	0.7	0.0	4.8	0.0	6.9	0.0	0.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	21.0	0.0	28.5	0.0	30.9	0.0	21.3	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	0.3	0.0	0.1	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	0.3	0.0	0.2	0.0	1.4	0.0
%ile Storage Ratio (RQ%)	0.30	0.00	0.05	0.00	0.01	0.00	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	3	0	1	0	3
Grp Vol (v), veh/h	0	0	0	1257	0	75	0	844
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	10.6	0.0	1.6	0.0	7.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.6	0.0	1.6	0.0	7.4
Lane Grp Cap (c), veh/h	0	0	0	1739	0	379	0	1242
V/C Ratio (X)	0.00	0.00	0.00	0.72	0.00	0.20	0.00	0.68
Avail Cap (c_a), veh/h	0	0	0	2600	0	1714	0	3328
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	14.2	0.0	16.3	0.0	16.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	14.4	0.0	16.5	0.0	17.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.1	0.0	0.6	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.2	0.0	0.6	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	52	0	17	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1738	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.4	0.0	0.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	0.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.42	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	144	0	540	0	321	0	385
V/C Ratio (X)	0.00	0.36	0.00	0.03	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1593	0	807	0	1453	0	1033
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	21.3	0.0	10.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.8	0.0	10.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 22: Morningside Dr & Frank Sinatra Dr























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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↑	↖↗	↖	↖↗	
Traffic Volume (veh/h)	11	464	212	49	493	21	89	16	28	20	24	16
Future Volume (veh/h)	11	464	212	49	493	21	89	16	28	20	24	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	546	249	58	580	25	105	19	12	24	28	19
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	404	1138	518	319	1664	72	570	666	565	580	753	463
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	815	2373	1080	683	3471	149	1359	1870	1585	1378	2115	1299
Grp Volume(v), veh/h	13	408	387	58	297	308	105	19	12	24	23	24
Grp Sat Flow(s),veh/h/ln	815	1777	1676	683	1777	1843	1359	1870	1585	1378	1777	1637
Q Serve(g_s), s	0.7	11.3	11.4	4.6	7.6	7.6	4.0	0.5	0.4	0.8	0.6	0.7
Cycle Q Clear(g_c), s	8.4	11.3	11.4	16.0	7.6	7.6	4.7	0.5	0.4	1.3	0.6	0.7
Prop In Lane	1.00		0.64	1.00		0.08	1.00		1.00	1.00		0.79
Lane Grp Cap(c), veh/h	404	852	804	319	852	884	570	666	565	580	633	583
V/C Ratio(X)	0.03	0.48	0.48	0.18	0.35	0.35	0.18	0.03	0.02	0.04	0.04	0.04
Avail Cap(c_a), veh/h	404	852	804	319	852	884	570	666	565	580	633	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.5	12.8	12.9	18.3	11.9	11.9	16.9	15.3	15.2	15.7	15.3	15.4
Incr Delay (d2), s/veh	0.1	1.9	2.1	1.2	1.1	1.1	0.7	0.1	0.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.2	4.0	0.8	3.0	3.1	1.2	0.2	0.1	0.3	0.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.6	14.8	14.9	19.5	13.0	13.0	17.6	15.4	15.3	15.7	15.4	15.4
LnGrp LOS	B	B	B	B	B	B	B	B	B	B	B	B
Approach Vol, veh/h		808			663			136			71	
Approach Delay, s/veh		14.8			13.6			17.1			15.5	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.5		31.5		41.5		31.5				
Change Period (Y+Rc), s		6.5		5.5		6.5		5.5				
Max Green Setting (Gmax), s		35.0		26.0		35.0		26.0				
Max Q Clear Time (g_c+I1), s		13.4		3.3		18.0		6.7				
Green Ext Time (p_c), s		4.8		0.2		3.9		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				14.5								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Capacity Analysis
 22: Morningside Dr & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	464	212	49	493	21	89	16	28	20	24	16
Future Volume (veh/h)	11	464	212	49	493	21	89	16	28	20	24	16
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	546	249	58	580	25	105	19	12	24	28	19
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	404	1138	518	319	1664	72	570	666	565	580	753	463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.36	0.36	0.36	0.36	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	14.6	14.8	14.9	19.5	13.0	13.0	17.6	15.4	15.3	15.7	15.4	15.4
Ln Grp LOS	B	B	B	B	B	B	B	B	B	B	B	B
Approach Vol, veh/h		808			663			136			71	
Approach Delay, s/veh		14.8			13.6			17.1			15.5	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		5.0			
Phs Duration (G+Y+Rc), s			41.5		31.5		41.5		31.5			
Change Period (Y+Rc), s			6.5		5.5		6.5		5.5			
Max Green (Gmax), s			35.0		26.0		35.0		26.0			
Max Allow Headway (MAH), s			5.0		4.9		5.4		3.9			
Max Q Clear (g_c+I1), s			13.4		3.3		18.0		6.7			
Green Ext Time (g_e), s			4.8		0.2		3.9		0.3			
Prob of Phs Call (p_c)			1.00		0.76		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.00		0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			815		1378		683		1359			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2373		2115		3471		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1080		1299		149		1585			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	13	0	24	0	58	0	105
Grp Sat Flow (s), veh/h/ln	0	815	0	1378	0	683	0	1359
Q Serve Time (g_s), s	0.0	0.7	0.0	0.8	0.0	4.6	0.0	4.0
Cycle Q Clear Time (g_c), s	0.0	8.4	0.0	1.3	0.0	16.0	0.0	4.7
Perm LT Sat Flow (s_l), veh/h/ln	0	815	0	1378	0	683	0	1359
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	35.0	0.0	26.0	0.0	35.0	0.0	26.0
Perm LT Serve Time (g_u), s	0.0	27.4	0.0	25.5	0.0	23.6	0.0	25.3
Perm LT Q Serve Time (g_ps), s	0.0	0.7	0.0	0.8	0.0	4.6	0.0	4.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	404	0	580	0	319	0	570
V/C Ratio (X)	0.00	0.03	0.00	0.04	0.00	0.18	0.00	0.18
Avail Cap (c_a), veh/h	0	404	0	580	0	319	0	570
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.5	0.0	15.7	0.0	18.3	0.0	16.9
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	1.2	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.6	0.0	15.7	0.0	19.5	0.0	17.6
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.3	0.0	0.7	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.3	0.0	0.8	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.07	0.00	0.16	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	408	0	23	0	297	0	19
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1870
Q Serve Time (g_s), s	0.0	11.3	0.0	0.6	0.0	7.6	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	11.3	0.0	0.6	0.0	7.6	0.0	0.5
Lane Grp Cap (c), veh/h	0	852	0	633	0	852	0	666
V/C Ratio (X)	0.00	0.48	0.00	0.04	0.00	0.35	0.00	0.03
Avail Cap (c_a), veh/h	0	852	0	633	0	852	0	666
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.8	0.0	15.3	0.0	11.9	0.0	15.3
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.0	0.0	1.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.8	0.0	15.4	0.0	13.0	0.0	15.4
1st-Term Q (Q1), veh/ln	0.0	3.7	0.0	0.2	0.0	2.7	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.3	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.2	0.0	0.2	0.0	3.0	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	387	0	24	0	308	0	12
Grp Sat Flow (s), veh/h/ln	0	1676	0	1637	0	1843	0	1585
Q Serve Time (g_s), s	0.0	11.4	0.0	0.7	0.0	7.6	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	11.4	0.0	0.7	0.0	7.6	0.0	0.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.64	0.00	0.79	0.00	0.08	0.00	1.00
Lane Grp Cap (c), veh/h	0	804	0	583	0	884	0	565
V/C Ratio (X)	0.00	0.48	0.00	0.04	0.00	0.35	0.00	0.02
Avail Cap (c_a), veh/h	0	804	0	583	0	884	0	565
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	15.4	0.0	11.9	0.0	15.2
Incr Delay (d2), s/veh	0.0	2.1	0.0	0.0	0.0	1.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.9	0.0	15.4	0.0	13.0	0.0	15.3
1st-Term Q (Q1), veh/ln	0.0	3.5	0.0	0.2	0.0	2.8	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.0	0.0	0.3	0.0	3.1	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
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































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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕		↖↗	↕	↖	↖↗↕	↕		↖↗	↕↕↕	↖
Traffic Volume (veh/h)	48	278	201	187	422	47	81	285	48	52	898	88
Future Volume (veh/h)	48	278	201	187	422	47	81	285	48	52	898	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	296	214	199	449	12	86	303	51	55	955	41
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	393	275	282	853	381	168	1976	321	143	2248	698
Arrive On Green	0.04	0.20	0.20	0.08	0.24	0.24	0.05	0.45	0.45	0.04	0.44	0.44
Sat Flow, veh/h	3456	1980	1388	3456	3554	1585	3456	4415	718	3456	5106	1585
Grp Volume(v), veh/h	51	265	245	199	449	12	86	231	123	55	955	41
Grp Sat Flow(s),veh/h/ln	1728	1777	1591	1728	1777	1585	1728	1702	1729	1728	1702	1585
Q Serve(g_s), s	1.3	12.7	13.3	5.1	10.0	0.5	2.2	3.7	3.8	1.4	11.7	1.4
Cycle Q Clear(g_c), s	1.3	12.7	13.3	5.1	10.0	0.5	2.2	3.7	3.8	1.4	11.7	1.4
Prop In Lane	1.00		0.87	1.00		1.00	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	138	353	316	282	853	381	168	1524	774	143	2248	698
V/C Ratio(X)	0.37	0.75	0.78	0.71	0.53	0.03	0.51	0.15	0.16	0.39	0.42	0.06
Avail Cap(c_a), veh/h	761	684	613	761	1369	611	761	1524	774	761	2248	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.5	34.3	34.5	40.7	30.0	26.4	42.2	14.9	14.9	42.4	17.5	14.6
Incr Delay (d2), s/veh	1.2	3.2	4.1	2.4	0.5	0.0	1.8	0.2	0.4	1.3	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	5.5	5.2	2.1	4.0	0.2	0.9	1.3	1.5	0.6	4.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.7	37.5	38.6	43.1	30.5	26.5	43.9	15.1	15.4	43.7	18.1	14.8
LnGrp LOS	D	D	D	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		561			660			440			1051	
Approach Delay, s/veh		38.6			34.2			20.8			19.3	
Approach LOS		D			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	46.5	11.4	24.5	7.8	47.2	7.6	28.3				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	40.0	20.0	35.0	20.0	40.0	20.0	35.0				
Max Q Clear Time (g_c+1/2), s	14.2	13.7	7.1	15.3	3.4	5.8	3.3	12.0				
Green Ext Time (p_c), s	0.1	6.6	0.4	2.8	0.1	2.1	0.1	2.6				
Intersection Summary												
HCM 6th Ctrl Delay					27.2							
HCM 6th LOS					C							

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  	  	
Traffic Volume (veh/h)	48	278	201	187	422	47	81	285	48	52	898	88
Future Volume (veh/h)	48	278	201	187	422	47	81	285	48	52	898	88
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	296	214	199	449	12	86	303	51	55	955	41
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	138	393	275	282	853	381	168	1976	321	143	2248	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.20	0.20	0.08	0.24	0.24	0.05	0.45	0.45	0.04	0.44	0.44
Unsig. Movement Delay												
Ln Grp Delay, s/veh	43.7	37.5	38.6	43.1	30.5	26.5	43.9	15.1	15.4	43.7	18.1	14.8
Ln Grp LOS	D	D	D	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		561			660			440			1051	
Approach Delay, s/veh		38.6			34.2			20.8			19.3	
Approach LOS		D			C			C			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		8.4	46.5	11.4	24.5	7.8	47.2	7.6	28.3			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	40.0	20.0	35.0	20.0	40.0	20.0	35.0			
Max Allow Headway (MAH), s		3.2	4.8	3.2	5.1	3.2	5.0	3.2	4.8			
Max Q Clear (g_c+I1), s		4.2	13.7	7.1	15.3	3.4	5.8	3.3	12.0			
Green Ext Time (g_e), s		0.1	6.6	0.4	2.8	0.1	2.1	0.1	2.6			
Prob of Phs Call (p_c)		0.89	1.00	0.99	1.00	0.75	1.00	0.72	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		1980		4415		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1388		718		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	86	0	199	0	55	0	51	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	2.2	0.0	5.1	0.0	1.4	0.0	1.3	0.0
Cycle Q Clear Time (g_c), s	2.2	0.0	5.1	0.0	1.4	0.0	1.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	168	0	282	0	143	0	138	0
V/C Ratio (X)	0.51	0.00	0.71	0.00	0.39	0.00	0.37	0.00
Avail Cap (c_a), veh/h	761	0	761	0	761	0	761	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	42.2	0.0	40.7	0.0	42.4	0.0	42.5	0.0
Incr Delay (d2), s/veh	1.8	0.0	2.4	0.0	1.3	0.0	1.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	43.9	0.0	43.1	0.0	43.7	0.0	43.7	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	2.0	0.0	0.6	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.9	0.0	2.1	0.0	0.6	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.43	0.00	0.05	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	2	0	2
Grp Vol (v), veh/h	0	955	0	265	0	231	0	449
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	11.7	0.0	12.7	0.0	3.7	0.0	10.0
Cycle Q Clear Time (g_c), s	0.0	11.7	0.0	12.7	0.0	3.7	0.0	10.0
Lane Grp Cap (c), veh/h	0	2248	0	353	0	1524	0	853
V/C Ratio (X)	0.00	0.42	0.00	0.75	0.00	0.15	0.00	0.53
Avail Cap (c_a), veh/h	0	2248	0	684	0	1524	0	1369
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.5	0.0	34.3	0.0	14.9	0.0	30.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	3.2	0.0	0.2	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.1	0.0	37.5	0.0	15.1	0.0	30.5
1st-Term Q (Q1), veh/ln	0.0	4.0	0.0	5.2	0.0	1.3	0.0	4.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.2	0.0	5.5	0.0	1.3	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.03	0.00	0.02	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	41	0	245	0	123	0	12
Grp Sat Flow (s), veh/h/ln	0	1585	0	1591	0	1729	0	1585
Q Serve Time (g_s), s	0.0	1.4	0.0	13.3	0.0	3.8	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	13.3	0.0	3.8	0.0	0.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.87	0.00	0.42	0.00	1.00
Lane Grp Cap (c), veh/h	0	698	0	316	0	774	0	381
V/C Ratio (X)	0.00	0.06	0.00	0.78	0.00	0.16	0.00	0.03
Avail Cap (c_a), veh/h	0	698	0	613	0	774	0	611
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.6	0.0	34.5	0.0	14.9	0.0	26.4
Incr Delay (d2), s/veh	0.0	0.2	0.0	4.1	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.8	0.0	38.6	0.0	15.4	0.0	26.5
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	4.8	0.0	1.4	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	5.2	0.0	1.5	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.02	0.00	0.02	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 24: Monterey Ave & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↖		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	31	251	90	116	489	65	78	615	49	40	1384	102
Future Volume (veh/h)	31	251	90	116	489	65	78	615	49	40	1384	102
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	285	16	132	556	74	89	699	56	45	1573	69
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	574	256	185	663	296	138	2820	225	111	2946	914
Arrive On Green	0.03	0.16	0.16	0.05	0.19	0.19	0.04	0.58	0.58	0.03	0.58	0.58
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4821	384	3456	5106	1585
Grp Volume(v), veh/h	35	285	16	132	556	74	89	492	263	45	1573	69
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1801	1728	1702	1585
Q Serve(g_s), s	1.2	8.9	1.0	4.6	18.4	4.9	3.1	8.6	8.7	1.6	23.0	2.3
Cycle Q Clear(g_c), s	1.2	8.9	1.0	4.6	18.4	4.9	3.1	8.6	8.7	1.6	23.0	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	98	574	256	185	663	296	138	1991	1053	111	2946	914
V/C Ratio(X)	0.36	0.50	0.06	0.71	0.84	0.25	0.64	0.25	0.25	0.41	0.53	0.08
Avail Cap(c_a), veh/h	312	1019	455	312	1019	455	340	1991	1053	340	2946	914
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.91	0.91	0.91	0.98	0.98	0.98	0.94	0.94	0.94
Uniform Delay (d), s/veh	58.2	46.6	43.3	56.8	47.8	42.3	57.7	12.3	12.3	57.9	15.8	11.4
Incr Delay (d2), s/veh	0.8	0.2	0.0	1.7	2.0	0.1	1.8	0.3	0.6	0.8	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.8	0.4	2.0	8.3	1.9	1.3	3.0	3.3	0.7	8.0	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	46.9	43.4	58.5	49.9	42.5	59.5	12.6	12.9	58.7	16.4	11.6
LnGrp LOS	E	D	D	E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		336			762			844			1687	
Approach Delay, s/veh		48.0			50.7			17.6			17.4	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.9	76.9	7.5	28.8	7.9	77.8	10.5	25.7				
Change Period (Y+Rc), s	4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0				
Max Green Setting (Gmax), s	12.0	43.5	11.0	* 35	12.0	43.5	11.0	35.0				
Max Q Clear Time (g_c+1/4), s	15.0	25.0	3.2	20.4	3.6	10.7	6.6	10.9				
Green Ext Time (p_c), s	0.0	6.8	0.0	2.4	0.0	2.7	0.0	1.0				

Intersection Summary


































HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 24: Monterey Ave & Frank Sinatra Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	31	251	90	116	489	65	78	615	49	40	1384	102
Future Volume (veh/h)	31	251	90	116	489	65	78	615	49	40	1384	102
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	285	16	132	556	74	89	699	56	45	1573	69
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	98	574	256	185	663	296	138	2820	225	111	2946	914
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.16	0.16	0.05	0.19	0.19	0.04	0.58	0.58	0.03	0.58	0.58
Unsig. Movement Delay												
Ln Grp Delay, s/veh	59.0	46.9	43.4	58.5	49.9	42.5	59.5	12.6	12.9	58.7	16.4	11.6
Ln Grp LOS	E	D	D	E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		336			762			844			1687	
Approach Delay, s/veh		48.0			50.7			17.6			17.4	
Approach LOS		D			D			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		8.9	76.9	7.5	28.8	7.9	77.8	10.5	25.7			
Change Period (Y+Rc), s		4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0			
Max Green (Gmax), s		12.0	43.5	11.0	* 35	12.0	43.5	11.0	35.0			
Max Allow Headway (MAH), s		1.8	3.7	1.7	4.1	1.6	3.8	1.8	3.8			
Max Q Clear (g_c+I1), s		5.1	25.0	3.2	20.4	3.6	10.7	6.6	10.9			
Green Ext Time (g_e), s		0.0	6.8	0.0	2.4	0.0	2.7	0.0	1.0			
Prob of Phs Call (p_c)		0.95	1.00	0.69	1.00	0.78	1.00	0.99	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4821		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		384		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 24: Monterey Ave & Frank Sinatra Dr

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	89	0	35	0	45	0	132	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	3.1	0.0	1.2	0.0	1.6	0.0	4.6	0.0
Cycle Q Clear Time (g_c), s	3.1	0.0	1.2	0.0	1.6	0.0	4.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	138	0	98	0	111	0	185	0
V/C Ratio (X)	0.64	0.00	0.36	0.00	0.41	0.00	0.71	0.00
Avail Cap (c_a), veh/h	340	0	312	0	340	0	312	0
Upstream Filter (I)	0.98	0.00	1.00	0.00	0.94	0.00	0.91	0.00
Uniform Delay (d1), s/veh	57.7	0.0	58.2	0.0	57.9	0.0	56.8	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.8	0.0	0.8	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.5	0.0	59.0	0.0	58.7	0.0	58.5	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	0.5	0.0	0.7	0.0	2.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.3	0.0	0.5	0.0	0.7	0.0	2.0	0.0
%ile Storage Ratio (RQ%)	0.14	0.00	0.08	0.00	0.08	0.00	0.37	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1573	0	556	0	492	0	285
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	23.0	0.0	18.4	0.0	8.6	0.0	8.9
Cycle Q Clear Time (g_c), s	0.0	23.0	0.0	18.4	0.0	8.6	0.0	8.9
Lane Grp Cap (c), veh/h	0	2946	0	663	0	1991	0	574
V/C Ratio (X)	0.00	0.53	0.00	0.84	0.00	0.25	0.00	0.50
Avail Cap (c_a), veh/h	0	2946	0	1019	0	1991	0	1019
Upstream Filter (I)	0.00	0.94	0.00	0.91	0.00	0.98	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.8	0.0	47.8	0.0	12.3	0.0	46.6
Incr Delay (d2), s/veh	0.0	0.7	0.0	2.0	0.0	0.3	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.4	0.0	49.9	0.0	12.6	0.0	46.9
1st-Term Q (Q1), veh/ln	0.0	7.8	0.0	8.1	0.0	2.9	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

24: Monterey Ave & Frank Sinatra Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.0	0.0	8.3	0.0	3.0	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.04	0.00	0.01	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	69	0	74	0	263	0	16
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1801	0	1585
Q Serve Time (g_s), s	0.0	2.3	0.0	4.9	0.0	8.7	0.0	1.0
Cycle Q Clear Time (g_c), s	0.0	2.3	0.0	4.9	0.0	8.7	0.0	1.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.21	0.00	1.00
Lane Grp Cap (c), veh/h	0	914	0	296	0	1053	0	256
V/C Ratio (X)	0.00	0.08	0.00	0.25	0.00	0.25	0.00	0.06
Avail Cap (c_a), veh/h	0	914	0	455	0	1053	0	455
Upstream Filter (I)	0.00	0.94	0.00	0.91	0.00	0.98	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.4	0.0	42.3	0.0	12.3	0.0	43.3
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.6	0.0	42.5	0.0	12.9	0.0	43.4
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	1.8	0.0	3.1	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	1.9	0.0	3.3	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.34	0.00	0.02	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

25: Portola Rd & Frank Sinatra Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	260	122	134	506	29	111	378	87	34	350	9
Future Volume (veh/h)	19	260	122	134	506	29	111	378	87	34	350	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	292	30	151	569	12	125	425	98	38	393	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	624	279	228	939	419	217	979	219	113	901	0
Arrive On Green	0.04	0.18	0.18	0.13	0.26	0.26	0.12	0.23	0.23	0.06	0.18	0.00
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	4173	933	1781	5274	0
Grp Volume(v), veh/h	21	292	30	151	569	12	125	344	179	38	393	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1702	1702	1781	1702	0
Q Serve(g_s), s	0.6	4.2	0.9	4.6	7.9	0.3	3.7	4.9	5.1	1.2	3.9	0.0
Cycle Q Clear(g_c), s	0.6	4.2	0.9	4.6	7.9	0.3	3.7	4.9	5.1	1.2	3.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.55	1.00		0.00
Lane Grp Cap(c), veh/h	71	624	279	228	939	419	217	798	399	113	901	0
V/C Ratio(X)	0.30	0.47	0.11	0.66	0.61	0.03	0.58	0.43	0.45	0.34	0.44	0.00
Avail Cap(c_a), veh/h	473	2200	981	473	2200	981	473	2107	1054	473	3160	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.4	20.9	19.6	23.5	18.2	15.4	23.5	18.4	18.5	25.3	20.8	0.0
Incr Delay (d2), s/veh	0.9	0.2	0.1	1.2	0.2	0.0	0.9	0.1	0.3	0.6	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.4	0.3	1.7	2.6	0.1	1.4	1.5	1.6	0.4	1.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	21.1	19.6	24.7	18.5	15.4	24.4	18.6	18.8	26.0	20.9	0.0
LnGrp LOS	C	C	B	C	B	B	C	B	B	C	C	A
Approach Vol, veh/h		343			732			648			431	
Approach Delay, s/veh		21.4			19.7			19.8			21.3	
Approach LOS		C			B			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	19.8	12.3	15.9	11.9	16.5	7.2	20.9				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0				
Max Green Setting (Gmax), s	15.0	35.0	15.0	35.0	15.0	35.0	15.0	35.0				
Max Q Clear Time (g_c+1), s	13.2	7.1	6.6	6.2	5.7	5.9	2.6	9.9				
Green Ext Time (p_c), s	0.0	0.9	0.0	0.5	0.0	0.8	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay											20.3	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
 25: Portola Rd & Frank Sinatra Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↑		↘	↑↑↑	
Traffic Volume (veh/h)	19	260	122	134	506	29	111	378	87	34	350	9
Future Volume (veh/h)	19	260	122	134	506	29	111	378	87	34	350	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	292	30	151	569	12	125	425	98	38	393	0
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	71	624	279	228	939	419	217	979	219	113	901	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.18	0.18	0.13	0.26	0.26	0.12	0.23	0.23	0.06	0.18	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	27.2	21.1	19.6	24.7	18.5	15.4	24.4	18.6	18.8	26.0	20.9	0.0
Ln Grp LOS	C	C	B	C	B	B	C	B	B	C	C	A
Approach Vol, veh/h		343			732			648			431	
Approach Delay, s/veh		21.4			19.7			19.8			21.3	
Approach LOS		C			B			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		8.6	19.8	12.3	15.9	11.9	16.5	7.2	20.9			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0			
Max Green (Gmax), s		15.0	35.0	15.0	35.0	15.0	35.0	15.0	35.0			
Max Allow Headway (MAH), s		1.6	2.8	1.6	2.7	1.6	2.7	1.6	2.7			
Max Q Clear (g_c+I1), s		3.2	7.1	6.6	6.2	5.7	5.9	2.6	9.9			
Green Ext Time (g_e), s		0.0	0.9	0.0	0.5	0.0	0.8	0.0	1.1			
Prob of Phs Call (p_c)		0.45	1.00	0.91	0.99	0.86	1.00	0.28	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			4173		3554		5274		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			933		1585		0		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	38	0	151	0	125	0	21	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.2	0.0	4.6	0.0	3.7	0.0	0.6	0.0
Cycle Q Clear Time (g_c), s	1.2	0.0	4.6	0.0	3.7	0.0	0.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	113	0	228	0	217	0	71	0
V/C Ratio (X)	0.34	0.00	0.66	0.00	0.58	0.00	0.30	0.00
Avail Cap (c_a), veh/h	473	0	473	0	473	0	473	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	25.3	0.0	23.5	0.0	23.5	0.0	26.4	0.0
Incr Delay (d2), s/veh	0.6	0.0	1.2	0.0	0.9	0.0	0.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.0	0.0	24.7	0.0	24.4	0.0	27.2	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	1.6	0.0	1.3	0.0	0.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	1.7	0.0	1.4	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.29	0.00	0.14	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	3	0	2
Grp Vol (v), veh/h	0	344	0	292	0	393	0	569
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	4.9	0.0	4.2	0.0	3.9	0.0	7.9
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	4.2	0.0	3.9	0.0	7.9
Lane Grp Cap (c), veh/h	0	798	0	624	0	901	0	939
V/C Ratio (X)	0.00	0.43	0.00	0.47	0.00	0.44	0.00	0.61
Avail Cap (c_a), veh/h	0	2107	0	2200	0	3160	0	2200
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.4	0.0	20.9	0.0	20.8	0.0	18.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.6	0.0	21.1	0.0	20.9	0.0	18.5
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	1.4	0.0	1.3	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.5	0.0	1.4	0.0	1.3	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R				R
Lanes in Grp	0	1	0	1	0	0	0	1
Grp Vol (v), veh/h	0	179	0	30	0	0	0	12
Grp Sat Flow (s), veh/h/ln	0	1702	0	1585	0	0	0	1585
Q Serve Time (g_s), s	0.0	5.1	0.0	0.9	0.0	0.0	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	5.1	0.0	0.9	0.0	0.0	0.0	0.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.55	0.00	1.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	399	0	279	0	0	0	419
V/C Ratio (X)	0.00	0.45	0.00	0.11	0.00	0.00	0.00	0.03
Avail Cap (c_a), veh/h	0	1054	0	981	0	0	0	981
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.5	0.0	19.6	0.0	0.0	0.0	15.4
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.8	0.0	19.6	0.0	0.0	0.0	15.4
1st-Term Q (Q1), veh/ln	0.0	1.6	0.0	0.3	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	0.3	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.3
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

26: Cook St & Frank Sinatra Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑		↔↔	↑↑↑	↔
Traffic Volume (veh/h)	141	110	134	49	256	57	120	652	22	48	1146	328
Future Volume (veh/h)	141	110	134	49	256	57	120	652	22	48	1146	328
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	157	122	31	54	284	10	133	724	24	53	1273	118
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	379	635	283	258	510	227	368	1175	39	255	1542	479
Arrive On Green	0.11	0.18	0.18	0.07	0.14	0.14	0.11	0.33	0.33	0.07	0.30	0.30
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3510	116	3456	5106	1585
Grp Volume(v), veh/h	157	122	31	54	284	10	133	366	382	53	1273	118
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1849	1728	1702	1585
Q Serve(g_s), s	2.9	2.0	1.1	1.0	5.2	0.4	2.5	12.0	12.0	1.0	16.1	3.9
Cycle Q Clear(g_c), s	2.9	2.0	1.1	1.0	5.2	0.4	2.5	12.0	12.0	1.0	16.1	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	379	635	283	258	510	227	368	595	619	255	1542	479
V/C Ratio(X)	0.41	0.19	0.11	0.21	0.56	0.04	0.36	0.62	0.62	0.21	0.83	0.25
Avail Cap(c_a), veh/h	747	1638	730	747	1894	845	747	1152	1199	747	3309	1027
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	24.3	23.9	30.2	27.7	25.6	28.8	19.4	19.4	30.2	22.5	18.3
Incr Delay (d2), s/veh	0.3	0.1	0.1	0.1	0.4	0.0	0.2	0.4	0.4	0.1	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.8	0.4	0.4	2.0	0.1	0.9	4.1	4.3	0.4	5.4	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	24.3	24.0	30.4	28.0	25.7	29.1	19.8	19.7	30.4	23.0	18.4
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	C	B
Approach Vol, veh/h		310			348			881			1444	
Approach Delay, s/veh		26.7			28.3			21.2			22.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	19.4	12.4	27.5	12.6	17.0	10.1	29.7				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5				
Max Green Setting (Gmax), s	15.0	32.0	15.0	45.0	15.0	37.0	15.0	45.0				
Max Q Clear Time (g_c+1), s	13.0	4.0	4.5	18.1	4.9	7.2	3.0	14.0				
Green Ext Time (p_c), s	0.0	0.2	0.1	2.9	0.1	0.5	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
26: Cook St & Frank Sinatra Dr

02/20/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	141	110	134	49	256	57	120	652	22	48	1146	328
Future Volume (veh/h)	141	110	134	49	256	57	120	652	22	48	1146	328
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	157	122	31	54	284	10	133	724	24	53	1273	118
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	379	635	283	258	510	227	368	1175	39	255	1542	479
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.18	0.18	0.07	0.14	0.14	0.11	0.33	0.33	0.07	0.30	0.30
Unsig. Movement Delay												
Ln Grp Delay, s/veh	29.1	24.3	24.0	30.4	28.0	25.7	29.1	19.8	19.7	30.4	23.0	18.4
Ln Grp LOS	C	C	C	C	C	C	C	B	B	C	C	B
Approach Vol, veh/h		310			348			881			1444	
Approach Delay, s/veh		26.7			28.3			21.2			22.9	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		10.2	19.4	12.4	27.5	12.6	17.0	10.1	29.7			
Change Period (Y+Rc), s		5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5			
Max Green (Gmax), s		15.0	32.0	15.0	45.0	15.0	37.0	15.0	45.0			
Max Allow Headway (MAH), s		1.6	2.6	1.6	2.7	1.6	2.7	1.6	2.7			
Max Q Clear (g_c+I1), s		3.0	4.0	4.5	18.1	4.9	7.2	3.0	14.0			
Green Ext Time (g_e), s		0.0	0.2	0.1	2.9	0.1	0.5	0.0	1.1			
Prob of Phs Call (p_c)		0.65	0.95	0.92	1.00	0.95	1.00	0.64	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		3510			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		116			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	54	0	133	0	157	0	53	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	1.0	0.0	2.5	0.0	2.9	0.0	1.0	0.0
Cycle Q Clear Time (g_c), s	1.0	0.0	2.5	0.0	2.9	0.0	1.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	258	0	368	0	379	0	255	0
V/C Ratio (X)	0.21	0.00	0.36	0.00	0.41	0.00	0.21	0.00
Avail Cap (c_a), veh/h	747	0	747	0	747	0	747	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	30.2	0.0	28.8	0.0	28.8	0.0	30.2	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.3	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	30.4	0.0	29.1	0.0	29.1	0.0	30.4	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	0.9	0.0	1.1	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	0.9	0.0	1.1	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.17	0.00	0.20	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	1
Grp Vol (v), veh/h	0	122	0	1273	0	284	0	366
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1777
Q Serve Time (g_s), s	0.0	2.0	0.0	16.1	0.0	5.2	0.0	12.0
Cycle Q Clear Time (g_c), s	0.0	2.0	0.0	16.1	0.0	5.2	0.0	12.0
Lane Grp Cap (c), veh/h	0	635	0	1542	0	510	0	595
V/C Ratio (X)	0.00	0.19	0.00	0.83	0.00	0.56	0.00	0.62
Avail Cap (c_a), veh/h	0	1638	0	3309	0	1894	0	1152
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.3	0.0	22.5	0.0	27.7	0.0	19.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.4	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.3	0.0	23.0	0.0	28.0	0.0	19.8
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	5.3	0.0	1.9	0.0	4.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	5.4	0.0	2.0	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.04	0.00	0.03	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	31	0	118	0	10	0	382
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1849
Q Serve Time (g_s), s	0.0	1.1	0.0	3.9	0.0	0.4	0.0	12.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	3.9	0.0	0.4	0.0	12.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.06
Lane Grp Cap (c), veh/h	0	283	0	479	0	227	0	619
V/C Ratio (X)	0.00	0.11	0.00	0.25	0.00	0.04	0.00	0.62
Avail Cap (c_a), veh/h	0	730	0	1027	0	845	0	1199
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.9	0.0	18.3	0.0	25.6	0.0	19.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.0	0.0	18.4	0.0	25.7	0.0	19.7
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	1.2	0.0	0.1	0.0	4.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	1.2	0.0	0.1	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.14	0.00	0.01	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 27: Bob Hope Dr & Country Club Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	250	111	185	257	175	59	288	98	148	533	45
Future Volume (veh/h)	64	250	111	185	257	175	59	288	98	148	533	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	263	19	195	271	47	62	303	23	156	561	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	530	236	247	813	363	195	746	333	294	791	66
Arrive On Green	0.06	0.15	0.15	0.14	0.23	0.23	0.06	0.21	0.21	0.09	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3315	277
Grp Volume(v), veh/h	67	263	19	195	271	47	62	303	23	156	300	308
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1815
Q Serve(g_s), s	1.9	3.6	0.5	5.6	3.4	1.2	0.9	3.9	0.6	2.3	8.2	8.2
Cycle Q Clear(g_c), s	1.9	3.6	0.5	5.6	3.4	1.2	0.9	3.9	0.6	2.3	8.2	8.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	106	530	236	247	813	363	195	746	333	294	424	433
V/C Ratio(X)	0.63	0.50	0.08	0.79	0.33	0.13	0.32	0.41	0.07	0.53	0.71	0.71
Avail Cap(c_a), veh/h	844	2020	901	675	2020	901	1310	1885	841	1310	943	963
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.3	20.6	19.3	22.0	17.0	16.2	23.9	18.0	16.7	23.1	18.4	18.4
Incr Delay (d2), s/veh	2.3	0.5	0.1	2.1	0.2	0.1	0.3	0.3	0.1	0.6	1.6	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.3	0.2	2.1	1.1	0.4	0.3	1.4	0.2	0.8	2.9	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.6	21.2	19.4	24.1	17.2	16.3	24.3	18.3	16.8	23.7	20.0	20.0
LnGrp LOS	C	C	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		349			513			388			764	
Approach Delay, s/veh		22.1			19.7			19.1			20.8	
Approach LOS		C			B			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	19.1	7.6	18.6	9.0	17.6	11.8	14.4				
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5				
Max Green Setting (Gmax), s	20.0	28.0	25.0	30.0	20.0	28.0	20.0	30.0				
Max Q Clear Time (g_c+1), s	12.5	10.2	3.9	5.4	4.3	5.9	7.6	5.6				
Green Ext Time (p_c), s	0.1	2.4	0.1	1.3	0.2	1.4	0.2	1.2				

Intersection Summary

HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

02/20/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	250	111	185	257	175	59	288	98	148	533	45
Future Volume (veh/h)	64	250	111	185	257	175	59	288	98	148	533	45
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	263	19	195	271	47	62	303	23	156	561	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	106	530	236	247	813	363	195	746	333	294	791	66
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.15	0.15	0.14	0.23	0.23	0.06	0.21	0.21	0.09	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.6	21.2	19.4	24.1	17.2	16.3	24.3	18.3	16.8	23.7	20.0	20.0
Ln Grp LOS	C	C	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		349			513			388			764	
Approach Delay, s/veh		22.1			19.7			19.1			20.8	
Approach LOS		C			B			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		7.5	19.1	7.6	18.6	9.0	17.6	11.8	14.4			
Change Period (Y+Rc), s		4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5			
Max Green (Gmax), s		20.0	28.0	25.0	30.0	20.0	28.0	20.0	30.0			
Max Allow Headway (MAH), s		2.7	4.3	2.7	4.2	2.7	4.3	2.7	4.3			
Max Q Clear (g_c+I1), s		2.9	10.2	3.9	5.4	4.3	5.9	7.6	5.6			
Green Ext Time (g_e), s		0.1	2.4	0.1	1.3	0.2	1.4	0.2	1.2			
Prob of Phs Call (p_c)		0.60	1.00	0.63	0.99	0.90	0.99	0.94	0.98			
Prob of Max Out (p_x)		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3315		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			277		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

02/20/2019

Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	62	0	67	0	156	0	195	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	0.9	0.0	1.9	0.0	2.3	0.0	5.6	0.0
Cycle Q Clear Time (g_c), s	0.9	0.0	1.9	0.0	2.3	0.0	5.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	195	0	106	0	294	0	247	0
V/C Ratio (X)	0.32	0.00	0.63	0.00	0.53	0.00	0.79	0.00
Avail Cap (c_a), veh/h	1310	0	844	0	1310	0	675	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	23.9	0.0	24.3	0.0	23.1	0.0	22.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	2.3	0.0	0.6	0.0	2.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.3	0.0	26.6	0.0	23.7	0.0	24.1	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.7	0.0	0.8	0.0	1.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	0.8	0.0	0.8	0.0	2.1	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.13	0.00	0.09	0.00	0.18	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	2	0	2
Grp Vol (v), veh/h	0	300	0	271	0	303	0	263
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	8.2	0.0	3.4	0.0	3.9	0.0	3.6
Cycle Q Clear Time (g_c), s	0.0	8.2	0.0	3.4	0.0	3.9	0.0	3.6
Lane Grp Cap (c), veh/h	0	424	0	813	0	746	0	530
V/C Ratio (X)	0.00	0.71	0.00	0.33	0.00	0.41	0.00	0.50
Avail Cap (c_a), veh/h	0	943	0	2020	0	1885	0	2020
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.4	0.0	17.0	0.0	18.0	0.0	20.6
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.2	0.0	0.3	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	17.2	0.0	18.3	0.0	21.2
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	1.1	0.0	1.3	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.9	0.0	1.1	0.0	1.4	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	308	0	47	0	23	0	19
Grp Sat Flow (s), veh/h/ln	0	1815	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	8.2	0.0	1.2	0.0	0.6	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	8.2	0.0	1.2	0.0	0.6	0.0	0.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.15	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	433	0	363	0	333	0	236
V/C Ratio (X)	0.00	0.71	0.00	0.13	0.00	0.07	0.00	0.08
Avail Cap (c_a), veh/h	0	963	0	901	0	841	0	901
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.4	0.0	16.2	0.0	16.7	0.0	19.3
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.1	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	16.3	0.0	16.8	0.0	19.4
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	0.4	0.0	0.2	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.9	0.0	0.4	0.0	0.2	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.12	0.00	0.03	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 28: Monterey Ave & Country Club Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	73	301	149	174	647	107	307	533	65	173	1190	155
Future Volume (veh/h)	73	301	149	174	647	107	307	533	65	173	1190	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	320	0	185	688	0	327	567	32	184	1266	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	734		240	814		375	2553	792	239	2352	730
Arrive On Green	0.05	0.14	0.00	0.07	0.16	0.00	0.22	1.00	1.00	0.07	0.46	0.46
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	78	320	0	185	688	0	327	567	32	184	1266	70
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	2.6	6.9	0.0	6.3	15.7	0.0	11.0	0.0	0.0	6.3	21.3	3.0
Cycle Q Clear(g_c), s	2.6	6.9	0.0	6.3	15.7	0.0	11.0	0.0	0.0	6.3	21.3	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	734		240	814		375	2553	792	239	2352	730
V/C Ratio(X)	0.42	0.44		0.77	0.85		0.87	0.22	0.04	0.77	0.54	0.10
Avail Cap(c_a), veh/h	259	1332		346	1459		432	2553	792	346	2352	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.00	0.62	0.62	0.00	0.96	0.96	0.96	0.83	0.83	0.83
Uniform Delay (d), s/veh	54.9	46.9	0.0	54.9	49.0	0.0	46.2	0.0	0.0	54.9	23.2	18.3
Incr Delay (d2), s/veh	0.5	0.1	0.0	2.2	0.6	0.0	13.9	0.2	0.1	2.8	0.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.8	0.0	2.7	6.5	0.0	4.8	0.0	0.0	2.7	8.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.4	47.1	0.0	57.1	49.6	0.0	60.1	0.2	0.1	57.7	23.9	18.5
LnGrp LOS	E	D		E	D		E	A	A	E	C	B
Approach Vol, veh/h		398	A		873	A		926			1520	
Approach Delay, s/veh		48.7			51.2			21.3			27.8	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.3	67.4	14.3	24.0	19.0	62.7	12.5	25.8				
Change Period (Y+Rc), s	6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7				
Max Green Setting (Gmax), s	12.0	38.6	12.0	31.3	15.0	35.6	9.0	34.3				
Max Q Clear Time (g_c+1), s	10.3	2.0	8.3	8.9	13.0	23.3	4.6	17.7				
Green Ext Time (p_c), s	0.0	1.2	0.0	0.6	0.1	2.5	0.0	1.4				

Intersection Summary


































HCM 6th Ctrl Delay	33.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 28: Monterey Ave & Country Club Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		  		
Traffic Volume (veh/h)	73	301	149	174	647	107	307	533	65	173	1190	155
Future Volume (veh/h)	73	301	149	174	647	107	307	533	65	173	1190	155
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	320	0	185	688	0	327	567	32	184	1266	70
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	187	734		240	814		375	2553	792	239	2352	730
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.14	0.00	0.07	0.16	0.00	0.22	1.00	1.00	0.07	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.4	47.1	0.0	57.1	49.6	0.0	60.1	0.2	0.1	57.7	23.9	18.5
Ln Grp LOS	E	D		E	D		E	A	A	E	C	B
Approach Vol, veh/h		398			873			926			1520	
Approach Delay, s/veh		48.7			51.2			21.3			27.8	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.3	67.4	14.3	24.0	19.0	62.7	12.5	25.8			
Change Period (Y+Rc), s		6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7			
Max Green (Gmax), s		12.0	38.6	12.0	31.3	15.0	35.6	9.0	34.3			
Max Allow Headway (MAH), s		1.6	2.8	1.7	2.8	1.7	2.7	1.7	2.8			
Max Q Clear (g_c+I1), s		8.3	2.0	8.3	8.9	13.0	23.3	4.6	17.7			
Green Ext Time (g_e), s		0.0	1.2	0.0	0.6	0.1	2.5	0.0	1.4			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	0.93	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	184	0	185	0	327	0	78	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	6.3	0.0	6.3	0.0	11.0	0.0	2.6	0.0
Cycle Q Clear Time (g_c), s	6.3	0.0	6.3	0.0	11.0	0.0	2.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	239	0	240	0	375	0	187	0
V/C Ratio (X)	0.77	0.00	0.77	0.00	0.87	0.00	0.42	0.00
Avail Cap (c_a), veh/h	346	0	346	0	432	0	259	0
Upstream Filter (I)	0.83	0.00	0.62	0.00	0.96	0.00	0.92	0.00
Uniform Delay (d1), s/veh	54.9	0.0	54.9	0.0	46.2	0.0	54.9	0.0
Incr Delay (d2), s/veh	2.8	0.0	2.2	0.0	13.9	0.0	0.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	57.7	0.0	57.1	0.0	60.1	0.0	55.4	0.0
1st-Term Q (Q1), veh/ln	2.6	0.0	2.7	0.0	4.1	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.7	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.7	0.0	2.7	0.0	4.8	0.0	1.1	0.0
%ile Storage Ratio (RQ%)	0.01	0.00	0.32	0.00	0.48	0.00	0.20	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	3	0	3
Grp Vol (v), veh/h	0	567	0	320	0	1266	0	688
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	6.9	0.0	21.3	0.0	15.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.9	0.0	21.3	0.0	15.7
Lane Grp Cap (c), veh/h	0	2553	0	734	0	2352	0	814
V/C Ratio (X)	0.00	0.22	0.00	0.44	0.00	0.54	0.00	0.85
Avail Cap (c_a), veh/h	0	2553	0	1332	0	2352	0	1459
Upstream Filter (I)	0.00	0.96	0.00	0.92	0.00	0.83	0.00	0.62
Uniform Delay (d1), s/veh	0.0	0.0	0.0	46.9	0.0	23.2	0.0	49.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	0.0	0.7	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	47.1	0.0	23.9	0.0	49.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.8	0.0	7.9	0.0	6.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	2.8	0.0	8.0	0.0	6.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.04	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	32	0	0	0	70	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	792	0	228	0	730	0	253
V/C Ratio (X)	0.00	0.04	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	792	0	413	0	730	0	453
Upstream Filter (I)	0.00	0.96	0.00	0.00	0.00	0.83	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	18.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.1	0.0	0.0	0.0	18.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 29: Portola Ave & Country Club Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	362	149	145	678	62	209	476	176	67	365	49
Future Volume (veh/h)	57	362	149	145	678	62	209	476	176	67	365	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	416	55	167	779	20	240	547	59	77	420	56
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	180	844	377	236	956	426	282	795	354	193	548	73
Arrive On Green	0.10	0.24	0.24	0.13	0.27	0.27	0.16	0.22	0.22	0.11	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3154	418
Grp Volume(v), veh/h	66	416	55	167	779	20	240	547	59	77	236	240
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1795
Q Serve(g_s), s	2.5	7.4	2.0	6.5	15.0	0.7	9.6	10.3	2.2	2.9	9.2	9.3
Cycle Q Clear(g_c), s	2.5	7.4	2.0	6.5	15.0	0.7	9.6	10.3	2.2	2.9	9.2	9.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	180	844	377	236	956	426	282	795	354	193	309	312
V/C Ratio(X)	0.37	0.49	0.15	0.71	0.81	0.05	0.85	0.69	0.17	0.40	0.76	0.77
Avail Cap(c_a), veh/h	367	1463	653	489	1463	653	489	1658	740	367	780	788
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	24.0	21.9	30.2	24.9	19.7	29.8	26.0	22.8	30.3	28.7	28.7
Incr Delay (d2), s/veh	0.5	0.2	0.1	1.5	1.1	0.0	2.8	0.4	0.1	0.5	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0	2.8	0.7	2.6	5.6	0.2	3.9	3.9	0.7	1.2	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	24.1	22.0	31.7	26.1	19.7	32.7	26.4	22.9	30.8	30.1	30.2
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		537			966			846			553	
Approach Delay, s/veh		24.8			26.9			27.9			30.3	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	25.3	16.5	18.7	14.7	23.0	12.9	22.3				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	15.0	30.0	20.0	32.0	20.0	30.0	15.0	34.0				
Max Q Clear Time (g_c+1), s	14.5	17.0	11.6	11.3	8.5	9.4	4.9	12.3				
Green Ext Time (p_c), s	0.0	2.7	0.1	1.4	0.0	1.5	0.0	2.1				

Intersection Summary

























HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	362	149	145	678	62	209	476	176	67	365	49
Future Volume (veh/h)	57	362	149	145	678	62	209	476	176	67	365	49
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	416	55	167	779	20	240	547	59	77	420	56
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	180	844	377	236	956	426	282	795	354	193	548	73
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.24	0.24	0.13	0.27	0.27	0.16	0.22	0.22	0.11	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	31.0	24.1	22.0	31.7	26.1	19.7	32.7	26.4	22.9	30.8	30.1	30.2
Ln Grp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		537			966			846			553	
Approach Delay, s/veh		24.8			26.9			27.9			30.3	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		12.4	25.3	16.5	18.7	14.7	23.0	12.9	22.3			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		15.0	30.0	20.0	32.0	20.0	30.0	15.0	34.0			
Max Allow Headway (MAH), s		1.7	3.8	1.7	3.8	1.7	3.7	1.6	3.7			
Max Q Clear (g_c+I1), s		4.5	17.0	11.6	11.3	8.5	9.4	4.9	12.3			
Green Ext Time (g_e), s		0.0	2.7	0.1	1.4	0.0	1.5	0.0	2.1			
Prob of Phs Call (p_c)		0.74	1.00	0.99	1.00	0.97	1.00	0.79	1.00			
Prob of Max Out (p_x)		0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3154		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		418		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	66	0	240	0	167	0	77	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.5	0.0	9.6	0.0	6.5	0.0	2.9	0.0
Cycle Q Clear Time (g_c), s	2.5	0.0	9.6	0.0	6.5	0.0	2.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	180	0	282	0	236	0	193	0
V/C Ratio (X)	0.37	0.00	0.85	0.00	0.71	0.00	0.40	0.00
Avail Cap (c_a), veh/h	367	0	489	0	489	0	367	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	30.6	0.0	29.8	0.0	30.2	0.0	30.3	0.0
Incr Delay (d2), s/veh	0.5	0.0	2.8	0.0	1.5	0.0	0.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.0	0.0	32.7	0.0	31.7	0.0	30.8	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	3.7	0.0	2.5	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	3.9	0.0	2.6	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.13	0.00	0.62	0.00	0.37	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	779	0	236	0	416	0	547
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	15.0	0.0	9.2	0.0	7.4	0.0	10.3
Cycle Q Clear Time (g_c), s	0.0	15.0	0.0	9.2	0.0	7.4	0.0	10.3
Lane Grp Cap (c), veh/h	0	956	0	309	0	844	0	795
V/C Ratio (X)	0.00	0.81	0.00	0.76	0.00	0.49	0.00	0.69
Avail Cap (c_a), veh/h	0	1463	0	780	0	1463	0	1658
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.9	0.0	28.7	0.0	24.0	0.0	26.0
Incr Delay (d2), s/veh	0.0	1.1	0.0	1.5	0.0	0.2	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.1	0.0	30.1	0.0	24.1	0.0	26.4
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	3.4	0.0	2.7	0.0	3.9
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.6	0.0	3.6	0.0	2.8	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.11	0.00	0.01	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	20	0	240	0	55	0	59
Grp Sat Flow (s), veh/h/ln	0	1585	0	1795	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.7	0.0	9.3	0.0	2.0	0.0	2.2
Cycle Q Clear Time (g_c), s	0.0	0.7	0.0	9.3	0.0	2.0	0.0	2.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.23	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	426	0	312	0	377	0	354
V/C Ratio (X)	0.00	0.05	0.00	0.77	0.00	0.15	0.00	0.17
Avail Cap (c_a), veh/h	0	653	0	788	0	653	0	740
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.7	0.0	28.7	0.0	21.9	0.0	22.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.5	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.7	0.0	30.2	0.0	22.0	0.0	22.9
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	3.5	0.0	0.7	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	3.7	0.0	0.7	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.11	0.00	0.17	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 30: Monterey Ave & Hovley Ln W

02/20/2019


























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗	↖	↖↗↘	↖↗↘		↖↗↘	↖↗↘	
Traffic Volume (veh/h)	3	9	11	89	7	183	8	753	48	98	1222	3
Future Volume (veh/h)	3	9	11	89	7	183	8	753	48	98	1222	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	10	12	99	8	23	9	837	53	109	1358	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	77	92	181	185	157	27	3416	216	132	3971	9
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.02	0.70	0.70	0.15	1.00	1.00
Sat Flow, veh/h	1378	774	929	1390	1870	1585	1781	4909	310	1781	5261	12
Grp Volume(v), veh/h	3	0	22	99	8	23	9	580	310	109	879	482
Grp Sat Flow(s),veh/h/ln	1378	0	1703	1390	1870	1585	1781	1702	1815	1781	1702	1868
Q Serve(g_s), s	0.2	0.0	1.4	8.4	0.5	1.6	0.6	7.5	7.5	7.1	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	1.4	9.8	0.5	1.6	0.6	7.5	7.5	7.1	0.0	0.0
Prop In Lane	1.00		0.55	1.00		1.00	1.00		0.17	1.00		0.01
Lane Grp Cap(c), veh/h	191	0	169	181	185	157	27	2369	1263	132	2570	1410
V/C Ratio(X)	0.02	0.00	0.13	0.55	0.04	0.15	0.33	0.24	0.25	0.83	0.34	0.34
Avail Cap(c_a), veh/h	422	0	454	414	499	423	148	2369	1263	223	2570	1410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.80	0.80	0.80
Uniform Delay (d), s/veh	49.2	0.0	49.3	53.8	48.9	49.4	58.5	6.7	6.7	50.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	1.0	0.0	0.2	2.4	0.2	0.4	3.9	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.6	2.9	0.2	0.6	0.3	2.3	2.5	3.0	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	0.0	49.5	54.8	48.9	49.6	60.9	6.9	7.1	54.3	0.3	0.5
LnGrp LOS	D	A	D	D	D	D	E	A	A	D	A	A
Approach Vol, veh/h		25		130			899			1470		
Approach Delay, s/veh		49.4		53.5			7.5			4.4		
Approach LOS		D		D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.9	89.2		16.9	6.8	96.3		16.9				
Change Period (Y+Rc), s	5.0	5.7		5.0	5.0	5.7		5.0				
Max Green Setting (Gmax), s	15.0	57.3		32.0	10.0	62.3		32.0				
Max Q Clear Time (g_c+1), s	19.1	9.5		3.4	2.6	2.0		11.8				
Green Ext Time (p_c), s	0.0	3.4		0.0	0.0	2.8		0.1				

Intersection Summary

HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	9	11	89	7	183	8	753	48	98	1222	3
Future Volume (veh/h)	3	9	11	89	7	183	8	753	48	98	1222	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	10	12	99	8	23	9	837	53	109	1358	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	191	77	92	181	185	157	27	3416	216	132	3971	9
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.02	0.70	0.70	0.15	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	49.2	0.0	49.5	54.8	48.9	49.6	60.9	6.9	7.1	54.3	0.3	0.5
Ln Grp LOS	D	A	D	D	D	D	E	A	A	D	A	A
Approach Vol, veh/h		25			130			899			1470	
Approach Delay, s/veh		49.4			53.5			7.5			4.4	
Approach LOS		D			D			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		6.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		13.9	89.2		16.9	6.8	96.3		16.9			
Change Period (Y+Rc), s		5.0	5.7		5.0	5.0	5.7		5.0			
Max Green (Gmax), s		15.0	57.3		32.0	10.0	62.3		32.0			
Max Allow Headway (MAH), s		1.7	3.8		3.2	1.7	2.8		2.8			
Max Q Clear (g_c+I1), s		9.1	9.5		3.4	2.6	2.0		11.8			
Green Ext Time (g_e), s		0.0	3.4		0.0	0.0	2.8		0.1			
Prob of Phs Call (p_c)		0.97	1.00		0.99	0.26	1.00		0.99			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1378	1781			1390			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			4909		774		5261		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			310		929		12		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

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Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	109	0	0	3	9	0	0	99
Grp Sat Flow (s), veh/h/ln	1781	0	0	1378	1781	0	0	1390
Q Serve Time (g_s), s	7.1	0.0	0.0	0.2	0.6	0.0	0.0	8.4
Cycle Q Clear Time (g_c), s	7.1	0.0	0.0	0.7	0.6	0.0	0.0	9.8
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1378	0	0	0	1390
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	11.9	0.0	0.0	0.0	11.9
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	11.4	0.0	0.0	0.0	10.5
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	8.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	132	0	0	191	27	0	0	181
V/C Ratio (X)	0.83	0.00	0.00	0.02	0.33	0.00	0.00	0.55
Avail Cap (c_a), veh/h	223	0	0	422	148	0	0	414
Upstream Filter (I)	0.80	0.00	0.00	1.00	0.91	0.00	0.00	1.00
Uniform Delay (d1), s/veh	50.3	0.0	0.0	49.2	58.5	0.0	0.0	53.8
Incr Delay (d2), s/veh	3.9	0.0	0.0	0.0	2.4	0.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	54.3	0.0	0.0	49.2	60.9	0.0	0.0	54.8
1st-Term Q (Q1), veh/ln	2.9	0.0	0.0	0.1	0.3	0.0	0.0	2.8
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	3.0	0.0	0.0	0.1	0.3	0.0	0.0	2.9
%ile Storage Ratio (RQ%)	0.38	0.00	0.00	0.00	0.08	0.00	0.00	0.67
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	2	0	0	0	2	0	1
Grp Vol (v), veh/h	0	580	0	0	0	879	0	8
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	7.5	0.0	0.0	0.0	0.0	0.0	0.5
Lane Grp Cap (c), veh/h	0	2369	0	0	0	2570	0	185
V/C Ratio (X)	0.00	0.24	0.00	0.00	0.00	0.34	0.00	0.04
Avail Cap (c_a), veh/h	0	2369	0	0	0	2570	0	499
Upstream Filter (I)	0.00	0.91	0.00	0.00	0.00	0.80	0.00	1.00
Uniform Delay (d1), s/veh	0.0	6.7	0.0	0.0	0.0	0.0	0.0	48.9
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.9	0.0	0.0	0.0	0.3	0.0	48.9
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	0.0	0.0	0.0	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	0.0	0.0	0.1	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	310	0	22	0	482	0	23
Grp Sat Flow (s), veh/h/ln	0	1815	0	1703	0	1868	0	1585
Q Serve Time (g_s), s	0.0	7.5	0.0	1.4	0.0	0.0	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	7.5	0.0	1.4	0.0	0.0	0.0	1.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.17	0.00	0.55	0.00	0.01	0.00	1.00
Lane Grp Cap (c), veh/h	0	1263	0	169	0	1410	0	157
V/C Ratio (X)	0.00	0.25	0.00	0.13	0.00	0.34	0.00	0.15
Avail Cap (c_a), veh/h	0	1263	0	454	0	1410	0	423
Upstream Filter (I)	0.00	0.91	0.00	1.00	0.00	0.80	0.00	1.00
Uniform Delay (d1), s/veh	0.0	6.7	0.0	49.3	0.0	0.0	0.0	49.4
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.1	0.0	0.5	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.1	0.0	49.5	0.0	0.5	0.0	49.6
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	0.6	0.0	0.0	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	0.6	0.0	0.2	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.03	0.00	0.00	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary

31: Monterey Ave & Fred Waring Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑	↖	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑	↖
Traffic Volume (veh/h)	120	298	41	283	676	309	52	443	108	182	679	172
Future Volume (veh/h)	120	298	41	283	676	309	52	443	108	182	679	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	327	45	311	743	0	57	487	119	200	746	89
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	1347	181	366	1715		196	1405	334	256	1830	568
Arrive On Green	0.07	0.30	0.30	0.11	0.34	0.00	0.06	0.34	0.34	0.07	0.36	0.36
Sat Flow, veh/h	3456	4553	611	3456	5106	1585	3456	4119	980	3456	5106	1585
Grp Volume(v), veh/h	132	242	130	311	743	0	57	400	206	200	746	89
Grp Sat Flow(s),veh/h/ln	1728	1702	1760	1728	1702	1585	1728	1702	1694	1728	1702	1585
Q Serve(g_s), s	4.5	6.5	6.7	10.6	13.6	0.0	1.9	10.5	10.9	6.8	13.2	4.6
Cycle Q Clear(g_c), s	4.5	6.5	6.7	10.6	13.6	0.0	1.9	10.5	10.9	6.8	13.2	4.6
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.58	1.00		1.00
Lane Grp Cap(c), veh/h	228	1007	521	366	1715		196	1161	578	256	1830	568
V/C Ratio(X)	0.58	0.24	0.25	0.85	0.43		0.29	0.34	0.36	0.78	0.41	0.16
Avail Cap(c_a), veh/h	288	1007	521	461	1715		259	1161	578	403	1830	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	54.4	32.0	32.1	52.7	31.0	0.0	54.3	29.5	29.7	54.6	28.9	26.2
Incr Delay (d2), s/veh	0.9	0.6	1.1	9.8	0.8	0.0	0.3	0.8	1.7	1.9	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.7	3.0	5.0	5.5	0.0	0.8	4.3	4.6	2.9	5.2	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.3	32.6	33.3	62.5	31.8	0.0	54.6	30.3	31.4	56.5	29.6	26.7
LnGrp LOS	E	C	C	E	C		D	C	C	E	C	C
Approach Vol, veh/h		504			1054	A		663			1035	
Approach Delay, s/veh		38.7			40.9			32.7			34.5	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	46.3	11.8	49.0	17.7	41.5	13.9	46.9				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0				
Max Green Setting (Gmax), s	10.0	36.0	9.0	43.0	16.0	30.0	14.0	38.0				
Max Q Clear Time (g_c+10), s	10.5	15.6	3.9	15.2	12.6	8.7	8.8	12.9				
Green Ext Time (p_c), s	0.0	1.7	0.0	1.6	0.1	0.7	0.1	1.2				

Intersection Summary



































HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 31: Monterey Ave & Fred Waring Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		  	 	
Traffic Volume (veh/h)	120	298	41	283	676	309	52	443	108	182	679	172
Future Volume (veh/h)	120	298	41	283	676	309	52	443	108	182	679	172
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	327	45	311	743	0	57	487	119	200	746	89
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	228	1347	181	366	1715		196	1405	334	256	1830	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.30	0.30	0.11	0.34	0.00	0.06	0.34	0.34	0.07	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.3	32.6	33.3	62.5	31.8	0.0	54.6	30.3	31.4	56.5	29.6	26.7
Ln Grp LOS	E	C	C	E	C		D	C	C	E	C	C
Approach Vol, veh/h		504			1054			663			1035	
Approach Delay, s/veh		38.7			40.9			32.7			34.5	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		12.9	46.3	11.8	49.0	17.7	41.5	13.9	46.9			
Change Period (Y+Rc), s		5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0			
Max Green (Gmax), s		10.0	36.0	9.0	43.0	16.0	30.0	14.0	38.0			
Max Allow Headway (MAH), s		1.7	2.9	1.7	2.7	1.7	2.9	1.7	3.0			
Max Q Clear (g_c+I1), s		6.5	15.6	3.9	15.2	12.6	8.7	8.8	12.9			
Green Ext Time (g_e), s		0.0	1.7	0.0	1.6	0.1	0.7	0.1	1.2			
Prob of Phs Call (p_c)		0.99	1.00	0.85	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		4553		4119			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		611		980			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 31: Monterey Ave & Fred Waring Dr

02/20/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	132	0	57	0	311	0	200	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	4.5	0.0	1.9	0.0	10.6	0.0	6.8	0.0
Cycle Q Clear Time (g_c), s	4.5	0.0	1.9	0.0	10.6	0.0	6.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	228	0	196	0	366	0	256	0
V/C Ratio (X)	0.58	0.00	0.29	0.00	0.85	0.00	0.78	0.00
Avail Cap (c_a), veh/h	288	0	259	0	461	0	403	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.94	0.00
Uniform Delay (d1), s/veh	54.4	0.0	54.3	0.0	52.7	0.0	54.6	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.3	0.0	9.8	0.0	1.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	55.3	0.0	54.6	0.0	62.5	0.0	56.5	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	0.8	0.0	4.5	0.0	2.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.5	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.9	0.0	0.8	0.0	5.0	0.0	2.9	0.0
%ile Storage Ratio (RQ%)	0.36	0.00	0.12	0.00	0.72	0.00	0.55	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	2	0	2
Grp Vol (v), veh/h	0	743	0	746	0	242	0	400
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	13.6	0.0	13.2	0.0	6.5	0.0	10.5
Cycle Q Clear Time (g_c), s	0.0	13.6	0.0	13.2	0.0	6.5	0.0	10.5
Lane Grp Cap (c), veh/h	0	1715	0	1830	0	1007	0	1161
V/C Ratio (X)	0.00	0.43	0.00	0.41	0.00	0.24	0.00	0.34
Avail Cap (c_a), veh/h	0	1715	0	1830	0	1007	0	1161
Upstream Filter (I)	0.00	1.00	0.00	0.94	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	31.0	0.0	28.9	0.0	32.0	0.0	29.5
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.6	0.0	0.6	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.8	0.0	29.6	0.0	32.6	0.0	30.3
1st-Term Q (Q1), veh/ln	0.0	5.4	0.0	5.1	0.0	2.6	0.0	4.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.5	0.0	5.2	0.0	2.7	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.02	0.00	0.02	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	89	0	130	0	206
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1760	0	1694
Q Serve Time (g_s), s	0.0	0.0	0.0	4.6	0.0	6.7	0.0	10.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.6	0.0	6.7	0.0	10.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.35	0.00	0.58
Lane Grp Cap (c), veh/h	0	532	0	568	0	521	0	578
V/C Ratio (X)	0.00	0.00	0.00	0.16	0.00	0.25	0.00	0.36
Avail Cap (c_a), veh/h	0	532	0	568	0	521	0	578
Upstream Filter (I)	0.00	0.00	0.00	0.94	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	26.2	0.0	32.1	0.0	29.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	1.1	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	26.7	0.0	33.3	0.0	31.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.7	0.0	2.8	0.0	4.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.8	0.0	3.0	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.60	0.00	0.03	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

32: Monterey Ave & SR-111

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





























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	80	624	83	222	552	131	166	402	160	210	468	86
Future Volume (veh/h)	80	624	83	222	552	131	166	402	160	210	468	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	671	29	239	594	72	178	432	57	226	503	31
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	2656	825	291	2778	862	231	527	235	278	576	257
Arrive On Green	0.06	0.52	0.52	0.08	0.54	0.54	0.07	0.15	0.15	0.08	0.16	0.16
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	86	671	29	239	594	72	178	432	57	226	503	31
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.0	9.1	1.1	8.6	7.6	2.7	6.4	14.9	4.0	8.1	17.4	2.1
Cycle Q Clear(g_c), s	3.0	9.1	1.1	8.6	7.6	2.7	6.4	14.9	4.0	8.1	17.4	2.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	2656	825	291	2778	862	231	527	235	278	576	257
V/C Ratio(X)	0.41	0.25	0.04	0.82	0.21	0.08	0.77	0.82	0.24	0.81	0.87	0.12
Avail Cap(c_a), veh/h	329	2656	825	357	2778	862	357	1128	503	357	1044	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	16.7	14.8	56.8	14.8	13.7	57.8	52.0	47.4	57.0	51.5	45.1
Incr Delay (d2), s/veh	0.5	0.2	0.1	9.9	0.2	0.2	2.1	1.2	0.2	8.3	1.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3	3.5	0.4	4.1	2.8	1.0	2.8	6.5	1.6	3.8	7.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	16.9	14.9	66.7	15.0	13.9	59.9	53.3	47.6	65.3	53.2	45.2
LnGrp LOS	E	B	B	E	B	B	E	D	D	E	D	D
Approach Vol, veh/h		786			905			667			760	
Approach Delay, s/veh		21.3			28.6			54.5			56.5	
Approach LOS		C			C			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	71.5	13.4	25.4	12.6	74.6	15.2	23.7				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	13.0	39.0	13.0	37.0	12.0	35.0	13.0	40.0				
Max Q Clear Time (g_c+10), s	11.0	11.1	8.4	19.4	5.0	9.6	10.1	16.9				
Green Ext Time (p_c), s	0.0	1.5	0.0	1.0	0.0	1.3	0.0	0.9				

Intersection Summary

HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis
 32: Monterey Ave & SR-111

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	
Traffic Volume (veh/h)	80	624	83	222	552	131	166	402	160	210	468	86
Future Volume (veh/h)	80	624	83	222	552	131	166	402	160	210	468	86
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	671	29	239	594	72	178	432	57	226	503	31
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	209	2656	825	291	2778	862	231	527	235	278	576	257
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.52	0.52	0.08	0.54	0.54	0.07	0.15	0.15	0.08	0.16	0.16
Unsig. Movement Delay												
Ln Grp Delay, s/veh	57.5	16.9	14.9	66.7	15.0	13.9	59.9	53.3	47.6	65.3	53.2	45.2
Ln Grp LOS	E	B	B	E	B	B	E	D	D	E	D	D
Approach Vol, veh/h		786			905			667			760	
Approach Delay, s/veh		21.3			28.6			54.5			56.5	
Approach LOS		C			C			D			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.6	71.5	13.4	25.4	12.6	74.6	15.2	23.7			
Change Period (Y+Rc), s		5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0			
Max Green (Gmax), s		13.0	39.0	13.0	37.0	12.0	35.0	13.0	40.0			
Max Allow Headway (MAH), s		1.7	2.9	1.7	2.8	1.7	2.8	1.7	2.8			
Max Q Clear (g_c+I1), s		10.6	11.1	8.4	19.4	5.0	9.6	10.1	16.9			
Green Ext Time (g_e), s		0.0	1.5	0.0	1.0	0.0	1.3	0.0	0.9			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.17	0.00	0.00	0.00	0.00	0.00	0.05	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	239	0	178	0	86	0	226	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	8.6	0.0	6.4	0.0	3.0	0.0	8.1	0.0
Cycle Q Clear Time (g_c), s	8.6	0.0	6.4	0.0	3.0	0.0	8.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	291	0	231	0	209	0	278	0
V/C Ratio (X)	0.82	0.00	0.77	0.00	0.41	0.00	0.81	0.00
Avail Cap (c_a), veh/h	357	0	357	0	329	0	357	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	56.8	0.0	57.8	0.0	57.0	0.0	57.0	0.0
Incr Delay (d2), s/veh	9.9	0.0	2.1	0.0	0.5	0.0	8.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	66.7	0.0	59.9	0.0	57.5	0.0	65.3	0.0
1st-Term Q (Q1), veh/ln	3.7	0.0	2.7	0.0	1.3	0.0	3.5	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.1	0.0	0.0	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.1	0.0	2.8	0.0	1.3	0.0	3.8	0.0
%ile Storage Ratio (RQ%)	0.56	0.00	0.79	0.00	0.13	0.00	0.51	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	671	0	503	0	594	0	432
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	9.1	0.0	17.4	0.0	7.6	0.0	14.9
Cycle Q Clear Time (g_c), s	0.0	9.1	0.0	17.4	0.0	7.6	0.0	14.9
Lane Grp Cap (c), veh/h	0	2656	0	576	0	2778	0	527
V/C Ratio (X)	0.00	0.25	0.00	0.87	0.00	0.21	0.00	0.82
Avail Cap (c_a), veh/h	0	2656	0	1044	0	2778	0	1128
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	51.5	0.0	14.8	0.0	52.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	1.7	0.0	0.2	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.9	0.0	53.2	0.0	15.0	0.0	53.3
1st-Term Q (Q1), veh/ln	0.0	3.4	0.0	7.5	0.0	2.8	0.0	6.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.5	0.0	7.7	0.0	2.8	0.0	6.5
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.16	0.00	0.03	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	29	0	31	0	72	0	57
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.1	0.0	2.1	0.0	2.7	0.0	4.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	2.1	0.0	2.7	0.0	4.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	825	0	257	0	862	0	235
V/C Ratio (X)	0.00	0.04	0.00	0.12	0.00	0.08	0.00	0.24
Avail Cap (c_a), veh/h	0	825	0	465	0	862	0	503
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.8	0.0	45.1	0.0	13.7	0.0	47.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.1	0.0	0.2	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.9	0.0	45.2	0.0	13.9	0.0	47.6
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.8	0.0	0.9	0.0	1.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	0.8	0.0	1.0	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.02	0.00	0.38	0.00	0.31
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	↗
Traffic Vol, veh/h	26	429	508	56	27	36
Future Vol, veh/h	26	429	508	56	27	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	130	-	-	145	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	482	571	63	30	40

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	634	0	-	0	870 286
Stage 1	-	-	-	-	571 -
Stage 2	-	-	-	-	299 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	945	-	-	-	291 711
Stage 1	-	-	-	-	529 -
Stage 2	-	-	-	-	726 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	945	-	-	-	282 711
Mov Cap-2 Maneuver	-	-	-	-	282 -
Stage 1	-	-	-	-	513 -
Stage 2	-	-	-	-	726 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	945	-	-	-	282	711
HCM Lane V/C Ratio	0.031	-	-	-	0.108	0.057
HCM Control Delay (s)	8.9	-	-	-	19.3	10.4
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4	0.2

HCM 6th Signalized Intersection Summary
 34: Monterey Ave & Shadow Ridge Rd

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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	72	661	38	27	1269
Future Volume (veh/h)	50	72	661	38	27	1269
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	59	85	778	45	32	1493
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	123	110	3925	1219	58	4284
Arrive On Green	0.07	0.07	0.77	0.77	0.03	0.84
Sat Flow, veh/h	1781	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	59	85	778	45	32	1493
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1585	1781	1702
Q Serve(g_s), s	3.8	6.3	5.0	0.8	2.1	8.0
Cycle Q Clear(g_c), s	3.8	6.3	5.0	0.8	2.1	8.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	123	110	3925	1219	58	4284
V/C Ratio(X)	0.48	0.77	0.20	0.04	0.55	0.35
Avail Cap(c_a), veh/h	282	251	3925	1219	186	4284
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.98	0.98	0.82	0.82
Uniform Delay (d), s/veh	53.8	54.9	3.8	3.3	57.2	2.2
Incr Delay (d2), s/veh	1.1	4.3	0.1	0.1	2.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	5.6	1.2	0.2	1.0	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.8	59.2	3.9	3.4	59.6	2.4
LnGrp LOS	D	E	A	A	E	A
Approach Vol, veh/h	144		823			1525
Approach Delay, s/veh	57.4		3.9			3.6
Approach LOS	E		A			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		107.7		12.3	8.4	99.3
Change Period (Y+Rc), s		7.0		4.0	4.5	7.0
Max Green Setting (Gmax), s		90.0		19.0	12.5	73.0
Max Q Clear Time (g_c+I1), s		10.0		8.3	4.1	7.0
Green Ext Time (p_c), s		3.6		0.1	0.0	1.6
Intersection Summary						
HCM 6th Ctrl Delay			6.8			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

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Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑			
Traffic Volume (veh/h)	50	72	661	38	27	1269			
Future Volume (veh/h)	50	72	661	38	27	1269			
Number	7	14	6	16	5	2			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00		1.00	1.00				
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No		No			No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	59	85	778	45	32	1493			
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	123	110	3925	1219	58	4284			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.07	0.07	0.77	0.77	0.03	0.84			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	54.8	59.2	3.9	3.4	59.6	2.4			
Ln Grp LOS	D	E	A	A	E	A			
Approach Vol, veh/h	144		823			1525			
Approach Delay, s/veh	57.4		3.9			3.6			
Approach LOS	E		A			A			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4	5	6		
Case No			4.0		9.0	2.0	7.0		
Phs Duration (G+Y+Rc), s			107.7		12.3	8.4	99.3		
Change Period (Y+Rc), s			7.0		4.0	4.5	7.0		
Max Green (Gmax), s			90.0		19.0	12.5	73.0		
Max Allow Headway (MAH), s			2.7		2.0	1.6	2.7		
Max Q Clear (g_c+I1), s			10.0		8.3	4.1	7.0		
Green Ext Time (g_e), s			3.6		0.1	0.0	1.6		
Prob of Phs Call (p_c)			1.00		0.99	0.66	1.00		
Prob of Max Out (p_x)			0.00		0.00	0.00	0.00		
Left-Turn Movement Data									
Assigned Mvmt					7	5	1		
Mvmt Sat Flow, veh/h					1781	1781	0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			5274		0		5274		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	0	0	7	5	1	0	0
Lane Assignment					L	L (Prot)			

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

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Lanes in Grp	0	0	0	1	1	0	0	0
Grp Vol (v), veh/h	0	0	0	59	32	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.8	2.1	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.8	2.1	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	92.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	123	58	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.48	0.55	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	282	186	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.82	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	53.8	57.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.1	2.4	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	54.8	59.6	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.7	0.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.8	1.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.16	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	1493	0	0	0	778	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	8.0	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.0	0.0	0.0	0.0	5.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	4284	0	0	0	3925	0	0
V/C Ratio (X)	0.00	0.35	0.00	0.00	0.00	0.20	0.00	0.00
Avail Cap (c_a), veh/h	0	4284	0	0	0	3925	0	0
Upstream Filter (I)	0.00	0.82	0.00	0.00	0.00	0.98	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.2	0.0	0.0	0.0	3.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.4	0.0	0.0	0.0	3.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.0	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.0	0.0	0.0	0.0	1.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	85	0	45	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	6.3	0.0	0.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.3	0.0	0.8	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	110	0	1219	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.77	0.00	0.04	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	251	0	1219	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.98	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	54.9	0.0	3.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.3	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	59.2	0.0	3.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	5.5	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	5.6	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.15	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↖	↕	↕	
Traffic Vol, veh/h	0	8	7	476	923	7
Future Vol, veh/h	0	8	7	476	923	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	40	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	9	8	535	1037	8

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	523	1045	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	499	661	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	499	661	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.3	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	661	-	499	-	-
HCM Lane V/C Ratio	0.012	-	0.018	-	-
HCM Control Delay (s)	10.5	-	12.3	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	395	1	0	679	5	5
Future Vol, veh/h	395	1	0	679	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	95	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	465	1	0	799	6	6

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	466	0	866
Stage 1	-	-	-	-	466
Stage 2	-	-	-	-	400
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	1092	-	293
Stage 1	-	-	-	-	598
Stage 2	-	-	-	-	646
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1092	-	293
Mov Cap-2 Maneuver	-	-	-	-	293
Stage 1	-	-	-	-	598
Stage 2	-	-	-	-	646

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	424	-	-	1092	-
HCM Lane V/C Ratio	0.028	-	-	-	-
HCM Control Delay (s)	13.7	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th Signalized Intersection Summary
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↖	↗	↘↙	↘↖			↗↘	↗
Traffic Volume (veh/h)	0	0	0	523	2	115	474	277	0	2	279	266
Future Volume (veh/h)	0	0	0	523	2	115	474	277	0	2	279	266
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h				602	0	0	545	318	0	2	321	69
Peak Hour Factor				0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %				2	2	2	2	2	0	2	2	2
Cap, veh/h				901	0		773	2476	0	102	752	241
Arrive On Green				0.25	0.00	0.00	0.22	0.48	0.00	0.15	0.15	0.15
Sat Flow, veh/h				3563	0	1585	3456	5274	0	12	4946	1585
Grp Volume(v), veh/h				602	0	0	545	318	0	122	201	69
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	1861	1549	1585
Q Serve(g_s), s				5.6	0.0	0.0	5.3	1.3	0.0	0.0	2.2	1.4
Cycle Q Clear(g_c), s				5.6	0.0	0.0	5.3	1.3	0.0	2.2	2.2	1.4
Prop In Lane				1.00		1.00	1.00		0.00	0.02		1.00
Lane Grp Cap(c), veh/h				901	0		773	2476	0	383	471	241
V/C Ratio(X)				0.67	0.00		0.70	0.13	0.00	0.32	0.43	0.29
Avail Cap(c_a), veh/h				3889	0		2358	6271	0	2371	3804	1947
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh				12.3	0.0	0.0	13.1	5.2	0.0	14.1	14.1	13.8
Incr Delay (d2), s/veh				0.6	0.0	0.0	0.4	0.0	0.0	0.4	0.5	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.8	0.0	0.0	1.3	0.1	0.0	0.6	0.5	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				12.9	0.0	0.0	13.6	5.2	0.0	14.4	14.5	14.3
LnGrp LOS				B	A		B	A	A	B	B	B
Approach Vol, veh/h					602	A		863			392	
Approach Delay, s/veh					12.9			10.5			14.5	
Approach LOS					B			B			B	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		22.6			12.2	10.4		14.1				
Change Period (Y+Rc), s		4.8			4.0	4.8		4.8				
Max Green Setting (Gmax), s		45.0			25.0	45.0		40.0				
Max Q Clear Time (g_c+I1), s		3.3			7.3	4.2		7.6				
Green Ext Time (p_c), s		1.5			0.9	1.5		1.7				

Intersection Summary





















HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	523	2	115	474	277	0	2	279	266
Future Volume (veh/h)	0	0	0	523	2	115	474	277	0	2	279	266
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h				602	0	0	545	318	0	2	321	69
Peak Hour Factor				0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %				2	2	2	2	2	0	2	2	2
Opposing Right Turn Influence				Yes			Yes			Yes		
Cap, veh/h				901	0		773	2476	0	102	752	241
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.25	0.00	0.00	0.22	0.48	0.00	0.15	0.15	0.15
Unsig. Movement Delay												
Ln Grp Delay, s/veh				12.9	0.0	0.0	13.6	5.2	0.0	14.4	14.5	14.3
Ln Grp LOS				B	A		B	A	A	B	B	B
Approach Vol, veh/h					602			863			392	
Approach Delay, s/veh					12.9			10.5			14.5	
Approach LOS					B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8		5	6					
Case No			4.0	9.0		2.0	7.3					
Phs Duration (G+Y+Rc), s			22.6	14.1		12.2	10.4					
Change Period (Y+Rc), s			4.8	4.8		4.0	4.8					
Max Green (Gmax), s			45.0	40.0		25.0	45.0					
Max Allow Headway (MAH), s			4.2	3.3		2.6	4.1					
Max Q Clear (g_c+I1), s			3.3	7.6		7.3	4.2					
Green Ext Time (g_e), s			1.5	1.7		0.9	1.5					
Prob of Phs Call (p_c)			0.96	1.00		1.00	0.98					
Prob of Max Out (p_x)			0.00	0.00		0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt				3		5	1					
Mvmt Sat Flow, veh/h				3563		3456	12					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			5274	0			4946					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			0	1585			1585					
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	0	0				
Lane Assignment			L		L (Prot)	L+T						

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

02/20/2019

Lanes in Grp	0	0	2	0	2	1	0	0
Grp Vol (v), veh/h	0	0	602	0	545	122	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1728	1861	0	0
Q Serve Time (g_s), s	0.0	0.0	5.6	0.0	5.3	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	5.6	0.0	5.3	2.2	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	1078	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.02	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	901	0	773	383	0	0
V/C Ratio (X)	0.00	0.00	0.67	0.00	0.70	0.32	0.00	0.00
Avail Cap (c_a), veh/h	0	0	3889	0	2358	2371	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	12.3	0.0	13.1	14.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.0	0.4	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	12.9	0.0	13.6	14.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.7	0.0	1.3	0.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.8	0.0	1.3	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.05	0.00	0.15	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	318	0	0	0	201	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1549	0	0
Q Serve Time (g_s), s	0.0	1.3	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.3	0.0	0.0	0.0	2.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	2476	0	0	0	471	0	0
V/C Ratio (X)	0.00	0.13	0.00	0.00	0.00	0.43	0.00	0.00
Avail Cap (c_a), veh/h	0	6271	0	0	0	3804	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.2	0.0	0.0	0.0	14.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.2	0.0	0.0	0.0	14.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	69	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	401	0	0	241	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1730	0	0	1947	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	14.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	12.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	1	382	0	0	0	0	592	46	142	660	0
Future Volume (veh/h)	159	1	382	0	0	0	0	592	46	142	660	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No					No		No			
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	118	0	322				0	658	18	158	733	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	338	0	602				0	1494	422	408	2602	0
Arrive On Green	0.19	0.00	0.19				0.00	0.27	0.27	0.12	0.51	0.00
Sat Flow, veh/h	1781	0	3170				0	5611	1585	3456	5274	0
Grp Volume(v), veh/h	118	0	322				0	658	18	158	733	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1870	1585	1728	1702	0
Q Serve(g_s), s	1.8	0.0	2.9				0.0	3.1	0.3	1.3	2.6	0.0
Cycle Q Clear(g_c), s	1.8	0.0	2.9				0.0	3.1	0.3	1.3	2.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	338	0	602				0	1494	422	408	2602	0
V/C Ratio(X)	0.35	0.00	0.53				0.00	0.44	0.04	0.39	0.28	0.00
Avail Cap(c_a), veh/h	2231	0	3971				0	7906	2233	2705	7195	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.2	0.0	11.7				0.0	9.7	8.7	13.0	4.5	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.5				0.0	0.2	0.0	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.8				0.0	0.6	0.0	0.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.7	0.0	12.2				0.0	9.9	8.7	13.2	4.5	0.0
LnGrp LOS	B	A	B				A	A	A	B	A	A
Approach Vol, veh/h		440						676			891	
Approach Delay, s/veh		12.1						9.9			6.1	
Approach LOS		B						A			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	7.8	13.3	10.9	21.1								
Change Period (Y+Rc), s	4.0	4.8	4.8	4.8								
Max Green Setting (Gmax), s	25.0	45.0	40.0	45.0								
Max Q Clear Time (g_c+I), s	13.3	5.1	4.9	4.6								
Green Ext Time (p_c), s	0.2	3.4	1.3	3.8								

Intersection Summary

HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Ramp/I-10 EB On Ramp

02/20/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	1	382	0	0	0	0	592	46	142	660	0
Future Volume (veh/h)	159	1	382	0	0	0	0	592	46	142	660	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	118	0	322				0	658	18	158	733	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	338	0	602				0	1494	422	408	2602	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.19	0.00	0.19				0.00	0.27	0.27	0.12	0.51	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	11.7	0.0	12.2				0.0	9.9	8.7	13.2	4.5	0.0
Ln Grp LOS	B	A	B				A	A	A	B	A	A
Approach Vol, veh/h		440						676			891	
Approach Delay, s/veh		12.1						9.9			6.1	
Approach LOS		B						A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		7.8	13.3		10.9		21.1					
Change Period (Y+Rc), s		4.0	4.8		4.8		4.8					
Max Green (Gmax), s		25.0	45.0		40.0		45.0					
Max Allow Headway (MAH), s		2.6	4.2		3.5		4.2					
Max Q Clear (g_c+I1), s		3.3	5.1		4.9		4.6					
Green Ext Time (g_e), s		0.2	3.4		1.3		3.8					
Prob of Phs Call (p_c)		0.75	1.00		0.98		1.00					
Prob of Max Out (p_x)		0.00	0.00		0.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5611		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis

2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

02/20/2019

Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	158	0	0	118	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	1.3	0.0	0.0	1.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	1.3	0.0	0.0	1.8	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	408	0	0	338	0	0	0	0
V/C Ratio (X)	0.39	0.00	0.00	0.35	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	2705	0	0	2231	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	13.0	0.0	0.0	11.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.2	0.0	0.0	11.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.0	0.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	0.0	0.6	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.00	0.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	658	0	0	0	733	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	3.1	0.0	0.0	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.1	0.0	0.0	0.0	2.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	1494	0	0	0	2602	0	0
V/C Ratio (X)	0.00	0.44	0.00	0.00	0.00	0.28	0.00	0.00
Avail Cap (c_a), veh/h	0	7906	0	0	0	7195	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.7	0.0	0.0	0.0	4.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.9	0.0	0.0	0.0	4.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	0.0	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	18	0	322	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.3	0.0	2.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	2.9	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	422	0	602	0	0	0	0
V/C Ratio (X)	0.00	0.04	0.00	0.53	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	2233	0	3971	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.7	0.0	11.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.7	0.0	12.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.16	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.7
HCM 6th LOS	A

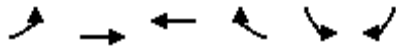
Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: Ramon Rd & Rattler Rd

02/20/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖ ↗	↑ ↑ ↑	↑ ↑ ↑	↖ ↗	↖ ↗	↖	
Traffic Volume (veh/h)	46	992	1125	77	73	42	
Future Volume (veh/h)	46	992	1125	77	73	42	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	49	1067	1210	58	78	10	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	162	3907	3234	1107	231	103	
Arrive On Green	0.05	0.77	0.63	0.63	0.06	0.06	
Sat Flow, veh/h	3456	5274	5274	1585	3563	1585	
Grp Volume(v), veh/h	49	1067	1210	58	78	10	
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1585	1781	1585	
Q Serve(g_s), s	0.8	3.6	6.7	0.7	1.2	0.3	
Cycle Q Clear(g_c), s	0.8	3.6	6.7	0.7	1.2	0.3	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	162	3907	3234	1107	231	103	
V/C Ratio(X)	0.30	0.27	0.37	0.05	0.34	0.10	
Avail Cap(c_a), veh/h	881	3907	3234	1107	2120	943	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	27.1	2.1	5.2	2.8	26.3	25.9	
Incr Delay (d2), s/veh	1.0	0.2	0.3	0.1	0.9	0.4	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.3	0.1	1.1	0.1	0.5	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	28.1	2.2	5.5	2.9	27.1	26.3	
LnGrp LOS	C	A	A	A	C	C	
Approach Vol, veh/h		1116	1268		88		
Approach Delay, s/veh		3.4	5.4		27.1		
Approach LOS		A	A		C		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				50.0	8.8	7.8	42.2
Change Period (Y+Rc), s				5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s				45.0	35.0	15.0	29.0
Max Q Clear Time (g_c+I1), s				5.6	3.2	2.8	8.7
Green Ext Time (p_c), s				7.8	0.3	0.1	7.8
Intersection Summary							
HCM 6th Ctrl Delay			5.2				
HCM 6th LOS			A				
Notes							
User approved volume balancing among the lanes for turning movement.							

HCM 6th Signalized Intersection Capacity Analysis
3: Ramon Rd & Rattler Rd

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖↗	↑↑↑	↑↑↑	↖	↖↗	↖			
Traffic Volume (veh/h)	46	992	1125	77	73	42			
Future Volume (veh/h)	46	992	1125	77	73	42			
Number	7	4	8	18	1	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	49	1067	1210	58	78	10			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	162	3907	3234	1107	231	103			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.05	0.77	0.63	0.63	0.06	0.06			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	28.1	2.2	5.5	2.9	27.1	26.3			
Ln Grp LOS	C	A	A	A	C	C			
Approach Vol, veh/h		1116	1268		88				
Approach Delay, s/veh		3.4	5.4		27.1				
Approach LOS		A	A		C				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		6			4			7	8
Case No		9.0			4.0			2.0	7.0
Phs Duration (G+Y+Rc), s		8.8			50.0			7.8	42.2
Change Period (Y+Rc), s		5.0			5.0			5.0	5.0
Max Green (Gmax), s		35.0			45.0			15.0	29.0
Max Allow Headway (MAH), s		3.8			4.7			3.6	4.7
Max Q Clear (g_c+I1), s		3.2			5.6			2.8	8.7
Green Ext Time (g_e), s		0.3			7.8			0.1	7.8
Prob of Phs Call (p_c)		0.76			1.00			0.55	1.00
Prob of Max Out (p_x)		0.00			0.00			0.00	0.00
Left-Turn Movement Data									
Assigned Mvmt		1						7	3
Mvmt Sat Flow, veh/h		3563						3456	0
Through Movement Data									
Assigned Mvmt		6			4				8
Mvmt Sat Flow, veh/h		0			5274				5274
Right-Turn Movement Data									
Assigned Mvmt		16			14				18
Mvmt Sat Flow, veh/h		1585			0				1585
Left Lane Group Data									
Assigned Mvmt		1	0	0	0	0	0	7	3
Lane Assignment		L						L (Prot)	

HCM 6th Signalized Intersection Capacity Analysis
 3: Ramon Rd & Rattler Rd

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Lanes in Grp	2	0	0	0	0	0	2	0
Grp Vol (v), veh/h	78	0	0	0	0	0	49	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	0	0	0	1728	0
Q Serve Time (g_s), s	1.2	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	1.2	0.0	0.0	0.0	0.0	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1781	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	37.2
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	231	0	0	0	0	0	162	0
V/C Ratio (X)	0.34	0.00	0.00	0.00	0.00	0.00	0.30	0.00
Avail Cap (c_a), veh/h	2120	0	0	0	0	0	881	0
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.3	0.0	0.0	0.0	0.0	0.0	27.1	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	27.1	0.0	0.0	0.0	0.0	0.0	28.1	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	0.0	0.0	0.0	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
%ile Back of Q (50%), veh/ln	0.5	0.0	0.0	0.0	0.0	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.00	0.00	0.00	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	6	0	0	4	0	0	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1067	0	0	0	1210
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	3.6	0.0	0.0	0.0	6.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.6	0.0	0.0	0.0	6.7
Lane Grp Cap (c), veh/h	0	0	0	3907	0	0	0	3234
V/C Ratio (X)	0.00	0.00	0.00	0.27	0.00	0.00	0.00	0.37
Avail Cap (c_a), veh/h	0	0	0	3907	0	0	0	3234
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	2.1	0.0	0.0	0.0	5.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	2.2	0.0	0.0	0.0	5.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis 3: Ramon Rd & Rattler Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	16	0	0	14	0	0	0	18
Lane Assignment	R							R
Lanes in Grp	1	0	0	0	0	0	0	1
Grp Vol (v), veh/h	10	0	0	0	0	0	0	58
Grp Sat Flow (s), veh/h/ln	1585	0	0	0	0	0	0	1585
Q Serve Time (g_s), s	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear Time (g_c), s	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.8
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	103	0	0	0	0	0	0	1107
V/C Ratio (X)	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Avail Cap (c_a), veh/h	943	0	0	0	0	0	0	1107
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	25.9	0.0	0.0	0.0	0.0	0.0	0.0	2.8
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.3	0.0	0.0	0.0	0.0	0.0	0.0	2.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Bob Hope Dr & Ramon Rd

























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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	55	738	208	82	338	20	285	563	241	60	397	533
Future Volume (veh/h)	55	738	208	82	338	20	285	563	241	60	397	533
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	769	97	85	352	6	297	586	72	62	414	265
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	319	976	436	370	1028	459	418	1229	382	361	1144	355
Arrive On Green	0.09	0.27	0.27	0.11	0.29	0.29	0.12	0.24	0.24	0.10	0.22	0.22
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	57	769	97	85	352	6	297	586	72	62	414	265
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	1.4	18.2	4.3	2.0	7.1	0.2	7.5	8.9	3.3	1.5	6.2	14.1
Cycle Q Clear(g_c), s	1.4	18.2	4.3	2.0	7.1	0.2	7.5	8.9	3.3	1.5	6.2	14.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	319	976	436	370	1028	459	418	1229	382	361	1144	355
V/C Ratio(X)	0.18	0.79	0.22	0.23	0.34	0.01	0.71	0.48	0.19	0.17	0.36	0.75
Avail Cap(c_a), veh/h	761	1565	698	761	1565	698	571	2530	785	1332	2530	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	30.5	25.4	37.1	25.5	23.0	38.4	29.6	27.4	37.1	29.7	32.8
Incr Delay (d2), s/veh	0.1	1.5	0.3	0.1	0.2	0.0	1.2	0.3	0.3	0.1	0.2	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.2	1.5	0.8	2.7	0.1	3.0	3.4	1.2	0.6	2.4	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.1	31.9	25.7	37.2	25.6	23.0	39.6	29.9	27.7	37.2	30.0	36.6
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h		923			443			955			741	
Approach Delay, s/veh		31.7			27.8			32.8			32.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	29.4	15.1	31.5	16.4	27.9	13.8	32.8				
Change Period (Y+Rc), s	5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5				
Max Green Setting (Gmax), s	35.0	45.0	20.0	40.0	15.0	45.0	20.0	40.0				
Max Q Clear Time (g_c+1), s	13.5	10.9	4.0	20.2	9.5	16.1	3.4	9.1				
Green Ext Time (p_c), s	0.1	4.8	0.1	4.8	0.2	4.2	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay											31.8	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
4: Bob Hope Dr & Ramon Rd

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	738	208	82	338	20	285	563	241	60	397	533
Future Volume (veh/h)	55	738	208	82	338	20	285	563	241	60	397	533
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	769	97	85	352	6	297	586	72	62	414	265
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	319	976	436	370	1028	459	418	1229	382	361	1144	355
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.27	0.27	0.11	0.29	0.29	0.12	0.24	0.24	0.10	0.22	0.22
Unsig. Movement Delay												
Ln Grp Delay, s/veh	38.1	31.9	25.7	37.2	25.6	23.0	39.6	29.9	27.7	37.2	30.0	36.6
Ln Grp LOS	D	C	C	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h		923			443			955			741	
Approach Delay, s/veh		31.7			27.8			32.8			32.9	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.9	29.4	15.1	31.5	16.4	27.9	13.8	32.8			
Change Period (Y+Rc), s		5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5			
Max Green (Gmax), s		35.0	45.0	20.0	40.0	15.0	45.0	20.0	40.0			
Max Allow Headway (MAH), s		2.1	5.1	2.1	4.6	2.1	4.9	2.1	4.7			
Max Q Clear (g_c+I1), s		3.5	10.9	4.0	20.2	9.5	16.1	3.4	9.1			
Green Ext Time (g_e), s		0.1	4.8	0.1	4.8	0.2	4.2	0.0	2.0			
Prob of Phs Call (p_c)		0.79	1.00	0.88	1.00	1.00	1.00	0.76	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	62	0	85	0	297	0	57	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	1.5	0.0	2.0	0.0	7.5	0.0	1.4	0.0
Cycle Q Clear Time (g_c), s	1.5	0.0	2.0	0.0	7.5	0.0	1.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	361	0	370	0	418	0	319	0
V/C Ratio (X)	0.17	0.00	0.23	0.00	0.71	0.00	0.18	0.00
Avail Cap (c_a), veh/h	1332	0	761	0	571	0	761	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	37.1	0.0	37.1	0.0	38.4	0.0	38.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	1.2	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	37.2	0.0	37.2	0.0	39.6	0.0	38.1	0.0
1st-Term Q (Q1), veh/ln	0.6	0.0	0.8	0.0	2.9	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.6	0.0	0.8	0.0	3.0	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.06	0.00	0.37	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	586	0	769	0	414	0	352
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	8.9	0.0	18.2	0.0	6.2	0.0	7.1
Cycle Q Clear Time (g_c), s	0.0	8.9	0.0	18.2	0.0	6.2	0.0	7.1
Lane Grp Cap (c), veh/h	0	1229	0	976	0	1144	0	1028
V/C Ratio (X)	0.00	0.48	0.00	0.79	0.00	0.36	0.00	0.34
Avail Cap (c_a), veh/h	0	2530	0	1565	0	2530	0	1565
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.6	0.0	30.5	0.0	29.7	0.0	25.5
Incr Delay (d2), s/veh	0.0	0.3	0.0	1.5	0.0	0.2	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.9	0.0	31.9	0.0	30.0	0.0	25.6
1st-Term Q (Q1), veh/ln	0.0	3.3	0.0	7.0	0.0	2.3	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.4	0.0	7.2	0.0	2.4	0.0	2.7
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.15	0.00	0.05	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	72	0	97	0	265	0	6
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	3.3	0.0	4.3	0.0	14.1	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	3.3	0.0	4.3	0.0	14.1	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	382	0	436	0	355	0	459
V/C Ratio (X)	0.00	0.19	0.00	0.22	0.00	0.75	0.00	0.01
Avail Cap (c_a), veh/h	0	785	0	698	0	785	0	698
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.4	0.0	25.4	0.0	32.8	0.0	23.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.3	0.0	3.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.7	0.0	25.7	0.0	36.6	0.0	23.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	1.5	0.0	5.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.2	0.0	1.5	0.0	5.3	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.03	0.00	0.59	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
5: Bob Hope Dr & Dinah Shore Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑	↗	↖	↑↑	↗	↖↗	↑↑↑	↗	↖↗	↑↑↑	↖↗
Traffic Volume (veh/h)	69	560	152	111	614	197	235	682	182	136	440	67
Future Volume (veh/h)	69	560	152	111	614	197	235	682	182	136	440	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	571	77	113	627	61	240	696	0	139	449	68
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	864	385	147	949	423	362	1203		266	931	138
Arrive On Green	0.06	0.24	0.24	0.08	0.27	0.27	0.10	0.24	0.00	0.08	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	5106	1585	3456	4478	663
Grp Volume(v), veh/h	70	571	77	113	627	61	240	696	0	139	339	178
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1585	1728	1702	1737
Q Serve(g_s), s	2.2	8.4	2.2	3.6	9.1	1.7	3.9	7.0	0.0	2.2	5.1	5.3
Cycle Q Clear(g_c), s	2.2	8.4	2.2	3.6	9.1	1.7	3.9	7.0	0.0	2.2	5.1	5.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	104	864	385	147	949	423	362	1203		266	707	361
V/C Ratio(X)	0.67	0.66	0.20	0.77	0.66	0.14	0.66	0.58		0.52	0.48	0.49
Avail Cap(c_a), veh/h	614	2144	956	614	2144	956	1191	3960		1191	2640	1347
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	19.8	17.5	26.1	18.9	16.2	25.0	19.6	0.0	25.7	20.2	20.3
Incr Delay (d2), s/veh	2.8	0.9	0.3	3.2	0.8	0.2	0.8	0.4	0.0	0.6	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.0	0.7	1.5	3.2	0.5	1.4	2.3	0.0	0.8	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	20.7	17.7	29.3	19.7	16.4	25.8	20.1	0.0	26.3	20.7	21.3
LnGrp LOS	C	C	B	C	B	B	C	C		C	C	C
Approach Vol, veh/h		718			801			936	A		656	
Approach Delay, s/veh		21.2			20.8			21.5			22.1	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	20.2	8.8	20.6	10.1	18.6	7.4	22.0				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0				
Max Q Clear Time (g_c+1), s	14.2	9.0	5.6	10.4	5.9	7.3	4.2	11.1				
Green Ext Time (p_c), s	0.2	4.7	0.1	3.7	0.3	3.0	0.1	4.0				

Intersection Summary

























HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
5: Bob Hope Dr & Dinah Shore Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	560	152	111	614	197	235	682	182	136	440	67
Future Volume (veh/h)	69	560	152	111	614	197	235	682	182	136	440	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	571	77	113	627	61	240	696	0	139	449	68
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	104	864	385	147	949	423	362	1203		266	931	138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.24	0.24	0.08	0.27	0.27	0.10	0.24	0.00	0.08	0.21	0.21
Unsig. Movement Delay												
Ln Grp Delay, s/veh	29.6	20.7	17.7	29.3	19.7	16.4	25.8	20.1	0.0	26.3	20.7	21.3
Ln Grp LOS	C	C	B	C	B	B	C	C		C	C	C
Approach Vol, veh/h		718			801			936			656	
Approach Delay, s/veh		21.2			20.8			21.5			22.1	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		8.5	20.2	8.8	20.6	10.1	18.6	7.4	22.0			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.8	2.7	4.7			
Max Q Clear (g_c+I1), s		4.2	9.0	5.6	10.4	5.9	7.3	4.2	11.1			
Green Ext Time (g_e), s		0.2	4.7	0.1	3.7	0.3	3.0	0.1	4.0			
Prob of Phs Call (p_c)		0.89	1.00	0.84	1.00	0.98	1.00	0.68	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4478		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		663		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 5: Bob Hope Dr & Dinah Shore Dr

02/20/2019

Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	139	0	113	0	240	0	70	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	2.2	0.0	3.6	0.0	3.9	0.0	2.2	0.0
Cycle Q Clear Time (g_c), s	2.2	0.0	3.6	0.0	3.9	0.0	2.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	266	0	147	0	362	0	104	0
V/C Ratio (X)	0.52	0.00	0.77	0.00	0.66	0.00	0.67	0.00
Avail Cap (c_a), veh/h	1191	0	614	0	1191	0	614	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	25.7	0.0	26.1	0.0	25.0	0.0	26.8	0.0
Incr Delay (d2), s/veh	0.6	0.0	3.2	0.0	0.8	0.0	2.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.3	0.0	29.3	0.0	25.8	0.0	29.6	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.3	0.0	1.4	0.0	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.8	0.0	1.5	0.0	1.4	0.0	0.9	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.16	0.00	0.14	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	696	0	571	0	339	0	627
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	7.0	0.0	8.4	0.0	5.1	0.0	9.1
Cycle Q Clear Time (g_c), s	0.0	7.0	0.0	8.4	0.0	5.1	0.0	9.1
Lane Grp Cap (c), veh/h	0	1203	0	864	0	707	0	949
V/C Ratio (X)	0.00	0.58	0.00	0.66	0.00	0.48	0.00	0.66
Avail Cap (c_a), veh/h	0	3960	0	2144	0	2640	0	2144
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.6	0.0	19.8	0.0	20.2	0.0	18.9
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.9	0.0	0.5	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.1	0.0	20.7	0.0	20.7	0.0	19.7
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	2.9	0.0	1.6	0.0	3.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

5: Bob Hope Dr & Dinah Shore Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	3.0	0.0	1.7	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.02	0.00	0.02	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	77	0	178	0	61
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1737	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	2.2	0.0	5.3	0.0	1.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.2	0.0	5.3	0.0	1.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.38	0.00	1.00
Lane Grp Cap (c), veh/h	0	374	0	385	0	361	0	423
V/C Ratio (X)	0.00	0.00	0.00	0.20	0.00	0.49	0.00	0.14
Avail Cap (c_a), veh/h	0	1229	0	956	0	1347	0	956
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	17.5	0.0	20.3	0.0	16.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	1.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	17.7	0.0	21.3	0.0	16.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.7	0.0	1.7	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.7	0.0	1.8	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.14	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Monterey Ave & Varner Rd

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘
Traffic Volume (veh/h)	33	78	213	491	192	172	238	423	82	34	430	13
Future Volume (veh/h)	33	78	213	491	192	172	238	423	82	34	430	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	80	119	506	198	177	245	436	0	35	443	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	156	264	371	489	218	1063	1944		112	1042	
Arrive On Green	0.06	0.08	0.08	0.11	0.14	0.14	0.31	0.55	0.00	0.06	0.29	0.00
Sat Flow, veh/h	1781	1870	3170	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	34	80	119	506	198	177	245	436	0	35	443	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.2	4.9	4.3	12.9	6.1	13.0	6.3	7.6	0.0	2.3	12.1	0.0
Cycle Q Clear(g_c), s	2.2	4.9	4.3	12.9	6.1	13.0	6.3	7.6	0.0	2.3	12.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	156	264	371	489	218	1063	1944		112	1042	
V/C Ratio(X)	0.31	0.51	0.45	1.36	0.40	0.81	0.23	0.22		0.31	0.42	
Avail Cap(c_a), veh/h	193	577	977	371	1066	476	1063	1944		193	1042	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.88	0.88	0.88	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.8	52.7	52.4	53.6	47.2	50.2	31.0	14.0	0.0	53.7	34.2	0.0
Incr Delay (d2), s/veh	0.6	2.6	1.2	177.7	0.5	6.3	0.1	0.3	0.0	0.6	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	1.7	14.5	2.6	5.3	2.7	3.1	0.0	1.0	5.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.4	55.3	53.6	231.2	47.7	56.5	31.0	14.3	0.0	54.3	35.5	0.0
LnGrp LOS	D	E	D	F	D	E	C	B		D	D	
Approach Vol, veh/h		233			881			681	A		478	A
Approach Delay, s/veh		54.3			154.9			20.3			36.9	
Approach LOS		D			F			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	71.8	19.4	15.8	43.1	41.7	12.2	23.0				
Change Period (Y+Rc), s	5.4	6.2	6.5	* 5.8	6.2	* 6.5	* 4.7	6.5				
Max Green Setting (Gmax), s	13.0	35.2	12.0	* 37	13.0	* 35	* 13	36.0				
Max Q Clear Time (g_c+14), s	14.3	9.6	14.9	6.9	8.3	14.1	4.2	15.0				
Green Ext Time (p_c), s	0.0	3.0	0.0	0.8	0.3	2.9	0.0	1.5				

Intersection Summary

























HCM 6th Ctrl Delay	79.4
HCM 6th LOS	E

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	78	213	491	192	172	238	423	82	34	430	13
Future Volume (veh/h)	33	78	213	491	192	172	238	423	82	34	430	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	80	119	506	198	177	245	436	0	35	443	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	111	156	264	371	489	218	1063	1944		112	1042	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.08	0.08	0.11	0.14	0.14	0.31	0.55	0.00	0.06	0.29	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	54.4	55.3	53.6	231.2	47.7	56.5	31.0	14.3	0.0	54.3	35.5	0.0
Ln Grp LOS	D	E	D	F	D	E	C	B		D	D	
Approach Vol, veh/h		233			881			681			478	
Approach Delay, s/veh		54.3			154.9			20.3			36.9	
Approach LOS		D			F			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	3.0	3.0	2.0	3.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		13.0	71.8	15.8	19.4	41.7	43.1	12.2	23.0			
Change Period (Y+Rc), s		5.4	6.2	* 5.8	6.5	* 6.5	6.2	* 4.7	6.5			
Max Green (Gmax), s		13.0	35.2	* 37	12.0	* 35	13.0	* 13	36.0			
Max Allow Headway (MAH), s		2.3	5.2	4.2	2.1	5.2	3.3	2.1	4.3			
Max Q Clear (g_c+I1), s		4.3	9.6	6.9	14.9	14.1	8.3	4.2	15.0			
Green Ext Time (g_e), s		0.0	3.0	0.8	0.0	2.9	0.3	0.0	1.5			
Prob of Phs Call (p_c)		0.69	1.00	1.00	1.00	1.00	1.00	0.68	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	1.00	0.00	0.28	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1781			3456		3456	1781				
Through Movement Data												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			3554	1870		3554			3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			1585	3170		1585			1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		L (Prot)			L (Prot)		L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

02/20/2019

Lanes in Grp	1	0	0	2	0	2	1	0
Grp Vol (v), veh/h	35	0	0	506	0	245	34	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1728	0	1728	1781	0
Q Serve Time (g_s), s	2.3	0.0	0.0	12.9	0.0	6.3	2.2	0.0
Cycle Q Clear Time (g_c), s	2.3	0.0	0.0	12.9	0.0	6.3	2.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	112	0	0	371	0	1063	111	0
V/C Ratio (X)	0.31	0.00	0.00	1.36	0.00	0.23	0.31	0.00
Avail Cap (c_a), veh/h	193	0	0	371	0	1063	193	0
Upstream Filter (I)	1.00	0.00	0.00	0.88	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	53.7	0.0	0.0	53.6	0.0	31.0	53.8	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	177.7	0.0	0.1	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	54.3	0.0	0.0	231.2	0.0	31.0	54.4	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	0.0	5.4	0.0	2.7	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	9.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	0.0	14.5	0.0	2.7	1.0	0.0
%ile Storage Ratio (RQ%)	0.15	0.00	0.00	1.23	0.00	0.34	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	33.6	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	1	0	2	0	0	2
Grp Vol (v), veh/h	0	436	80	0	443	0	0	198
Grp Sat Flow (s), veh/h/ln	0	1777	1870	0	1777	0	0	1777
Q Serve Time (g_s), s	0.0	7.6	4.9	0.0	12.1	0.0	0.0	6.1
Cycle Q Clear Time (g_c), s	0.0	7.6	4.9	0.0	12.1	0.0	0.0	6.1
Lane Grp Cap (c), veh/h	0	1944	156	0	1042	0	0	489
V/C Ratio (X)	0.00	0.22	0.51	0.00	0.42	0.00	0.00	0.40
Avail Cap (c_a), veh/h	0	1944	577	0	1042	0	0	1066
Upstream Filter (I)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	0.88
Uniform Delay (d1), s/veh	0.0	14.0	52.7	0.0	34.2	0.0	0.0	47.2
Incr Delay (d2), s/veh	0.0	0.3	2.6	0.0	1.3	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.3	55.3	0.0	35.5	0.0	0.0	47.7
1st-Term Q (Q1), veh/ln	0.0	3.0	2.2	0.0	5.2	0.0	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Monterey Ave & Varner Rd

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	2.3	0.0	5.4	0.0	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.39	0.04	0.00	0.17	0.00	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		R	R		R			R
Lanes in Grp	0	1	2	0	1	0	0	1
Grp Vol (v), veh/h	0	0	119	0	0	0	0	177
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	0	1585
Q Serve Time (g_s), s	0.0	0.0	4.3	0.0	0.0	0.0	0.0	13.0
Cycle Q Clear Time (g_c), s	0.0	0.0	4.3	0.0	0.0	0.0	0.0	13.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	867	264	0	465	0	0	218
V/C Ratio (X)	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.81
Avail Cap (c_a), veh/h	0	867	977	0	465	0	0	476
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.88
Uniform Delay (d1), s/veh	0.0	0.0	52.4	0.0	0.0	0.0	0.0	50.2
Incr Delay (d2), s/veh	0.0	0.0	1.2	0.0	0.0	0.0	0.0	6.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	53.6	0.0	0.0	0.0	0.0	56.5
1st-Term Q (Q1), veh/ln	0.0	0.0	1.6	0.0	0.0	0.0	0.0	4.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.7	0.0	0.0	0.0	0.0	5.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.67
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	79.4
HCM 6th LOS	E

Notes

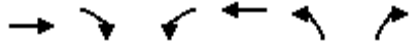
User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 7: I-10 WB Off Ramp & Varner Rd

02/20/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	↑
Traffic Volume (veh/h)	194	0	0	245	610	7
Future Volume (veh/h)	194	0	0	245	610	7
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	213	0	0	269	670	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	833	0	0	833	1120	514
Arrive On Green	0.23	0.00	0.00	0.23	0.32	0.32
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	213	0	0	269	670	1
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1728	1585
Q Serve(g_s), s	1.2	0.0	0.0	1.6	4.1	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.0	1.6	4.1	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	833	0	0	833	1120	514
V/C Ratio(X)	0.26	0.00	0.00	0.32	0.60	0.00
Avail Cap(c_a), veh/h	4903	0	0	4903	4086	1874
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	8.0	7.2	5.8
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.2	0.9	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.0	0.0	0.0	8.2	7.6	5.8
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	213			269	671	
Approach Delay, s/veh	8.0			8.2	7.6	
Approach LOS	A			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		11.7			11.7	13.6
Change Period (Y+Rc), s		5.8			5.8	5.4
Max Green Setting (Gmax), s		35.0			35.0	30.0
Max Q Clear Time (g_c+I1), s		3.2			3.6	6.1
Green Ext Time (p_c), s		1.0			1.3	2.2
Intersection Summary						
HCM 6th Ctrl Delay			7.8			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

02/20/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations	↑↑			↑↑	↗↘	↗			
Traffic Volume (veh/h)	194	0	0	245	610	7			
Future Volume (veh/h)	194	0	0	245	610	7			
Number	2	12	1	6	3	18			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)		1.00	1.00		1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870			
Adj Flow Rate, veh/h	213	0	0	269	670	1			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	2	0	0	2	2	2			
Opposing Right Turn Influence			No		Yes				
Cap, veh/h	833	0	0	833	1120	514			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.23	0.00	0.00	0.23	0.32	0.32			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	8.0	0.0	0.0	8.2	7.6	5.8			
Ln Grp LOS	A	A	A	A	A	A			
Approach Vol, veh/h	213			269	671				
Approach Delay, s/veh	8.0			8.2	7.6				
Approach LOS	A			A	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2	8			6		
Case No			8.0	9.0			8.0		
Phs Duration (G+Y+Rc), s			11.7	13.6			11.7		
Change Period (Y+Rc), s			5.8	5.4			5.8		
Max Green (Gmax), s			35.0	30.0			35.0		
Max Allow Headway (MAH), s			4.4	3.5			4.4		
Max Q Clear (g_c+I1), s			3.2	6.1			3.6		
Green Ext Time (g_e), s			1.0	2.2			1.3		
Prob of Phs Call (p_c)			0.78	0.99			0.85		
Prob of Max Out (p_x)			0.00	0.00			0.00		
Left-Turn Movement Data									
Assigned Mvmt			5	3			1		
Mvmt Sat Flow, veh/h			0	3456			0		
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			3741	0			3741		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			0	1585			0		
Left Lane Group Data									
Assigned Mvmt		0	5	3	0	0	1	0	0
Lane Assignment				L					

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

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Lanes in Grp	0	0	2	0	0	0	0	0
Grp Vol (v), veh/h	0	0	670	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1728	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	4.1	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1728	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	5.9	0.0	0.0	0.0	5.9	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1120	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.60	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	4086	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	213	0	0	0	269	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	1.2	0.0	0.0	0.0	1.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.2	0.0	0.0	0.0	1.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	833	0	0	0	833	0	0
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.32	0.00	0.00
Avail Cap (c_a), veh/h	0	4903	0	0	0	4903	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.9	0.0	0.0	0.0	8.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.0	0.0	0.0	0.0	8.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

7: I-10 WB Off Ramp & Varner Rd

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment	R							
Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	1	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	514	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1874	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	7.8
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary

8: Monterey Ave & I-10 EB Ramps

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	4	776	0	0	0	0	1432	639	168	916	0
Future Volume (veh/h)	44	4	776	0	0	0	0	1432	639	168	916	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	33	0	771				0	1523	326	179	974	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	482	0	858				0	2673	830	242	2249	0
Arrive On Green	0.27	0.00	0.27				0.00	0.52	0.52	0.07	0.63	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	33	0	771				0	1523	326	179	974	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	1.7	0.0	28.1				0.0	24.3	14.8	6.1	16.6	0.0
Cycle Q Clear(g_c), s	1.7	0.0	28.1				0.0	24.3	14.8	6.1	16.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	482	0	858				0	2673	830	242	2249	0
V/C Ratio(X)	0.07	0.00	0.90				0.00	0.57	0.39	0.74	0.43	0.00
Avail Cap(c_a), veh/h	638	0	1136				0	2673	830	461	2249	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.59	0.59	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.5	0.0	42.2				0.0	19.4	17.1	54.7	11.1	0.0
Incr Delay (d2), s/veh	0.0	0.0	7.4				0.0	0.5	0.8	4.4	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	11.8				0.0	9.5	5.5	2.8	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.6	0.0	49.6				0.0	19.9	18.0	59.1	11.8	0.0
LnGrp LOS	C	A	D				A	B	B	E	B	A
Approach Vol, veh/h		804						1849			1153	
Approach Delay, s/veh		48.9						19.6			19.1	
Approach LOS		D						B			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	33.1	68.6	38.3	81.7								
Change Period (Y+Rc), s	4.7	5.8	5.8	5.8								
Max Green Setting (Gmax), s	65.0	44.0	43.0	65.0								
Max Q Clear Time (g_c+I), s	18.6	26.3	30.1	18.6								
Green Ext Time (p_c), s	0.3	11.5	2.3	9.0								

Intersection Summary

HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
8: Monterey Ave & I-10 EB Ramps

02/20/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	4	776	0	0	0	0	1432	639	168	916	0
Future Volume (veh/h)	44	4	776	0	0	0	0	1432	639	168	916	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	33	0	771				0	1523	326	179	974	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	482	0	858				0	2673	830	242	2249	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.27	0.00	0.27				0.00	0.52	0.52	0.07	0.63	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	32.6	0.0	49.6				0.0	19.9	18.0	59.1	11.8	0.0
Ln Grp LOS	C	A	D				A	B	B	E	B	A
Approach Vol, veh/h		804						1849			1153	
Approach Delay, s/veh		48.9						19.6			19.1	
Approach LOS		D						B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		13.1	68.6		38.3		81.7					
Change Period (Y+Rc), s		* 4.7	5.8		5.8		5.8					
Max Green (Gmax), s		* 16	44.0		43.0		65.0					
Max Allow Headway (MAH), s		3.8	5.0		3.5		5.2					
Max Q Clear (g_c+I1), s		8.1	26.3		30.1		18.6					
Green Ext Time (g_e), s		0.3	11.5		2.3		9.0					
Prob of Phs Call (p_c)		1.00	1.00		1.00		1.00					
Prob of Max Out (p_x)		0.02	0.00		0.03		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5274		0		3647					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)				L						

HCM 6th Signalized Intersection Capacity Analysis
 8: Monterey Ave & I-10 EB Ramps

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Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	179	0	0	33	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	6.1	0.0	0.0	1.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	6.1	0.0	0.0	1.7	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	62.8	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	242	0	0	482	0	0	0	0
V/C Ratio (X)	0.74	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	461	0	0	638	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	54.7	0.0	0.0	32.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.1	0.0	0.0	32.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	2.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	2.8	0.0	0.0	0.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.20	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1523	0	0	0	974	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	24.3	0.0	0.0	0.0	16.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	24.3	0.0	0.0	0.0	16.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	2673	0	0	0	2249	0	0
V/C Ratio (X)	0.00	0.57	0.00	0.00	0.00	0.43	0.00	0.00
Avail Cap (c_a), veh/h	0	2673	0	0	0	2249	0	0
Upstream Filter (I)	0.00	0.59	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	19.4	0.0	0.0	0.0	11.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.9	0.0	0.0	0.0	11.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	9.4	0.0	0.0	0.0	6.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

8: Monterey Ave & I-10 EB Ramps

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	9.5	0.0	0.0	0.0	6.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.00	0.00	0.41	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	326	0	771	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	14.8	0.0	28.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.8	0.0	28.1	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	830	0	858	0	0	0	0
V/C Ratio (X)	0.00	0.39	0.00	0.90	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	830	0	1136	0	0	0	0
Upstream Filter (I)	0.00	0.59	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.1	0.0	42.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	7.4	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.0	0.0	49.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	10.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.9	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.5	0.0	11.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.41	0.00	3.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

9: Monterey Ave & Dinah Shore Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑	↖	↖↗	↑↑↖		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	521	327	355	49	351	479	379	1056	23	322	947	423
Future Volume (veh/h)	521	327	355	49	351	479	379	1056	23	322	947	423
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	537	337	112	51	362	0	391	1089	0	332	976	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	585	848	378	89	424		439	2268	0	380	2182	
Arrive On Green	0.17	0.24	0.24	0.05	0.12	0.00	0.13	0.44	0.00	0.11	0.43	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	5274	0	3456	5106	1585
Grp Volume(v), veh/h	537	337	112	51	362	0	391	1089	0	332	976	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1702	0	1728	1702	1585
Q Serve(g_s), s	21.1	11.0	8.0	3.9	13.8	0.0	15.4	20.8	0.0	13.1	18.7	0.0
Cycle Q Clear(g_c), s	21.1	11.0	8.0	3.9	13.8	0.0	15.4	20.8	0.0	13.1	18.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	585	848	378	89	424		439	2268	0	380	2182	
V/C Ratio(X)	0.92	0.40	0.30	0.58	0.85		0.89	0.48	0.00	0.87	0.45	
Avail Cap(c_a), veh/h	776	909	405	129	798		576	2268	0	526	2182	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	0.00	0.87	0.87	0.00	0.81	0.81	0.00
Uniform Delay (d), s/veh	56.4	44.2	43.0	64.1	59.6	0.0	59.3	27.1	0.0	60.5	28.0	0.0
Incr Delay (d2), s/veh	9.7	0.1	0.1	2.2	1.9	0.0	9.9	0.6	0.0	7.5	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	4.7	3.0	1.8	6.2	0.0	7.1	8.1	0.0	5.9	7.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.0	44.3	43.2	66.3	61.5	0.0	69.2	27.7	0.0	68.0	28.5	0.0
LnGrp LOS	E	D	D	E	E		E	C	A	E	C	
Approach Vol, veh/h		986			413	A		1480			1308	A
Approach Delay, s/veh		56.0			62.1			38.7			38.5	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	1.9	38.6	22.5	65.0	28.4	22.1	20.2	67.3				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	10.0	35.3	23.0	31.0	31.0	31.0	21.0	32.0				
Max Q Clear Time (g_c+1/3), s	10.0	13.0	17.4	20.7	23.1	15.8	15.1	22.8				
Green Ext Time (p_c), s	0.0	0.6	0.2	1.8	0.3	0.7	0.1	1.9				

Intersection Summary

























HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	521	327	355	49	351	479	379	1056	23	322	947	423
Future Volume (veh/h)	521	327	355	49	351	479	379	1056	23	322	947	423
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	537	337	112	51	362	0	391	1089	0	332	976	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	585	848	378	89	424		439	2268	0	380	2182	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.17	0.24	0.24	0.05	0.12	0.00	0.13	0.44	0.00	0.11	0.43	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	66.0	44.3	43.2	66.3	61.5	0.0	69.2	27.7	0.0	68.0	28.5	0.0
Ln Grp LOS	E	D	D	E	E		E	C	A	E	C	
Approach Vol, veh/h		986			413			1480			1308	
Approach Delay, s/veh		56.0			62.1			38.7			38.5	
Approach LOS		E			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		11.9	38.6	22.5	65.0	28.4	22.1	20.2	67.3			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		10.0	35.3	23.0	31.0	31.0	31.0	21.0	32.0			
Max Allow Headway (MAH), s		1.7	2.6	1.6	2.7	1.7	2.9	1.6	2.7			
Max Q Clear (g_c+I1), s		5.9	13.0	17.4	20.7	23.1	15.8	15.1	22.8			
Green Ext Time (g_e), s		0.0	0.6	0.2	1.8	0.3	0.7	0.1	1.9			
Prob of Phs Call (p_c)		0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		5274			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		0			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

9: Monterey Ave & Dinah Shore Dr

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Lanes in Grp	1	0	2	0	2	0	2	0
Grp Vol (v), veh/h	51	0	391	0	537	0	332	0
Grp Sat Flow (s), veh/h/ln	1781	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	3.9	0.0	15.4	0.0	21.1	0.0	13.1	0.0
Cycle Q Clear Time (g_c), s	3.9	0.0	15.4	0.0	21.1	0.0	13.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	89	0	439	0	585	0	380	0
V/C Ratio (X)	0.58	0.00	0.89	0.00	0.92	0.00	0.87	0.00
Avail Cap (c_a), veh/h	129	0	576	0	776	0	526	0
Upstream Filter (I)	1.00	0.00	0.87	0.00	0.82	0.00	0.81	0.00
Uniform Delay (d1), s/veh	64.1	0.0	59.3	0.0	56.4	0.0	60.5	0.0
Incr Delay (d2), s/veh	2.2	0.0	9.9	0.0	9.7	0.0	7.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	66.3	0.0	69.2	0.0	66.0	0.0	68.0	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	6.5	0.0	8.9	0.0	5.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.6	0.0	0.8	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	7.1	0.0	9.7	0.0	5.9	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.68	0.00	0.88	0.00	0.86	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	3
Grp Vol (v), veh/h	0	337	0	976	0	362	0	1089
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	11.0	0.0	18.7	0.0	13.8	0.0	20.8
Cycle Q Clear Time (g_c), s	0.0	11.0	0.0	18.7	0.0	13.8	0.0	20.8
Lane Grp Cap (c), veh/h	0	848	0	2182	0	424	0	2268
V/C Ratio (X)	0.00	0.40	0.00	0.45	0.00	0.85	0.00	0.48
Avail Cap (c_a), veh/h	0	909	0	2182	0	798	0	2268
Upstream Filter (I)	0.00	0.82	0.00	0.81	0.00	1.00	0.00	0.87
Uniform Delay (d1), s/veh	0.0	44.2	0.0	28.0	0.0	59.6	0.0	27.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.5	0.0	1.9	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	44.3	0.0	28.5	0.0	61.5	0.0	27.7
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	7.2	0.0	6.1	0.0	8.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.7	0.0	7.3	0.0	6.2	0.0	8.1
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.14	0.00	0.16	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	112	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	378	0	677	0	189	0	0
V/C Ratio (X)	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	405	0	677	0	356	0	0
Upstream Filter (I)	0.00	0.82	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	43.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	43.2	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 12: Portola Rd & Dinah Shore Dr

02/20/2019



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⬇	↑↑	↗	↘	↑↑	↖	↗
Traffic Volume (veh/h)	10	100	320	25	80	399	20
Future Volume (veh/h)	10	100	320	25	80	399	20
Initial Q (Qb), veh		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No	No		
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		109	0	27	87	434	22
Peak Hour Factor		0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %		2	2	2	2	2	2
Cap, veh/h		628		93	1353	870	399
Arrive On Green		0.18	0.00	0.05	0.38	0.25	0.25
Sat Flow, veh/h		3647	1585	1781	3647	3456	1585
Grp Volume(v), veh/h		109	0	27	87	434	22
Grp Sat Flow(s),veh/h/ln		1777	1585	1781	1777	1728	1585
Q Serve(g_s), s		1.0	0.0	0.6	0.6	4.2	0.4
Cycle Q Clear(g_c), s		1.0	0.0	0.6	0.6	4.2	0.4
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		628		93	1353	870	399
V/C Ratio(X)		0.17		0.29	0.06	0.50	0.06
Avail Cap(c_a), veh/h		3513		903	3873	3241	1486
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		13.8	0.0	18.0	7.8	12.6	11.2
Incr Delay (d2), s/veh		0.0	0.0	0.6	0.0	0.2	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.3	0.0	0.2	0.1	1.1	0.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh		13.8	0.0	18.6	7.8	12.8	11.2
LnGrp LOS		B		B	A	B	B
Approach Vol, veh/h		109	A		114	456	
Approach Delay, s/veh		13.8			10.3	12.7	
Approach LOS		B			B	B	
Timer - Assigned Phs		2			5	6	8
Phs Duration (G+Y+Rc), s		22.0			8.0	14.0	17.4
Change Period (Y+Rc), s		7.0			6.0	7.0	7.5
Max Green Setting (Gmax), s		43.0			20.0	39.0	37.0
Max Q Clear Time (g_c+I1), s		2.6			2.6	3.0	6.2
Green Ext Time (p_c), s		0.3			0.0	0.4	0.8

Intersection Summary

HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

02/20/2019



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↔	↑↑	↗	↖	↑↑	↖↗	↗		
Traffic Volume (veh/h)	10	100	320	25	80	399	20		
Future Volume (veh/h)	10	100	320	25	80	399	20		
Number		6	16	5	2	3	18		
Initial Q, veh		0	0	0	0	0	0		
Ped-Bike Adj (A_pbT)			1.00	1.00		1.00	1.00		
Parking Bus Adj		1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No	No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h		109	0	27	87	434	22		
Peak Hour Factor		0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %		2	2	2	2	2	2		
Opposing Right Turn Influence				Yes		Yes			
Cap, veh/h		628		93	1353	870	399		
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00		
Prop Arrive On Green		0.18	0.00	0.05	0.38	0.25	0.25		
Unsig. Movement Delay									
Ln Grp Delay, s/veh		13.8	0.0	18.6	7.8	12.8	11.2		
Ln Grp LOS		B		B	A	B	B		
Approach Vol, veh/h		109			114	456			
Approach Delay, s/veh		13.8			10.3	12.7			
Approach LOS		B			B	B			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2	8		5	6		
Case No			4.0	9.0		2.0	7.0		
Phs Duration (G+Y+Rc), s			22.0	17.4		8.0	14.0		
Change Period (Y+Rc), s			7.0	7.5		6.0	7.0		
Max Green (Gmax), s			43.0	37.0		20.0	39.0		
Max Allow Headway (MAH), s			3.9	2.7		2.7	3.9		
Max Q Clear (g_c+I1), s			2.6	6.2		2.6	3.0		
Green Ext Time (g_e), s			0.3	0.8		0.0	0.4		
Prob of Phs Call (p_c)			0.61	0.99		0.26	0.70		
Prob of Max Out (p_x)			0.00	0.00		0.00	0.00		
Left-Turn Movement Data									
Assigned Mvmt				3		5	1		
Mvmt Sat Flow, veh/h				3456		1781	0		
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			3647	0			3647		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			0	1585			1585		
Left Lane Group Data									
Assigned Mvmt		0	0	3	0	5	1	0	0
Lane Assignment				L		L (Prot)			

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

02/20/2019

Lanes in Grp	0	0	2	0	1	0	0	0
Grp Vol (v), veh/h	0	0	434	0	27	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1728	0	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	4.2	0.0	0.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	4.2	0.0	0.6	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1728	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	870	0	93	0	0	0
V/C Ratio (X)	0.00	0.00	0.50	0.00	0.29	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	3241	0	903	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	12.6	0.0	18.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	0.6	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	12.8	0.0	18.6	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.1	0.0	0.2	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.1	0.0	0.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	87	0	0	0	109	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.6	0.0	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.6	0.0	0.0	0.0	1.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1353	0	0	0	628	0	0
V/C Ratio (X)	0.00	0.06	0.00	0.00	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	3873	0	0	0	3513	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.8	0.0	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.8	0.0	0.0	0.0	13.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

12: Portola Rd & Dinah Shore Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	22	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	399	0	0	280	0	0
V/C Ratio (X)	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1486	0	0	1567	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	11.2	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	11.2	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

13: Date Palm Dr & Gerald Ford Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	39	27	235	56	166	31	606	251	111	413	45
Future Volume (veh/h)	52	39	27	235	56	166	31	606	251	111	413	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	43	30	162	201	184	34	673	279	123	459	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	129	82	253	266	225	49	1872	835	148	1884	204
Arrive On Green	0.06	0.06	0.06	0.14	0.14	0.14	0.03	0.53	0.53	0.08	0.58	0.58
Sat Flow, veh/h	1781	2088	1322	1781	1870	1585	1781	3554	1585	1781	3233	351
Grp Volume(v), veh/h	58	36	37	162	201	184	34	673	279	123	251	258
Grp Sat Flow(s),veh/h/ln	1781	1777	1632	1781	1870	1585	1781	1777	1585	1781	1777	1807
Q Serve(g_s), s	4.0	2.5	2.8	11.0	13.2	14.4	2.4	14.2	12.9	8.7	8.8	8.9
Cycle Q Clear(g_c), s	4.0	2.5	2.8	11.0	13.2	14.4	2.4	14.2	12.9	8.7	8.8	8.9
Prop In Lane	1.00		0.81	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	110	110	101	253	266	225	49	1872	835	148	1035	1053
V/C Ratio(X)	0.53	0.33	0.37	0.64	0.76	0.82	0.70	0.36	0.33	0.83	0.24	0.24
Avail Cap(c_a), veh/h	161	161	148	431	453	384	93	1872	835	274	1035	1053
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.80	0.80	0.80	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.2	57.5	57.6	51.8	52.8	53.3	61.7	17.7	17.4	57.8	13.0	13.0
Incr Delay (d2), s/veh	3.8	1.7	2.2	2.2	3.5	5.7	6.5	0.5	1.1	4.5	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.2	1.2	4.9	6.3	6.2	1.2	5.7	4.8	4.1	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.1	59.2	59.8	54.0	56.3	59.0	68.2	18.2	18.5	62.3	13.5	13.6
LnGrp LOS	E	E	E	D	E	E	E	B	B	E	B	B
Approach Vol, veh/h	131			547			986			632		
Approach Delay, s/veh	60.6			56.5			20.0			23.0		
Approach LOS	E			E			C			C		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	9.5	81.0	24.5		16.7	73.8	13.0					
Change Period (Y+Rc), s	6.0	6.4	6.3		6.0	6.4	5.1					
Max Green Setting (Gmax), s	42.0	42.0	31.0		19.7	42.0	11.6					
Max Q Clear Time (g_c+1/4), s	14.4	10.9	16.4		10.7	16.2	6.0					
Green Ext Time (p_c), s	0.0	6.1	1.8		0.1	10.9	0.2					

Intersection Summary
























HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 13: Date Palm Dr & Gerald Ford Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	39	27	235	56	166	31	606	251	111	413	45
Future Volume (veh/h)	52	39	27	235	56	166	31	606	251	111	413	45
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	43	30	162	201	184	34	673	279	123	459	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	110	129	82	253	266	225	49	1872	835	148	1884	204
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.06	0.06	0.14	0.14	0.14	0.03	0.53	0.53	0.08	0.58	0.58
Unsig. Movement Delay												
Ln Grp Delay, s/veh	62.1	59.2	59.8	54.0	56.3	59.0	68.2	18.2	18.5	62.3	13.5	13.6
Ln Grp LOS	E	E	E	D	E	E	E	B	B	E	B	B
Approach Vol, veh/h		131			547			986			632	
Approach Delay, s/veh		60.6			56.5			20.0			23.0	
Approach LOS		E			E			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	4.0	10.0	9.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		9.5	81.0	13.0	24.5	16.7	73.8					
Change Period (Y+Rc), s		6.0	6.4	5.1	6.3	6.0	6.4					
Max Green (Gmax), s		6.7	42.0	11.6	31.0	19.7	42.0					
Max Allow Headway (MAH), s		2.7	7.0	4.8	4.2	2.7	6.7					
Max Q Clear (g_c+I1), s		4.4	10.9	6.0	16.4	10.7	16.2					
Green Ext Time (g_e), s		0.0	6.1	0.2	1.8	0.1	10.9					
Prob of Phs Call (p_c)		0.70	1.00	0.99	1.00	0.99	1.00					
Prob of Max Out (p_x)		1.00	0.00	0.58	0.02	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		1781		1781	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3233	2088	1870		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			351	1322	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis
 13: Date Palm Dr & Gerald Ford Dr

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Lanes in Grp	1	0	1	1	1	0	0	0
Grp Vol (v), veh/h	34	0	58	162	123	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	2.4	0.0	4.0	11.0	8.7	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	2.4	0.0	4.0	11.0	8.7	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	49	0	110	253	148	0	0	0
V/C Ratio (X)	0.70	0.00	0.53	0.64	0.83	0.00	0.00	0.00
Avail Cap (c_a), veh/h	93	0	161	431	274	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.80	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	61.7	0.0	58.2	51.8	57.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	6.5	0.0	3.8	2.2	4.5	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	68.2	0.0	62.1	54.0	62.3	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.1	0.0	1.8	4.8	3.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.2	0.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	2.0	4.9	4.1	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.35	0.00	0.50	1.25	0.63	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T	T		T		
Lanes in Grp	0	1	1	1	0	2	0	0
Grp Vol (v), veh/h	0	251	36	201	0	673	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	1777	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	8.8	2.5	13.2	0.0	14.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.8	2.5	13.2	0.0	14.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	1035	110	266	0	1872	0	0
V/C Ratio (X)	0.00	0.24	0.33	0.76	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	1035	161	453	0	1872	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.80	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.0	57.5	52.8	0.0	17.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	1.7	3.5	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.5	59.2	56.3	0.0	18.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.4	1.1	6.0	0.0	5.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.1	0.3	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.5	1.2	6.3	0.0	5.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.04	0.03	0.00	0.07	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	T+R	R		R		
Lanes in Grp	0	1	1	1	0	1	0	0
Grp Vol (v), veh/h	0	258	37	184	0	279	0	0
Grp Sat Flow (s), veh/h/ln	0	1807	1632	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	8.9	2.8	14.4	0.0	12.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.9	2.8	14.4	0.0	12.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.19	0.81	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1053	101	225	0	835	0	0
V/C Ratio (X)	0.00	0.24	0.37	0.82	0.00	0.33	0.00	0.00
Avail Cap (c_a), veh/h	0	1053	148	384	0	835	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.80	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.0	57.6	53.3	0.0	17.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	2.2	5.7	0.0	1.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.6	59.8	59.0	0.0	18.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.5	1.2	5.8	0.0	4.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.1	0.4	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.6	1.2	6.2	0.0	4.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.05	0.03	0.00	1.44	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 14: Da Vall Dr & Gerald Ford Dr























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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	55	312	58	42	386	108	135	405	52	81	256	46
Future Volume (veh/h)	55	312	58	42	386	108	135	405	52	81	256	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	325	60	44	402	112	141	422	22	84	267	48
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	729	133	82	644	177	184	724	323	125	515	91
Arrive On Green	0.06	0.24	0.24	0.05	0.23	0.23	0.10	0.20	0.20	0.07	0.17	0.17
Sat Flow, veh/h	1781	3001	548	1781	2752	759	1781	3554	1585	1781	3016	535
Grp Volume(v), veh/h	57	191	194	44	258	256	141	422	22	84	156	159
Grp Sat Flow(s),veh/h/ln	1781	1777	1772	1781	1777	1734	1781	1777	1585	1781	1777	1774
Q Serve(g_s), s	1.5	4.4	4.5	1.2	6.3	6.4	3.7	5.2	0.5	2.2	3.8	3.9
Cycle Q Clear(g_c), s	1.5	4.4	4.5	1.2	6.3	6.4	3.7	5.2	0.5	2.2	3.8	3.9
Prop In Lane	1.00		0.31	1.00		0.44	1.00		1.00	1.00		0.30
Lane Grp Cap(c), veh/h	99	432	431	82	416	405	184	724	323	125	303	303
V/C Ratio(X)	0.58	0.44	0.45	0.53	0.62	0.63	0.77	0.58	0.07	0.67	0.51	0.53
Avail Cap(c_a), veh/h	741	1664	1659	741	1664	1623	741	2588	1154	741	1294	1292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.2	15.4	15.5	22.4	16.5	16.5	21.0	17.3	15.5	21.8	18.1	18.2
Incr Delay (d2), s/veh	2.0	0.7	0.7	2.0	1.5	1.6	2.5	0.7	0.1	2.3	1.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.4	1.5	0.4	2.1	2.1	1.4	1.8	0.2	0.9	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	16.1	16.2	24.4	18.0	18.2	23.5	18.0	15.5	24.1	19.5	19.6
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		442			558			585			399	
Approach Delay, s/veh		17.2			18.6			19.3			20.5	
Approach LOS		B			B			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	17.7	7.4	16.3	6.2	18.2	9.0	14.7				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0				
Max Q Clear Time (g_c+1), s	13.5	8.4	4.2	7.2	3.2	6.5	5.7	5.9				
Green Ext Time (p_c), s	0.0	2.9	0.1	2.7	0.0	2.1	0.1	1.7				
Intersection Summary												
HCM 6th Ctrl Delay											18.9	
HCM 6th LOS											B	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	312	58	42	386	108	135	405	52	81	256	46
Future Volume (veh/h)	55	312	58	42	386	108	135	405	52	81	256	46
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	325	60	44	402	112	141	422	22	84	267	48
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	99	729	133	82	644	177	184	724	323	125	515	91
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.24	0.24	0.05	0.23	0.23	0.10	0.20	0.20	0.07	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	24.1	16.1	16.2	24.4	18.0	18.2	23.5	18.0	15.5	24.1	19.5	19.6
Ln Grp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		442			558			585			399	
Approach Delay, s/veh		17.2			18.6			19.3			20.5	
Approach LOS		B			B			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		6.7	17.7	7.4	16.3	6.2	18.2	9.0	14.7			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0			
Max Allow Headway (MAH), s		2.7	4.9	2.7	4.9	2.7	4.9	2.7	5.0			
Max Q Clear (g_c+I1), s		3.5	8.4	4.2	7.2	3.2	6.5	5.7	5.9			
Green Ext Time (g_e), s		0.0	2.9	0.1	2.7	0.0	2.1	0.1	1.7			
Prob of Phs Call (p_c)		0.53	1.00	0.67	1.00	0.44	0.99	0.85	0.99			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2752		3554		3001		3016			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			759		1585		548		535			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	57	0	84	0	44	0	141	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.5	0.0	2.2	0.0	1.2	0.0	3.7	0.0
Cycle Q Clear Time (g_c), s	1.5	0.0	2.2	0.0	1.2	0.0	3.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	99	0	125	0	82	0	184	0
V/C Ratio (X)	0.58	0.00	0.67	0.00	0.53	0.00	0.77	0.00
Avail Cap (c_a), veh/h	741	0	741	0	741	0	741	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	22.2	0.0	21.8	0.0	22.4	0.0	21.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	2.3	0.0	2.0	0.0	2.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.1	0.0	24.1	0.0	24.4	0.0	23.5	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	0.8	0.0	0.4	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.6	0.0	0.9	0.0	0.4	0.0	1.4	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.16	0.00	0.11	0.00	0.18	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	258	0	422	0	191	0	156
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	6.3	0.0	5.2	0.0	4.4	0.0	3.8
Cycle Q Clear Time (g_c), s	0.0	6.3	0.0	5.2	0.0	4.4	0.0	3.8
Lane Grp Cap (c), veh/h	0	416	0	724	0	432	0	303
V/C Ratio (X)	0.00	0.62	0.00	0.58	0.00	0.44	0.00	0.51
Avail Cap (c_a), veh/h	0	1664	0	2588	0	1664	0	1294
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.5	0.0	17.3	0.0	15.4	0.0	18.1
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.7	0.0	0.7	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.0	0.0	18.0	0.0	16.1	0.0	19.5
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	1.7	0.0	1.3	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	1.8	0.0	1.4	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.03	0.00	0.01	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	256	0	22	0	194	0	159
Grp Sat Flow (s), veh/h/ln	0	1734	0	1585	0	1772	0	1774
Q Serve Time (g_s), s	0.0	6.4	0.0	0.5	0.0	4.5	0.0	3.9
Cycle Q Clear Time (g_c), s	0.0	6.4	0.0	0.5	0.0	4.5	0.0	3.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.44	0.00	1.00	0.00	0.31	0.00	0.30
Lane Grp Cap (c), veh/h	0	405	0	323	0	431	0	303
V/C Ratio (X)	0.00	0.63	0.00	0.07	0.00	0.45	0.00	0.53
Avail Cap (c_a), veh/h	0	1623	0	1154	0	1659	0	1292
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.5	0.0	15.5	0.0	15.5	0.0	18.2
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.1	0.0	0.7	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.2	0.0	15.5	0.0	16.2	0.0	19.6
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.2	0.0	1.4	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	0.2	0.0	1.5	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	171	373	104	68	403	71	132	748	71	80	561	96
Future Volume (veh/h)	171	373	104	68	403	71	132	748	71	80	561	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	410	25	75	443	14	145	822	34	88	616	43
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	263	700	312	156	590	263	216	1671	745	163	1617	721
Arrive On Green	0.08	0.20	0.20	0.05	0.17	0.17	0.06	0.47	0.47	0.05	0.46	0.46
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	188	410	25	75	443	14	145	822	34	88	616	43
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.1	10.0	1.2	2.0	11.4	0.7	3.9	15.3	1.1	2.4	10.9	1.5
Cycle Q Clear(g_c), s	5.1	10.0	1.2	2.0	11.4	0.7	3.9	15.3	1.1	2.4	10.9	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	263	700	312	156	590	263	216	1671	745	163	1617	721
V/C Ratio(X)	0.72	0.59	0.08	0.48	0.75	0.05	0.67	0.49	0.05	0.54	0.38	0.06
Avail Cap(c_a), veh/h	722	1300	580	722	1300	580	722	1671	745	722	1671	745
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	34.9	31.3	44.6	38.0	33.6	43.9	17.5	13.7	44.6	17.2	14.6
Incr Delay (d2), s/veh	1.4	0.8	0.1	0.9	1.9	0.1	1.4	1.0	0.1	1.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	4.1	0.5	0.8	4.8	0.3	1.6	5.6	0.4	1.0	4.0	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	35.7	31.5	45.4	40.0	33.6	45.3	18.5	13.8	45.6	17.3	14.6
LnGrp LOS	D	D	C	D	D	C	D	B	B	D	B	B
Approach Vol, veh/h		623			532			1001			747	
Approach Delay, s/veh		38.2			40.6			22.2			20.5	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	1.0	50.0	9.3	25.4	9.5	51.5	12.3	22.4				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0				
Max Q Clear Time (g_c+1/3), s	11.9	12.9	4.0	12.0	4.4	17.3	7.1	13.4				
Green Ext Time (p_c), s	0.2	4.1	0.1	2.4	0.1	5.4	0.2	2.5				
Intersection Summary												
HCM 6th Ctrl Delay											28.6	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	373	104	68	403	71	132	748	71	80	561	96
Future Volume (veh/h)	171	373	104	68	403	71	132	748	71	80	561	96
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	410	25	75	443	14	145	822	34	88	616	43
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	263	700	312	156	590	263	216	1671	745	163	1617	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.20	0.20	0.05	0.17	0.17	0.06	0.47	0.47	0.05	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	44.6	35.7	31.5	45.4	40.0	33.6	45.3	18.5	13.8	45.6	17.3	14.6
Ln Grp LOS	D	D	C	D	D	C	D	B	B	D	B	B
Approach Vol, veh/h		623			532			1001			747	
Approach Delay, s/veh		38.2			40.6			22.2			20.5	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		11.0	50.0	9.3	25.4	9.5	51.5	12.3	22.4			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5			
Max Green (Gmax), s		20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.8	2.7	4.7	2.7	4.8			
Max Q Clear (g_c+I1), s		5.9	12.9	4.0	12.0	4.4	17.3	7.1	13.4			
Green Ext Time (g_e), s		0.2	4.1	0.1	2.4	0.1	5.4	0.2	2.5			
Prob of Phs Call (p_c)		0.98	1.00	0.86	1.00	0.90	1.00	0.99	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	145	0	75	0	88	0	188	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	3.9	0.0	2.0	0.0	2.4	0.0	5.1	0.0
Cycle Q Clear Time (g_c), s	3.9	0.0	2.0	0.0	2.4	0.0	5.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	216	0	156	0	163	0	263	0
V/C Ratio (X)	0.67	0.00	0.48	0.00	0.54	0.00	0.72	0.00
Avail Cap (c_a), veh/h	722	0	722	0	722	0	722	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	43.9	0.0	44.6	0.0	44.6	0.0	43.2	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.9	0.0	1.0	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	45.3	0.0	45.4	0.0	45.6	0.0	44.6	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	0.8	0.0	1.0	0.0	2.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	0.8	0.0	1.0	0.0	2.1	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.10	0.00	0.12	0.00	0.24	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	616	0	410	0	822	0	443
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	10.9	0.0	10.0	0.0	15.3	0.0	11.4
Cycle Q Clear Time (g_c), s	0.0	10.9	0.0	10.0	0.0	15.3	0.0	11.4
Lane Grp Cap (c), veh/h	0	1617	0	700	0	1671	0	590
V/C Ratio (X)	0.00	0.38	0.00	0.59	0.00	0.49	0.00	0.75
Avail Cap (c_a), veh/h	0	1671	0	1300	0	1671	0	1300
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.2	0.0	34.9	0.0	17.5	0.0	38.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.8	0.0	1.0	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.3	0.0	35.7	0.0	18.5	0.0	40.0
1st-Term Q (Q1), veh/ln	0.0	4.0	0.0	4.1	0.0	5.4	0.0	4.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.2

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.0	0.0	4.1	0.0	5.6	0.0	4.8
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.06	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	43	0	25	0	34	0	14
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.5	0.0	1.2	0.0	1.1	0.0	0.7
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	1.2	0.0	1.1	0.0	0.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	721	0	312	0	745	0	263
V/C Ratio (X)	0.00	0.06	0.00	0.08	0.00	0.05	0.00	0.05
Avail Cap (c_a), veh/h	0	745	0	580	0	745	0	580
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.6	0.0	31.3	0.0	13.7	0.0	33.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.6	0.0	31.5	0.0	13.8	0.0	33.6
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.4	0.0	0.4	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.5	0.0	0.4	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.08	0.00	0.06	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 16: Monterey Ave & Gerald Ford Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↖		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	133	293	136	115	290	85	177	1268	67	60	1100	106
Future Volume (veh/h)	133	293	136	115	290	85	177	1268	67	60	1100	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	305	19	120	302	12	184	1321	70	62	1146	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	427	190	175	405	181	241	2956	157	126	2870	
Arrive On Green	0.06	0.12	0.12	0.05	0.11	0.11	0.07	0.60	0.60	0.04	0.56	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4964	263	3456	5106	1585
Grp Volume(v), veh/h	139	305	19	120	302	12	184	906	485	62	1146	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1823	1728	1702	1585
Q Serve(g_s), s	4.7	9.9	1.3	4.1	9.9	0.8	6.3	17.6	17.6	2.1	15.2	0.0
Cycle Q Clear(g_c), s	4.7	9.9	1.3	4.1	9.9	0.8	6.3	17.6	17.6	2.1	15.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	196	427	190	175	405	181	241	2027	1085	126	2870	
V/C Ratio(X)	0.71	0.72	0.10	0.69	0.74	0.07	0.76	0.45	0.45	0.49	0.40	
Avail Cap(c_a), veh/h	403	927	413	374	897	400	346	2027	1085	346	2870	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.99	0.99	0.99	0.93	0.93	0.93	0.84	0.84	0.00
Uniform Delay (d), s/veh	55.6	50.8	47.0	56.0	51.5	47.4	54.9	13.4	13.4	56.7	14.8	0.0
Incr Delay (d2), s/veh	1.8	2.2	0.2	1.8	2.7	0.2	3.1	0.7	1.2	0.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	4.4	0.5	1.8	4.6	0.3	2.7	6.0	6.7	0.9	5.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.4	53.1	47.3	57.8	54.2	47.6	57.9	14.0	14.6	57.7	15.2	0.0
LnGrp LOS	E	D	D	E	D	D	E	B	B	E	B	
Approach Vol, veh/h		463			434			1575			1208	A
Approach Delay, s/veh		54.1			55.0			19.4			17.4	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.4	74.5	11.8	20.4	9.4	78.4	11.1	21.1				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.7	5.0	7.0	5.0	6.7				
Max Green Setting (Gmax), s	12.0	40.0	14.0	30.3	12.0	40.0	13.0	31.3				
Max Q Clear Time (g_c+1), s	10.3	17.2	6.7	11.9	4.1	19.6	6.1	11.9				
Green Ext Time (p_c), s	0.1	8.9	0.1	1.8	0.0	9.9	0.1	1.6				

Intersection Summary


































HCM 6th Ctrl Delay	27.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	133	293	136	115	290	85	177	1268	67	60	1100	106
Future Volume (veh/h)	133	293	136	115	290	85	177	1268	67	60	1100	106
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	139	305	19	120	302	12	184	1321	70	62	1146	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	196	427	190	175	405	181	241	2956	157	126	2870	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.12	0.12	0.05	0.11	0.11	0.07	0.60	0.60	0.04	0.56	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	57.4	53.1	47.3	57.8	54.2	47.6	57.9	14.0	14.6	57.7	15.2	0.0
Ln Grp LOS	E	D	D	E	D	D	E	B	B	E	B	
Approach Vol, veh/h		463			434			1575			1208	
Approach Delay, s/veh		54.1			55.0			19.4			17.4	
Approach LOS		D			D			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		13.4	74.5	11.8	20.4	9.4	78.4	11.1	21.1			
Change Period (Y+Rc), s		5.0	7.0	5.0	6.7	5.0	7.0	5.0	6.7			
Max Green (Gmax), s		12.0	40.0	14.0	30.3	12.0	40.0	13.0	31.3			
Max Allow Headway (MAH), s		2.6	5.2	2.7	5.2	2.6	5.2	2.8	4.8			
Max Q Clear (g_c+I1), s		8.3	17.2	6.7	11.9	4.1	19.6	6.1	11.9			
Green Ext Time (g_e), s		0.1	8.9	0.1	1.8	0.0	9.9	0.1	1.6			
Prob of Phs Call (p_c)		1.00	1.00	0.99	1.00	0.87	1.00	0.98	1.00			
Prob of Max Out (p_x)		0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4964		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		263		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

02/20/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	184	0	139	0	62	0	120	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	6.3	0.0	4.7	0.0	2.1	0.0	4.1	0.0
Cycle Q Clear Time (g_c), s	6.3	0.0	4.7	0.0	2.1	0.0	4.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	241	0	196	0	126	0	175	0
V/C Ratio (X)	0.76	0.00	0.71	0.00	0.49	0.00	0.69	0.00
Avail Cap (c_a), veh/h	346	0	403	0	346	0	374	0
Upstream Filter (I)	0.93	0.00	1.00	0.00	0.84	0.00	0.99	0.00
Uniform Delay (d1), s/veh	54.9	0.0	55.6	0.0	56.7	0.0	56.0	0.0
Incr Delay (d2), s/veh	3.1	0.0	1.8	0.0	0.9	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	57.9	0.0	57.4	0.0	57.7	0.0	57.8	0.0
1st-Term Q (Q1), veh/ln	2.6	0.0	2.0	0.0	0.9	0.0	1.8	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.7	0.0	2.1	0.0	0.9	0.0	1.8	0.0
%ile Storage Ratio (RQ%)	0.35	0.00	0.32	0.00	0.11	0.00	0.25	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1146	0	302	0	906	0	305
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	15.2	0.0	9.9	0.0	17.6	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	15.2	0.0	9.9	0.0	17.6	0.0	9.9
Lane Grp Cap (c), veh/h	0	2870	0	405	0	2027	0	427
V/C Ratio (X)	0.00	0.40	0.00	0.74	0.00	0.45	0.00	0.72
Avail Cap (c_a), veh/h	0	2870	0	897	0	2027	0	927
Upstream Filter (I)	0.00	0.84	0.00	0.99	0.00	0.93	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.8	0.0	51.5	0.0	13.4	0.0	50.8
Incr Delay (d2), s/veh	0.0	0.3	0.0	2.7	0.0	0.7	0.0	2.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.2	0.0	54.2	0.0	14.0	0.0	53.1
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	4.4	0.0	5.9	0.0	4.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.3	0.0	4.6	0.0	6.0	0.0	4.4
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.02	0.00	0.10	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	12	0	485	0	19
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1823	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	0.8	0.0	17.6	0.0	1.3
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.8	0.0	17.6	0.0	1.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.14	0.00	1.00
Lane Grp Cap (c), veh/h	0	891	0	181	0	1085	0	190
V/C Ratio (X)	0.00	0.00	0.00	0.07	0.00	0.45	0.00	0.10
Avail Cap (c_a), veh/h	0	891	0	400	0	1085	0	413
Upstream Filter (I)	0.00	0.00	0.00	0.99	0.00	0.93	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	47.4	0.0	13.4	0.0	47.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	1.2	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	47.6	0.0	14.6	0.0	47.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.3	0.0	6.3	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.3	0.0	6.7	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	27.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 17: Portola Rd & Gerald Ford Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖↗↘	↖	↖↗	↖↗↘	↖	↖↗	↖↗↘	↖
Traffic Volume (veh/h)	9	365	129	43	319	115	128	325	36	128	214	3
Future Volume (veh/h)	9	365	129	43	319	115	128	325	36	128	214	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	372	132	44	326	0	131	332	5	131	218	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	501	175	245	1166		431	913	283	431	913	
Arrive On Green	0.02	0.19	0.19	0.07	0.23	0.00	0.12	0.18	0.18	0.12	0.18	0.00
Sat Flow, veh/h	1781	2581	903	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	9	254	250	44	326	0	131	332	5	131	218	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1708	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.3	7.5	7.7	0.7	2.9	0.0	1.9	3.2	0.1	1.9	2.0	0.0
Cycle Q Clear(g_c), s	0.3	7.5	7.7	0.7	2.9	0.0	1.9	3.2	0.1	1.9	2.0	0.0
Prop In Lane	1.00		0.53	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	345	331	245	1166		431	913	283	431	913	
V/C Ratio(X)	0.27	0.74	0.75	0.18	0.28		0.30	0.36	0.02	0.30	0.24	
Avail Cap(c_a), veh/h	512	1342	1289	932	3396		1242	3488	1083	932	3304	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.9	21.1	21.2	24.3	17.7	0.0	22.1	20.1	18.8	22.1	19.6	0.0
Incr Delay (d2), s/veh	1.6	1.2	1.3	0.1	0.0	0.0	0.1	0.1	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.0	2.9	0.2	0.9	0.0	0.7	1.2	0.0	0.7	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	22.3	22.5	24.4	17.7	0.0	22.3	20.2	18.8	22.3	19.6	0.0
LnGrp LOS	C	C	C	C	B		C	C	B	C	B	
Approach Vol, veh/h		513			370	A		468			349	A
Approach Delay, s/veh		22.5			18.5			20.7			20.6	
Approach LOS		C			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.9	16.9	8.9	17.8	11.9	16.9	7.0	19.7				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7				
Max Green Setting (Gmax), s	15.0	38.0	15.0	42.0	20.0	36.0	16.0	* 37				
Max Q Clear Time (g_c+1), s	13.5	5.2	2.7	9.7	3.9	4.0	2.3	4.9				
Green Ext Time (p_c), s	0.1	0.9	0.0	1.1	0.1	0.4	0.0	0.7				

Intersection Summary
























HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	365	129	43	319	115	128	325	36	128	214	3
Future Volume (veh/h)	9	365	129	43	319	115	128	325	36	128	214	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	372	132	44	326	0	131	332	5	131	218	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	33	501	175	245	1166		431	913	283	431	913	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.19	0.19	0.07	0.23	0.00	0.12	0.18	0.18	0.12	0.18	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	28.5	22.3	22.5	24.4	17.7	0.0	22.3	20.2	18.8	22.3	19.6	0.0
Ln Grp LOS	C	C	C	C	B		C	C	B	C	B	
Approach Vol, veh/h		513			370			468			349	
Approach Delay, s/veh		22.5			18.5			20.7			20.6	
Approach LOS		C			B			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		11.9	16.9	8.9	17.8	11.9	16.9	7.0	19.7			
Change Period (Y+Rc), s		5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7			
Max Green (Gmax), s		15.0	38.0	15.0	42.0	20.0	36.0	16.0	* 37			
Max Allow Headway (MAH), s		1.7	3.2	1.7	3.3	1.8	2.8	1.8	2.8			
Max Q Clear (g_c+I1), s		3.9	5.2	2.7	9.7	3.9	4.0	2.3	4.9			
Green Ext Time (g_e), s		0.1	0.9	0.0	1.1	0.1	0.4	0.0	0.7			
Prob of Phs Call (p_c)		0.87	0.99	0.49	1.00	0.87	0.97	0.13	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		2581		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		903		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

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Lanes in Grp	2	0	2	0	2	0	1	0
Grp Vol (v), veh/h	131	0	44	0	131	0	9	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1781	0
Q Serve Time (g_s), s	1.9	0.0	0.7	0.0	1.9	0.0	0.3	0.0
Cycle Q Clear Time (g_c), s	1.9	0.0	0.7	0.0	1.9	0.0	0.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	431	0	245	0	431	0	33	0
V/C Ratio (X)	0.30	0.00	0.18	0.00	0.30	0.00	0.27	0.00
Avail Cap (c_a), veh/h	932	0	932	0	1242	0	512	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	22.1	0.0	24.3	0.0	22.1	0.0	26.9	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.1	0.0	1.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	22.3	0.0	24.4	0.0	22.3	0.0	28.5	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.2	0.0	0.7	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	0.2	0.0	0.7	0.0	0.1	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.02	0.00	0.08	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	3	0	3
Grp Vol (v), veh/h	0	332	0	254	0	218	0	326
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1702
Q Serve Time (g_s), s	0.0	3.2	0.0	7.5	0.0	2.0	0.0	2.9
Cycle Q Clear Time (g_c), s	0.0	3.2	0.0	7.5	0.0	2.0	0.0	2.9
Lane Grp Cap (c), veh/h	0	913	0	345	0	913	0	1166
V/C Ratio (X)	0.00	0.36	0.00	0.74	0.00	0.24	0.00	0.28
Avail Cap (c_a), veh/h	0	3488	0	1342	0	3304	0	3396
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.1	0.0	21.1	0.0	19.6	0.0	17.7
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.2	0.0	22.3	0.0	19.6	0.0	17.7
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	2.8	0.0	0.7	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.2	0.0	3.0	0.0	0.7	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	5	0	250	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1708	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.1	0.0	7.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	7.7	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.53	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	283	0	331	0	283	0	362
V/C Ratio (X)	0.00	0.02	0.00	0.75	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1083	0	1289	0	1026	0	1054
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	18.8	0.0	21.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.8	0.0	22.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 18: Cook St & I-10 WB Ramps

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕	↗		↕	↗		↕	↗
Traffic Volume (veh/h)	0	0	0	474	2	41	0	298	648	0	223	33
Future Volume (veh/h)	0	0	0	474	2	41	0	298	648	0	223	33
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				489	2	12	0	307	0	0	230	34
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				538	2	480	0	2122		0	2694	386
Arrive On Green				0.30	0.30	0.30	0.00	0.20	0.00	0.00	0.60	0.60
Sat Flow, veh/h				1774	7	1585	0	3647	1585	0	4680	646
Grp Volume(v), veh/h				491	0	12	0	307	0	0	172	92
Grp Sat Flow(s),veh/h/ln				1782	0	1585	0	1777	1585	0	1702	1754
Q Serve(g_s), s				29.2	0.0	0.6	0.0	7.9	0.0	0.0	2.4	2.5
Cycle Q Clear(g_c), s				29.2	0.0	0.6	0.0	7.9	0.0	0.0	2.4	2.5
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.37
Lane Grp Cap(c), veh/h				540	0	480	0	2122		0	2032	1047
V/C Ratio(X)				0.91	0.00	0.02	0.00	0.14		0.00	0.08	0.09
Avail Cap(c_a), veh/h				648	0	576	0	2122		0	2032	1047
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.87	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				36.9	0.0	26.9	0.0	20.9	0.0	0.0	9.4	9.4
Incr Delay (d2), s/veh				15.2	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				14.8	0.0	0.2	0.0	3.1	0.0	0.0	0.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				52.1	0.0	26.9	0.0	21.1	0.0	0.0	9.5	9.6
LnGrp LOS				D	A	C	A	C		A	A	A
Approach Vol, veh/h					503			307	A		264	
Approach Delay, s/veh					51.5			21.1			9.5	
Approach LOS					D			C			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		71.7				71.7		38.3				
Change Period (Y+Rc), s		6.0				6.0		5.0				
Max Green Setting (Gmax), s		59.0				59.0		40.0				
Max Q Clear Time (g_c+1), s		9.9				4.5		31.2				
Green Ext Time (p_c), s		1.8				1.5		2.2				

Intersection Summary



















HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	474	2	41	0	298	648	0	223	33
Future Volume (veh/h)	0	0	0	474	2	41	0	298	648	0	223	33
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				489	2	12	0	307	0	0	230	34
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Opposing Right Turn Influence				Yes			No			No		
Cap, veh/h				538	2	480	0	2122		0	2694	386
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green				0.30	0.30	0.30	0.00	0.20	0.00	0.00	0.60	0.60
Unsig. Movement Delay												
Ln Grp Delay, s/veh				52.1	0.0	26.9	0.0	21.1	0.0	0.0	9.5	9.6
Ln Grp LOS				D	A	C	A	C		A	A	A
Approach Vol, veh/h					503			307			264	
Approach Delay, s/veh					51.5			21.1			9.5	
Approach LOS					D			C			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8			6					
Case No			7.0	11.0			8.0					
Phs Duration (G+Y+Rc), s			71.7	38.3			71.7					
Change Period (Y+Rc), s			6.0	5.0			6.0					
Max Green (Gmax), s			59.0	40.0			59.0					
Max Allow Headway (MAH), s			4.7	5.3			4.8					
Max Q Clear (g_c+I1), s			9.9	31.2			4.5					
Green Ext Time (g_e), s			1.8	2.2			1.5					
Prob of Phs Call (p_c)			1.00	1.00			1.00					
Prob of Max Out (p_x)			0.00	0.43			0.00					
Left-Turn Movement Data												
Assigned Mvmt			5	3			1					
Mvmt Sat Flow, veh/h			0	1774			0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			3647	7			4680					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			1585	1585			646					
Left Lane Group Data												
Assigned Mvmt	0	5	3	0	0	1	0	0				
Lane Assignment			L+T									

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Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	491	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1782	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	29.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	29.2	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	65.7	0.0	0.0	0.0	65.7	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	540	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.91	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	648	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	36.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	15.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	52.1	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	12.5	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	14.8	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.43	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	307	0	0	0	172	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	7.9	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.9	0.0	0.0	0.0	2.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	2122	0	0	0	2032	0	0
V/C Ratio (X)	0.00	0.14	0.00	0.00	0.00	0.08	0.00	0.00
Avail Cap (c_a), veh/h	0	2122	0	0	0	2032	0	0
Upstream Filter (I)	0.00	0.87	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	20.9	0.0	0.0	0.0	9.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.1	0.0	0.0	0.0	9.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	0.0	0.0	0.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	0.0	0.0	0.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.17	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	12	0	0	92	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1754	0	0
Q Serve Time (g_s), s	0.0	0.0	0.6	0.0	0.0	2.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.6	0.0	0.0	2.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.37	0.00	0.00
Lane Grp Cap (c), veh/h	0	946	480	0	0	1047	0	0
V/C Ratio (X)	0.00	0.00	0.02	0.00	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	946	576	0	0	1047	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	26.9	0.0	0.0	9.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	26.9	0.0	0.0	9.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.2	0.0	0.0	0.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.2	0.0	0.0	0.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	51	1	602	0	0	0	0	895	703	38	659	0	
Future Volume (veh/h)	51	1	602	0	0	0	0	895	703	38	659	0	
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No						No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0	
Adj Flow Rate, veh/h	53	0	394				0	932	732	40	686	0	
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96	
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0	
Cap, veh/h	272	0	483				0	2296	1069	57	3817	0	
Arrive On Green	0.15	0.00	0.15				0.00	0.67	0.67	0.06	1.00	0.00	
Sat Flow, veh/h	1781	0	3170				0	3572	1585	1781	5274	0	
Grp Volume(v), veh/h	53	0	394				0	932	732	40	686	0	
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1781	1702	0	
Q Serve(g_s), s	2.9	0.0	13.2				0.0	13.5	30.7	2.4	0.0	0.0	
Cycle Q Clear(g_c), s	2.9	0.0	13.2				0.0	13.5	30.7	2.4	0.0	0.0	
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00	
Lane Grp Cap(c), veh/h	272	0	483				0	2296	1069	57	3817	0	
V/C Ratio(X)	0.20	0.00	0.82				0.00	0.41	0.68	0.70	0.18	0.00	
Avail Cap(c_a), veh/h	486	0	865				0	2296	1069	405	3817	0	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00	
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.63	0.63	1.00	1.00	0.00	
Uniform Delay (d), s/veh	40.7	0.0	45.1				0.0	8.0	10.8	51.0	0.0	0.0	
Incr Delay (d2), s/veh	0.3	0.0	3.4				0.0	0.3	2.3	5.7	0.1	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	3	0.0	5.4				0.0	3.9	8.8	1.1	0.0	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	41.1	0.0	48.5				0.0	8.4	13.1	56.6	0.1	0.0	
LnGrp LOS	D	A	D				A	A	B	E	A	A	
Approach Vol, veh/h	447						1664			726			
Approach Delay, s/veh	47.6						10.4			3.2			
Approach LOS	D						B			A			
Timer - Assigned Phs	1	2	4	6									
Phs Duration (G+Y+Rc), s	8.0	80.2	21.8	88.2									
Change Period (Y+Rc), s	4.5	6.0	5.0	6.0									
Max Green Setting (Gmax), s	25.0	37.0	30.0	69.0									
Max Q Clear Time (g_c+I), s	14.4	32.7	15.2	2.0									
Green Ext Time (p_c), s	0.0	3.3	1.5	4.6									

Intersection Summary

HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	1	602	0	0	0	0	895	703	38	659	0
Future Volume (veh/h)	51	1	602	0	0	0	0	895	703	38	659	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	53	0	394				0	932	732	40	686	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	272	0	483				0	2296	1069	57	3817	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Prop Arrive On Green	0.15	0.00	0.15				0.00	0.67	0.67	0.06	1.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	41.1	0.0	48.5				0.0	8.4	13.1	56.6	0.1	0.0
Ln Grp LOS	D	A	D				A	A	B	E	A	A
Approach Vol, veh/h		447						1664			726	
Approach Delay, s/veh		47.6						10.4			3.2	
Approach LOS		D						B			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	8.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		8.0	80.2		21.8		88.2					
Change Period (Y+Rc), s		4.5	6.0		5.0		6.0					
Max Green (Gmax), s		25.0	37.0		30.0		69.0					
Max Allow Headway (MAH), s		2.6	4.9		4.0		4.7					
Max Q Clear (g_c+I1), s		4.4	32.7		15.2		2.0					
Green Ext Time (g_e), s		0.0	3.3		1.5		4.6					
Prob of Phs Call (p_c)		0.71	1.00		1.00		1.00					
Prob of Max Out (p_x)		0.00	0.00		0.01		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		1781	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			3572		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	40	0	0	53	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	2.4	0.0	0.0	2.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	2.4	0.0	0.0	2.9	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	74.2	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	57	0	0	272	0	0	0	0
V/C Ratio (X)	0.70	0.00	0.00	0.20	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	405	0	0	486	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	51.0	0.0	0.0	40.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.7	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	56.6	0.0	0.0	41.1	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.1	0.0	0.0	1.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.10	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	3	0	0
Grp Vol (v), veh/h	0	932	0	0	0	686	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	13.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.5	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2296	0	0	0	3817	0	0
V/C Ratio (X)	0.00	0.41	0.00	0.00	0.00	0.18	0.00	0.00
Avail Cap (c_a), veh/h	0	2296	0	0	0	3817	0	0
Upstream Filter (I)	0.00	0.63	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.4	0.0	0.0	0.0	0.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.9	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	732	0	394	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	30.7	0.0	13.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	30.7	0.0	13.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1069	0	483	0	0	0	0
V/C Ratio (X)	0.00	0.68	0.00	0.82	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1069	0	865	0	0	0	0
Upstream Filter (I)	0.00	0.63	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.8	0.0	45.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.3	0.0	3.4	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.1	0.0	48.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.1	0.0	5.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	8.8	0.0	5.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.33	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

20: Cook St & Gerald Ford Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘↘	↑↑	↗	↘↘	↑↑	↗	↘↘	↑↑↑	↗	↘↘	↑↑↑	↗
Traffic Volume (veh/h)	395	201	141	88	195	152	191	954	28	223	882	156
Future Volume (veh/h)	395	201	141	88	195	152	191	954	28	223	882	156
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	429	218	0	96	212	20	208	1037	7	242	959	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	533	716		263	439	196	313	1303	405	343	1348	418
Arrive On Green	0.15	0.20	0.00	0.08	0.12	0.12	0.09	0.26	0.26	0.10	0.26	0.26
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	429	218	0	96	212	20	208	1037	7	242	959	43
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	7.8	3.4	0.0	1.7	3.6	0.7	3.8	12.3	0.2	4.4	11.0	1.3
Cycle Q Clear(g_c), s	7.8	3.4	0.0	1.7	3.6	0.7	3.8	12.3	0.2	4.4	11.0	1.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	533	716		263	439	196	313	1303	405	343	1348	418
V/C Ratio(X)	0.80	0.30		0.36	0.48	0.10	0.67	0.80	0.02	0.71	0.71	0.10
Avail Cap(c_a), veh/h	1068	1373		801	1373	612	1068	3550	1102	1068	3550	1102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	22.0	0.0	28.4	26.4	25.2	28.5	22.5	18.0	28.2	21.6	18.0
Incr Delay (d2), s/veh	1.1	0.1	0.0	0.3	0.3	0.1	0.9	0.4	0.0	1.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	1.2	0.0	0.6	1.4	0.2	1.4	4.1	0.1	1.6	3.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	22.1	0.0	28.7	26.7	25.3	29.4	23.0	18.0	29.2	21.8	18.1
LnGrp LOS	C	C		C	C	C	C	C	B	C	C	B
Approach Vol, veh/h		647	A		328			1252			1244	
Approach Delay, s/veh		25.7			27.2			24.0			23.2	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	23.3	10.4	18.5	11.9	23.9	15.5	13.5				
Change Period (Y+Rc), s	6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5				
Max Green Setting (Gmax), s	20.0	45.0	15.0	25.0	20.0	45.0	20.0	25.0				
Max Q Clear Time (g_c+1), s	10.4	14.3	3.7	5.4	5.8	13.0	9.8	5.6				
Green Ext Time (p_c), s	0.1	2.2	0.0	0.4	0.1	2.0	0.2	0.4				

Intersection Summary



































HCM 6th Ctrl Delay	24.3
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	395	201	141	88	195	152	191	954	28	223	882	156
Future Volume (veh/h)	395	201	141	88	195	152	191	954	28	223	882	156
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	429	218	0	96	212	20	208	1037	7	242	959	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	533	716		263	439	196	313	1303	405	343	1348	418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.15	0.20	0.00	0.08	0.12	0.12	0.09	0.26	0.26	0.10	0.26	0.26
Unsig. Movement Delay												
Ln Grp Delay, s/veh	27.5	22.1	0.0	28.7	26.7	25.3	29.4	23.0	18.0	29.2	21.8	18.1
Ln Grp LOS	C	C		C	C	C	C	C	B	C	C	B
Approach Vol, veh/h		647			328			1252			1244	
Approach Delay, s/veh		25.7			27.2			24.0			23.2	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		12.4	23.3	10.4	18.5	11.9	23.9	15.5	13.5			
Change Period (Y+Rc), s		6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5			
Max Green (Gmax), s		20.0	45.0	15.0	25.0	20.0	45.0	20.0	25.0			
Max Allow Headway (MAH), s		1.6	2.7	1.7	2.8	1.6	2.7	1.7	2.7			
Max Q Clear (g_c+I1), s		6.4	14.3	3.7	5.4	5.8	13.0	9.8	5.6			
Green Ext Time (g_e), s		0.1	2.2	0.0	0.4	0.1	2.0	0.2	0.4			
Prob of Phs Call (p_c)		0.99	1.00	0.82	1.00	0.98	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 20: Cook St & Gerald Ford Dr

02/20/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	242	0	96	0	208	0	429	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	4.4	0.0	1.7	0.0	3.8	0.0	7.8	0.0
Cycle Q Clear Time (g_c), s	4.4	0.0	1.7	0.0	3.8	0.0	7.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	343	0	263	0	313	0	533	0
V/C Ratio (X)	0.71	0.00	0.36	0.00	0.67	0.00	0.80	0.00
Avail Cap (c_a), veh/h	1068	0	801	0	1068	0	1068	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	28.2	0.0	28.4	0.0	28.5	0.0	26.4	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.3	0.0	0.9	0.0	1.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	29.2	0.0	28.7	0.0	29.4	0.0	27.5	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	0.6	0.0	1.4	0.0	2.8	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	0.6	0.0	1.4	0.0	2.9	0.0
%ile Storage Ratio (RQ%)	0.14	0.00	0.10	0.00	0.17	0.00	0.32	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	1037	0	218	0	959	0	212
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	12.3	0.0	3.4	0.0	11.0	0.0	3.6
Cycle Q Clear Time (g_c), s	0.0	12.3	0.0	3.4	0.0	11.0	0.0	3.6
Lane Grp Cap (c), veh/h	0	1303	0	716	0	1348	0	439
V/C Ratio (X)	0.00	0.80	0.00	0.30	0.00	0.71	0.00	0.48
Avail Cap (c_a), veh/h	0	3550	0	1373	0	3550	0	1373
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.5	0.0	22.0	0.0	21.6	0.0	26.4
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.1	0.0	0.3	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.0	0.0	22.1	0.0	21.8	0.0	26.7
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	1.2	0.0	3.6	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

20: Cook St & Gerald Ford Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	1.2	0.0	3.7	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	7	0	0	0	43	0	20
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.2	0.0	0.0	0.0	1.3	0.0	0.7
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	0.0	0.0	1.3	0.0	0.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	405	0	320	0	418	0	196
V/C Ratio (X)	0.00	0.02	0.00	0.00	0.00	0.10	0.00	0.10
Avail Cap (c_a), veh/h	0	1102	0	612	0	1102	0	612
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.0	0.0	0.0	0.0	18.0	0.0	25.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.0	0.0	0.0	0.0	18.1	0.0	25.3
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.06	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	24.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 21: SR-111 & Frank Sinatra Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖↗↘	↖↗↘	↖	↖↗	↖↗↘	↖
Traffic Volume (veh/h)	46	65	34	150	39	313	33	1444	209	299	1248	41
Future Volume (veh/h)	46	65	34	150	39	313	33	1444	209	299	1248	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	72	38	167	43	0	37	1604	0	332	1387	18
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	119	63	261	267		53	1985		440	2484	771
Arrive On Green	0.04	0.10	0.10	0.08	0.14	0.00	0.03	0.39	0.00	0.13	0.49	0.49
Sat Flow, veh/h	1781	1153	608	3456	1870	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	51	0	110	167	43	0	37	1604	0	332	1387	18
Grp Sat Flow(s),veh/h/ln	1781	0	1761	1728	1870	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	1.9	0.0	4.0	3.2	1.4	0.0	1.4	18.8	0.0	6.2	12.9	0.4
Cycle Q Clear(g_c), s	1.9	0.0	4.0	3.2	1.4	0.0	1.4	18.8	0.0	6.2	12.9	0.4
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	65	0	183	261	267		53	1985		440	2484	771
V/C Ratio(X)	0.78	0.00	0.60	0.64	0.16		0.70	0.81		0.75	0.56	0.02
Avail Cap(c_a), veh/h	529	0	1177	1027	1250		529	2428		1027	2484	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	0.0	28.8	30.2	25.3	0.0	32.4	18.3	0.0	28.4	12.2	9.0
Incr Delay (d2), s/veh	7.5	0.0	3.2	1.0	0.3	0.0	6.1	1.4	0.0	1.0	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.7	1.3	0.6	0.0	0.7	6.9	0.0	2.5	4.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.6	0.0	32.0	31.2	25.6	0.0	38.4	19.7	0.0	29.3	12.4	9.0
LnGrp LOS	D	A	C	C	C		D	B		C	B	A
Approach Vol, veh/h		161			210	A		1641	A		1737	
Approach Delay, s/veh		34.4			30.0			20.2			15.6	
Approach LOS		C			C			C			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	14.0	6.0	38.2	6.5	16.6	12.6	31.7				
Change Period (Y+Rc), s	4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	25.0	20.0	45.0	20.0	32.0				
Max Q Clear Time (g_c+1), s	15.2	6.0	3.4	14.9	3.9	3.4	8.2	20.8				
Green Ext Time (p_c), s	0.2	0.6	0.0	4.3	0.0	0.2	0.3	5.3				

Intersection Summary
























HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 21: SR-111 & Frank Sinatra Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	65	34	150	39	313	33	1444	209	299	1248	41
Future Volume (veh/h)	46	65	34	150	39	313	33	1444	209	299	1248	41
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	72	38	167	43	0	37	1604	0	332	1387	18
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	65	119	63	261	267		53	1985		440	2484	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.10	0.10	0.08	0.14	0.00	0.03	0.39	0.00	0.13	0.49	0.49
Unsig. Movement Delay												
Ln Grp Delay, s/veh	39.6	0.0	32.0	31.2	25.6	0.0	38.4	19.7	0.0	29.3	12.4	9.0
Ln Grp LOS	D	A	C	C	C		D	B		C	B	A
Approach Vol, veh/h		161			210			1641			1737	
Approach Delay, s/veh		34.4			30.0			20.2			15.6	
Approach LOS		C			C			C			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.1	14.0	6.0	38.2	6.5	16.6	12.6	31.7			
Change Period (Y+Rc), s		4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5			
Max Green (Gmax), s		20.0	45.0	20.0	25.0	20.0	45.0	20.0	32.0			
Max Allow Headway (MAH), s		2.3	5.0	2.3	3.7	2.2	5.2	2.3	3.7			
Max Q Clear (g_c+I1), s		5.2	6.0	3.4	14.9	3.9	3.4	8.2	20.8			
Green Ext Time (g_e), s		0.2	0.6	0.0	4.3	0.0	0.2	0.3	5.3			
Prob of Phs Call (p_c)		0.96	0.87	0.50	1.00	0.61	0.55	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.38			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		1781		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1153		5106		1870		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			608		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	1	0	1	0	2	0
Grp Vol (v), veh/h	167	0	37	0	51	0	332	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	3.2	0.0	1.4	0.0	1.9	0.0	6.2	0.0
Cycle Q Clear Time (g_c), s	3.2	0.0	1.4	0.0	1.9	0.0	6.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	261	0	53	0	65	0	440	0
V/C Ratio (X)	0.64	0.00	0.70	0.00	0.78	0.00	0.75	0.00
Avail Cap (c_a), veh/h	1027	0	529	0	529	0	1027	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	30.2	0.0	32.4	0.0	32.2	0.0	28.4	0.0
Incr Delay (d2), s/veh	1.0	0.0	6.1	0.0	7.5	0.0	1.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.2	0.0	38.4	0.0	39.6	0.0	29.3	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	0.6	0.0	0.8	0.0	2.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.3	0.0	0.7	0.0	0.9	0.0	2.5	0.0
%ile Storage Ratio (RQ%)	0.26	0.00	0.11	0.00	0.05	0.00	0.20	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	3	0	1	0	3
Grp Vol (v), veh/h	0	0	0	1387	0	43	0	1604
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	12.9	0.0	1.4	0.0	18.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	12.9	0.0	1.4	0.0	18.8
Lane Grp Cap (c), veh/h	0	0	0	2484	0	267	0	1985
V/C Ratio (X)	0.00	0.00	0.00	0.56	0.00	0.16	0.00	0.81
Avail Cap (c_a), veh/h	0	0	0	2484	0	1250	0	2428
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	12.2	0.0	25.3	0.0	18.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.3	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	12.4	0.0	25.6	0.0	19.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.3	0.0	0.6	0.0	6.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	4.3	0.0	0.6	0.0	6.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.17
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	110	0	18	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1761	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	4.0	0.0	0.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.0	0.0	0.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.35	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	183	0	771	0	226	0	616
V/C Ratio (X)	0.00	0.60	0.00	0.02	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1177	0	771	0	1060	0	754
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	28.8	0.0	9.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.0	0.0	9.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.7	0.0	0.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
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




















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↕		↙	↕		↙	↕	↙	↙	↕	
Traffic Volume (veh/h)	18	454	126	49	549	36	174	39	38	17	27	10
Future Volume (veh/h)	18	454	126	49	549	36	174	39	38	17	27	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	468	130	51	566	37	179	40	15	18	28	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	775	214	219	954	62	835	1000	848	818	1394	471
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.53	0.53	0.53	0.53	0.53	0.53
Sat Flow, veh/h	816	2752	759	820	3386	221	1370	1870	1585	1349	2607	881
Grp Volume(v), veh/h	19	301	297	51	297	306	179	40	15	18	19	19
Grp Sat Flow(s),veh/h/ln	816	1777	1734	820	1777	1831	1370	1870	1585	1349	1777	1712
Q Serve(g_s), s	1.3	9.6	9.7	3.8	9.4	9.5	4.6	0.7	0.3	0.4	0.3	0.3
Cycle Q Clear(g_c), s	10.8	9.6	9.7	13.5	9.4	9.5	5.0	0.7	0.3	1.1	0.3	0.3
Prop In Lane	1.00		0.44	1.00		0.12	1.00		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	222	501	488	219	501	516	835	1000	848	818	950	916
V/C Ratio(X)	0.09	0.60	0.61	0.23	0.59	0.59	0.21	0.04	0.02	0.02	0.02	0.02
Avail Cap(c_a), veh/h	317	706	689	314	706	727	835	1000	848	818	950	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.9	20.3	20.4	26.2	20.3	20.3	8.3	7.2	7.1	7.5	7.2	7.2
Incr Delay (d2), s/veh	0.2	1.2	1.2	0.5	1.1	1.1	0.6	0.1	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.6	3.6	0.7	3.8	3.9	1.2	0.2	0.1	0.1	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	21.5	21.6	26.7	21.4	21.4	8.9	7.3	7.2	7.5	7.2	7.2
LnGrp LOS	C	C	C	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		617			654			234			56	
Approach Delay, s/veh		21.6			21.8			8.5			7.3	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.5		23.9		41.5		23.9				
Change Period (Y+Rc), s		6.5		5.5		6.5		5.5				
Max Green Setting (Gmax), s		35.0		26.0		35.0		26.0				
Max Q Clear Time (g_c+11), s		7.0		12.8		3.1		15.5				
Green Ext Time (p_c), s		0.7		2.8		0.2		3.0				
Intersection Summary												
HCM 6th Ctrl Delay											19.2	
HCM 6th LOS											B	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	454	126	49	549	36	174	39	38	17	27	10
Future Volume (veh/h)	18	454	126	49	549	36	174	39	38	17	27	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	468	130	51	566	37	179	40	15	18	28	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	222	775	214	219	954	62	835	1000	848	818	1394	471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.53	0.53	0.53	0.53	0.53	0.53
Unsig. Movement Delay												
Ln Grp Delay, s/veh	25.1	21.5	21.6	26.7	21.4	21.4	8.9	7.3	7.2	7.5	7.2	7.2
Ln Grp LOS	C	C	C	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		617			654			234			56	
Approach Delay, s/veh		21.6			21.8			8.5			7.3	
Approach LOS		C			C			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			5.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			41.5		23.9		41.5		23.9			
Change Period (Y+Rc), s			6.5		5.5		6.5		5.5			
Max Green (Gmax), s			35.0		26.0		35.0		26.0			
Max Allow Headway (MAH), s			3.9		5.0		4.9		5.3			
Max Q Clear (g_c+I1), s			7.0		12.8		3.1		15.5			
Green Ext Time (g_e), s			0.7		2.8		0.2		3.0			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.15		0.00		0.36			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1370		816		1349		820			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1870		2752		2607		3386			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		759		881		221			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	179	0	19	0	18	0	51
Grp Sat Flow (s), veh/h/ln	0	1370	0	816	0	1349	0	820
Q Serve Time (g_s), s	0.0	4.6	0.0	1.3	0.0	0.4	0.0	3.8
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	10.8	0.0	1.1	0.0	13.5
Perm LT Sat Flow (s_l), veh/h/ln	0	1370	0	816	0	1349	0	820
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	35.0	0.0	18.4	0.0	35.0	0.0	18.4
Perm LT Serve Time (g_u), s	0.0	34.7	0.0	9.0	0.0	34.3	0.0	8.7
Perm LT Q Serve Time (g_ps), s	0.0	4.6	0.0	1.3	0.0	0.4	0.0	3.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	835	0	222	0	818	0	219
V/C Ratio (X)	0.00	0.21	0.00	0.09	0.00	0.02	0.00	0.23
Avail Cap (c_a), veh/h	0	835	0	317	0	818	0	314
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.3	0.0	24.9	0.0	7.5	0.0	26.2
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.2	0.0	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.9	0.0	25.1	0.0	7.5	0.0	26.7
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.2	0.0	0.1	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.2	0.0	0.2	0.0	0.1	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.19	0.00	0.06	0.00	0.03	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	40	0	301	0	19	0	297
Grp Sat Flow (s), veh/h/ln	0	1870	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.7	0.0	9.6	0.0	0.3	0.0	9.4
Cycle Q Clear Time (g_c), s	0.0	0.7	0.0	9.6	0.0	0.3	0.0	9.4
Lane Grp Cap (c), veh/h	0	1000	0	501	0	950	0	501
V/C Ratio (X)	0.00	0.04	0.00	0.60	0.00	0.02	0.00	0.59
Avail Cap (c_a), veh/h	0	1000	0	706	0	950	0	706
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	7.2	0.0	20.3	0.0	7.2	0.0	20.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.2	0.0	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.3	0.0	21.5	0.0	7.2	0.0	21.4
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	3.4	0.0	0.1	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	3.6	0.0	0.1	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	297	0	19	0	306
Grp Sat Flow (s), veh/h/ln	0	1585	0	1734	0	1712	0	1831
Q Serve Time (g_s), s	0.0	0.3	0.0	9.7	0.0	0.3	0.0	9.5
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	9.7	0.0	0.3	0.0	9.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.44	0.00	0.51	0.00	0.12
Lane Grp Cap (c), veh/h	0	848	0	488	0	916	0	516
V/C Ratio (X)	0.00	0.02	0.00	0.61	0.00	0.02	0.00	0.59
Avail Cap (c_a), veh/h	0	848	0	689	0	916	0	727
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	7.1	0.0	20.4	0.0	7.2	0.0	20.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.2	0.0	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.2	0.0	21.6	0.0	7.2	0.0	21.4
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	3.4	0.0	0.1	0.0	3.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	3.6	0.0	0.1	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
 23: Frank Sinatra Dr & Bob Hope Dr


































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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕		↖↗	↕	↖	↖↗↕	↕		↖↗	↕↕↕	↖
Traffic Volume (veh/h)	67	365	85	60	371	76	187	848	175	101	620	95
Future Volume (veh/h)	67	365	85	60	371	76	187	848	175	101	620	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	384	89	63	391	15	197	893	184	106	653	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	515	118	154	632	282	282	2050	420	182	2322	721
Arrive On Green	0.05	0.18	0.18	0.04	0.18	0.18	0.08	0.48	0.48	0.05	0.45	0.45
Sat Flow, veh/h	3456	2860	655	3456	3554	1585	3456	4235	868	3456	5106	1585
Grp Volume(v), veh/h	71	237	236	63	391	15	197	717	360	106	653	41
Grp Sat Flow(s),veh/h/ln	1728	1777	1738	1728	1777	1585	1728	1702	1699	1728	1702	1585
Q Serve(g_s), s	1.8	11.1	11.3	1.6	8.9	0.7	4.9	12.1	12.2	2.6	7.0	1.3
Cycle Q Clear(g_c), s	1.8	11.1	11.3	1.6	8.9	0.7	4.9	12.1	12.2	2.6	7.0	1.3
Prop In Lane	1.00		0.38	1.00		1.00	1.00		0.51	1.00		1.00
Lane Grp Cap(c), veh/h	162	320	313	154	632	282	282	1647	822	182	2322	721
V/C Ratio(X)	0.44	0.74	0.75	0.41	0.62	0.05	0.70	0.44	0.44	0.58	0.28	0.06
Avail Cap(c_a), veh/h	786	707	692	786	1414	631	786	1647	822	786	2322	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	34.1	34.2	40.9	33.4	30.0	39.3	14.8	14.9	40.7	15.0	13.4
Incr Delay (d2), s/veh	1.4	3.4	3.7	1.3	1.0	0.1	2.3	0.8	1.7	2.2	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	4.8	4.8	0.7	3.7	0.3	2.1	4.3	4.5	1.1	2.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.2	37.5	37.9	42.2	34.4	30.1	41.6	15.7	16.6	42.9	15.3	13.6
LnGrp LOS	D	D	D	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		544		469		1274		800				
Approach Delay, s/veh		38.3		35.3		19.9		18.9				
Approach LOS		D		D		B		B				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	46.5	7.9	22.3	8.6	49.1	8.1	22.1				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	40.0	20.0	35.0	20.0	40.0	20.0	35.0				
Max Q Clear Time (g_c+10), s	10.5	9.0	3.6	13.3	4.6	14.2	3.8	10.9				
Green Ext Time (p_c), s	0.4	4.4	0.1	2.5	0.2	7.3	0.1	2.3				
Intersection Summary												
HCM 6th Ctrl Delay				25.2								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Capacity Analysis
 23: Frank Sinatra Dr & Bob Hope Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  	  	
Traffic Volume (veh/h)	67	365	85	60	371	76	187	848	175	101	620	95
Future Volume (veh/h)	67	365	85	60	371	76	187	848	175	101	620	95
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	384	89	63	391	15	197	893	184	106	653	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	162	515	118	154	632	282	282	2050	420	182	2322	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.18	0.18	0.04	0.18	0.18	0.08	0.48	0.48	0.05	0.45	0.45
Unsig. Movement Delay												
Ln Grp Delay, s/veh	42.2	37.5	37.9	42.2	34.4	30.1	41.6	15.7	16.6	42.9	15.3	13.6
Ln Grp LOS	D	D	D	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		544			469			1274			800	
Approach Delay, s/veh		38.3			35.3			19.9			18.9	
Approach LOS		D			D			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		11.2	46.5	7.9	22.3	8.6	49.1	8.1	22.1			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	40.0	20.0	35.0	20.0	40.0	20.0	35.0			
Max Allow Headway (MAH), s		3.2	4.8	3.2	5.0	3.2	5.0	3.2	4.8			
Max Q Clear (g_c+I1), s		6.9	9.0	3.6	13.3	4.6	14.2	3.8	10.9			
Green Ext Time (g_e), s		0.4	4.4	0.1	2.5	0.2	7.3	0.1	2.3			
Prob of Phs Call (p_c)		0.99	1.00	0.79	1.00	0.92	1.00	0.82	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		2860		4235		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		655		868		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	197	0	63	0	106	0	71	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	4.9	0.0	1.6	0.0	2.6	0.0	1.8	0.0
Cycle Q Clear Time (g_c), s	4.9	0.0	1.6	0.0	2.6	0.0	1.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	282	0	154	0	182	0	162	0
V/C Ratio (X)	0.70	0.00	0.41	0.00	0.58	0.00	0.44	0.00
Avail Cap (c_a), veh/h	786	0	786	0	786	0	786	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	39.3	0.0	40.9	0.0	40.7	0.0	40.8	0.0
Incr Delay (d2), s/veh	2.3	0.0	1.3	0.0	2.2	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	41.6	0.0	42.2	0.0	42.9	0.0	42.2	0.0
1st-Term Q (Q1), veh/ln	2.0	0.0	0.6	0.0	1.1	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	0.7	0.0	1.1	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.16	0.00	0.13	0.00	0.09	0.00	0.07	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	2	0	2
Grp Vol (v), veh/h	0	653	0	237	0	717	0	391
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	7.0	0.0	11.1	0.0	12.1	0.0	8.9
Cycle Q Clear Time (g_c), s	0.0	7.0	0.0	11.1	0.0	12.1	0.0	8.9
Lane Grp Cap (c), veh/h	0	2322	0	320	0	1647	0	632
V/C Ratio (X)	0.00	0.28	0.00	0.74	0.00	0.44	0.00	0.62
Avail Cap (c_a), veh/h	0	2322	0	707	0	1647	0	1414
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.0	0.0	34.1	0.0	14.8	0.0	33.4
Incr Delay (d2), s/veh	0.0	0.3	0.0	3.4	0.0	0.8	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.3	0.0	37.5	0.0	15.7	0.0	34.4
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	4.5	0.0	4.1	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	4.8	0.0	4.3	0.0	3.7
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.02	0.00	0.07	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	41	0	236	0	360	0	15
Grp Sat Flow (s), veh/h/ln	0	1585	0	1738	0	1699	0	1585
Q Serve Time (g_s), s	0.0	1.3	0.0	11.3	0.0	12.2	0.0	0.7
Cycle Q Clear Time (g_c), s	0.0	1.3	0.0	11.3	0.0	12.2	0.0	0.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.38	0.00	0.51	0.00	1.00
Lane Grp Cap (c), veh/h	0	721	0	313	0	822	0	282
V/C Ratio (X)	0.00	0.06	0.00	0.75	0.00	0.44	0.00	0.05
Avail Cap (c_a), veh/h	0	721	0	692	0	822	0	631
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.4	0.0	34.2	0.0	14.9	0.0	30.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	3.7	0.0	1.7	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.6	0.0	37.9	0.0	16.6	0.0	30.1
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	4.5	0.0	4.1	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	4.8	0.0	4.5	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.02	0.00	0.07	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.2
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 24: Monterey Ave & Frank Sinatra Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↔		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	104	480	118	96	320	80	101	1317	111	101	1217	61
Future Volume (veh/h)	104	480	118	96	320	80	101	1317	111	101	1217	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	495	22	99	330	82	104	1358	114	104	1255	33
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	585	261	148	575	257	154	2810	236	154	2989	928
Arrive On Green	0.05	0.16	0.16	0.04	0.16	0.16	0.04	0.59	0.59	0.04	0.59	0.59
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4799	403	3456	5106	1585
Grp Volume(v), veh/h	107	495	22	99	330	82	104	963	509	104	1255	33
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1798	1728	1702	1585
Q Serve(g_s), s	3.8	17.0	1.5	3.6	10.8	5.8	3.7	20.6	20.6	3.7	17.0	1.1
Cycle Q Clear(g_c), s	3.8	17.0	1.5	3.6	10.8	5.8	3.7	20.6	20.6	3.7	17.0	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.22	1.00		1.00
Lane Grp Cap(c), veh/h	157	585	261	148	575	257	154	1993	1053	154	2989	928
V/C Ratio(X)	0.68	0.85	0.08	0.67	0.57	0.32	0.68	0.48	0.48	0.68	0.42	0.04
Avail Cap(c_a), veh/h	302	987	440	302	987	440	302	1993	1053	302	2989	928
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.95	0.95	0.95	0.80	0.80	0.80	0.96	0.96	0.96
Uniform Delay (d), s/veh	59.2	51.1	44.6	59.4	48.8	46.7	59.3	15.1	15.1	59.3	14.4	11.1
Incr Delay (d2), s/veh	1.9	1.4	0.1	1.8	0.3	0.3	1.5	0.7	1.3	1.9	0.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.4	0.6	1.5	4.6	2.2	1.6	7.2	7.8	1.6	5.9	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.2	52.5	44.6	61.2	49.1	46.9	60.8	15.8	16.4	61.2	14.8	11.1
LnGrp LOS	E	D	D	E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		624			511			1576			1392	
Approach Delay, s/veh		53.7			51.1			18.9			18.2	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	80.3	9.7	26.4	9.6	80.3	9.4	26.7				
Change Period (Y+Rc), s	4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0				
Max Green Setting (Gmax), s	48.5	48.5	11.0	* 35	11.0	48.5	11.0	35.0				
Max Q Clear Time (g_c+1/3), s	19.0	19.0	5.8	12.8	5.7	22.6	5.6	19.0				
Green Ext Time (p_c), s	0.0	5.6	0.0	1.2	0.0	6.1	0.0	1.7				

Intersection Summary


































HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 24: Monterey Ave & Frank Sinatra Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	104	480	118	96	320	80	101	1317	111	101	1217	61
Future Volume (veh/h)	104	480	118	96	320	80	101	1317	111	101	1217	61
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	495	22	99	330	82	104	1358	114	104	1255	33
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	157	585	261	148	575	257	154	2810	236	154	2989	928
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.16	0.16	0.04	0.16	0.16	0.04	0.59	0.59	0.04	0.59	0.59
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.2	52.5	44.6	61.2	49.1	46.9	60.8	15.8	16.4	61.2	14.8	11.1
Ln Grp LOS	E	D	D	E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		624			511			1576			1392	
Approach Delay, s/veh		53.7			51.1			18.9			18.2	
Approach LOS		D			D			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.6	80.3	9.7	26.4	9.6	80.3	9.4	26.7			
Change Period (Y+Rc), s		4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0			
Max Green (Gmax), s		11.0	48.5	11.0	* 35	11.0	48.5	11.0	35.0			
Max Allow Headway (MAH), s		1.8	3.7	1.7	3.6	1.6	3.8	1.6	3.8			
Max Q Clear (g_c+I1), s		5.7	19.0	5.8	12.8	5.7	22.6	5.6	19.0			
Green Ext Time (g_e), s		0.0	5.6	0.0	1.2	0.0	6.1	0.0	1.7			
Prob of Phs Call (p_c)		0.97	1.00	0.98	1.00	0.97	1.00	0.97	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4799		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		403		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 24: Monterey Ave & Frank Sinatra Dr

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	104	0	107	0	104	0	99	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	3.7	0.0	3.8	0.0	3.7	0.0	3.6	0.0
Cycle Q Clear Time (g_c), s	3.7	0.0	3.8	0.0	3.7	0.0	3.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	154	0	157	0	154	0	148	0
V/C Ratio (X)	0.68	0.00	0.68	0.00	0.68	0.00	0.67	0.00
Avail Cap (c_a), veh/h	302	0	302	0	302	0	302	0
Upstream Filter (I)	0.80	0.00	1.00	0.00	0.96	0.00	0.95	0.00
Uniform Delay (d1), s/veh	59.3	0.0	59.2	0.0	59.3	0.0	59.4	0.0
Incr Delay (d2), s/veh	1.5	0.0	1.9	0.0	1.9	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.8	0.0	61.2	0.0	61.2	0.0	61.2	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	1.6	0.0	1.6	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	1.7	0.0	1.6	0.0	1.5	0.0
%ile Storage Ratio (RQ%)	0.16	0.00	0.27	0.00	0.21	0.00	0.28	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1255	0	330	0	963	0	495
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	17.0	0.0	10.8	0.0	20.6	0.0	17.0
Cycle Q Clear Time (g_c), s	0.0	17.0	0.0	10.8	0.0	20.6	0.0	17.0
Lane Grp Cap (c), veh/h	0	2989	0	575	0	1993	0	585
V/C Ratio (X)	0.00	0.42	0.00	0.57	0.00	0.48	0.00	0.85
Avail Cap (c_a), veh/h	0	2989	0	987	0	1993	0	987
Upstream Filter (I)	0.00	0.96	0.00	0.95	0.00	0.80	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.4	0.0	48.8	0.0	15.1	0.0	51.1
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.3	0.0	0.7	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.8	0.0	49.1	0.0	15.8	0.0	52.5
1st-Term Q (Q1), veh/ln	0.0	5.8	0.0	4.6	0.0	7.1	0.0	7.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

24: Monterey Ave & Frank Sinatra Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.9	0.0	4.6	0.0	7.2	0.0	7.4
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.02	0.00	0.04	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	33	0	82	0	509	0	22
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1798	0	1585
Q Serve Time (g_s), s	0.0	1.1	0.0	5.8	0.0	20.6	0.0	1.5
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	5.8	0.0	20.6	0.0	1.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.22	0.00	1.00
Lane Grp Cap (c), veh/h	0	928	0	257	0	1053	0	261
V/C Ratio (X)	0.00	0.04	0.00	0.32	0.00	0.48	0.00	0.08
Avail Cap (c_a), veh/h	0	928	0	440	0	1053	0	440
Upstream Filter (I)	0.00	0.96	0.00	0.95	0.00	0.80	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.1	0.0	46.7	0.0	15.1	0.0	44.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	1.3	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.1	0.0	46.9	0.0	16.4	0.0	44.6
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	2.2	0.0	7.4	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	2.2	0.0	7.8	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.40	0.00	0.04	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 25: Portola Ave/Portola Rd & Frank Sinatra Dr

02/20/2019



























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	521	85	78	326	31	151	411	106	62	289	12
Future Volume (veh/h)	8	521	85	78	326	31	151	411	106	62	289	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	532	21	80	333	10	154	419	108	63	295	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	30	713	318	180	1012	452	229	873	217	158	878	35
Arrive On Green	0.02	0.20	0.20	0.10	0.28	0.28	0.13	0.21	0.21	0.09	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	4076	1016	1781	5035	203
Grp Volume(v), veh/h	8	532	21	80	333	10	154	348	179	63	199	108
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1702	1688	1781	1702	1834
Q Serve(g_s), s	0.3	8.0	0.6	2.4	4.2	0.3	4.7	5.1	5.3	1.9	2.9	2.9
Cycle Q Clear(g_c), s	0.3	8.0	0.6	2.4	4.2	0.3	4.7	5.1	5.3	1.9	2.9	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		0.11
Lane Grp Cap(c), veh/h	30	713	318	180	1012	452	229	729	361	158	594	320
V/C Ratio(X)	0.27	0.75	0.07	0.45	0.33	0.02	0.67	0.48	0.50	0.40	0.33	0.34
Avail Cap(c_a), veh/h	470	2187	975	470	2187	975	470	2095	1039	470	2095	1129
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	21.4	18.4	24.1	16.0	14.6	23.7	19.6	19.7	24.5	20.6	20.6
Incr Delay (d2), s/veh	1.8	0.6	0.0	0.6	0.1	0.0	1.3	0.2	0.4	0.6	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.1	0.2	1.0	1.6	0.1	1.9	1.9	1.9	0.8	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	22.0	18.4	24.7	16.1	14.6	24.9	19.7	20.0	25.1	20.7	20.8
LnGrp LOS	C	C	B	C	B	B	C	B	C	C	C	C
Approach Vol, veh/h		561			423			681			370	
Approach Delay, s/veh		21.9			17.7			21.0			21.5	
Approach LOS		C			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	18.7	10.7	17.4	12.3	16.4	5.9	22.2				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0				
Max Green Setting (Gmax), s	15.0	35.0	15.0	35.0	15.0	35.0	15.0	35.0				
Max Q Clear Time (g_c+1), s	13.5	7.3	4.4	10.0	6.7	4.9	2.3	6.2				
Green Ext Time (p_c), s	0.0	1.3	0.0	1.4	0.0	0.7	0.0	0.9				

Intersection Summary

HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis
 25: Portola Ave/Portola Rd & Frank Sinatra Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	521	85	78	326	31	151	411	106	62	289	12
Future Volume (veh/h)	8	521	85	78	326	31	151	411	106	62	289	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	532	21	80	333	10	154	419	108	63	295	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	30	713	318	180	1012	452	229	873	217	158	878	35
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.20	0.20	0.10	0.28	0.28	0.13	0.21	0.21	0.09	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	29.4	22.0	18.4	24.7	16.1	14.6	24.9	19.7	20.0	25.1	20.7	20.8
Ln Grp LOS	C	C	B	C	B	B	C	B	C	C	C	C
Approach Vol, veh/h		561			423			681			370	
Approach Delay, s/veh		21.9			17.7			21.0			21.5	
Approach LOS		C			B			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.0	18.7	10.7	17.4	12.3	16.4	5.9	22.2			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0			
Max Green (Gmax), s		15.0	35.0	15.0	35.0	15.0	35.0	15.0	35.0			
Max Allow Headway (MAH), s		1.8	3.3	1.8	3.2	1.8	3.3	1.8	3.2			
Max Q Clear (g_c+I1), s		3.9	7.3	4.4	10.0	6.7	4.9	2.3	6.2			
Green Ext Time (g_e), s		0.0	1.3	0.0	1.4	0.0	0.7	0.0	0.9			
Prob of Phs Call (p_c)		0.63	1.00	0.72	1.00	0.91	0.99	0.12	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			4076		3554		5035		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1016		1585		203		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 25: Portola Ave/Portola Rd & Frank Sinatra Dr

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	63	0	80	0	154	0	8	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.9	0.0	2.4	0.0	4.7	0.0	0.3	0.0
Cycle Q Clear Time (g_c), s	1.9	0.0	2.4	0.0	4.7	0.0	0.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	158	0	180	0	229	0	30	0
V/C Ratio (X)	0.40	0.00	0.45	0.00	0.67	0.00	0.27	0.00
Avail Cap (c_a), veh/h	470	0	470	0	470	0	470	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	24.5	0.0	24.1	0.0	23.7	0.0	27.6	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.6	0.0	1.3	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.1	0.0	24.7	0.0	24.9	0.0	29.4	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	0.9	0.0	1.8	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.8	0.0	1.0	0.0	1.9	0.0	0.1	0.0
%ile Storage Ratio (RQ%)	0.11	0.00	0.17	0.00	0.19	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	348	0	532	0	199	0	333
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	5.1	0.0	8.0	0.0	2.9	0.0	4.2
Cycle Q Clear Time (g_c), s	0.0	5.1	0.0	8.0	0.0	2.9	0.0	4.2
Lane Grp Cap (c), veh/h	0	729	0	713	0	594	0	1012
V/C Ratio (X)	0.00	0.48	0.00	0.75	0.00	0.33	0.00	0.33
Avail Cap (c_a), veh/h	0	2095	0	2187	0	2095	0	2187
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.6	0.0	21.4	0.0	20.6	0.0	16.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.7	0.0	22.0	0.0	20.7	0.0	16.1
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	3.0	0.0	1.1	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

25: Portola Ave/Portola Rd & Frank Sinatra Dr

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	3.1	0.0	1.1	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	179	0	21	0	108	0	10
Grp Sat Flow (s), veh/h/ln	0	1688	0	1585	0	1834	0	1585
Q Serve Time (g_s), s	0.0	5.3	0.0	0.6	0.0	2.9	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	5.3	0.0	0.6	0.0	2.9	0.0	0.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.60	0.00	1.00	0.00	0.11	0.00	1.00
Lane Grp Cap (c), veh/h	0	361	0	318	0	320	0	452
V/C Ratio (X)	0.00	0.50	0.00	0.07	0.00	0.34	0.00	0.02
Avail Cap (c_a), veh/h	0	1039	0	975	0	1129	0	975
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.7	0.0	18.4	0.0	20.6	0.0	14.6
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	18.4	0.0	20.8	0.0	14.6
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.2	0.0	1.2	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	0.2	0.0	1.2	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 26: Cook St & Frank Sinatra Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	226	275	156	52	155	51	184	934	70	68	833	168
Future Volume (veh/h)	226	275	156	52	155	51	184	934	70	68	833	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	293	31	55	165	7	196	994	74	72	886	57
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	388	619	276	258	486	217	383	1115	83	296	1570	487
Arrive On Green	0.11	0.17	0.17	0.07	0.14	0.14	0.11	0.33	0.33	0.09	0.31	0.31
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3353	250	3456	5106	1585
Grp Volume(v), veh/h	240	293	31	55	165	7	196	527	541	72	886	57
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1825	1728	1702	1585
Q Serve(g_s), s	4.7	5.2	1.2	1.1	3.0	0.3	3.8	19.9	19.9	1.4	10.3	1.8
Cycle Q Clear(g_c), s	4.7	5.2	1.2	1.1	3.0	0.3	3.8	19.9	19.9	1.4	10.3	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	388	619	276	258	486	217	383	591	607	296	1570	487
V/C Ratio(X)	0.62	0.47	0.11	0.21	0.34	0.03	0.51	0.89	0.89	0.24	0.56	0.12
Avail Cap(c_a), veh/h	734	1610	718	734	1861	830	734	1132	1163	734	3253	1010
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	26.3	24.6	30.7	27.6	26.4	29.6	22.4	22.4	30.2	20.5	17.6
Incr Delay (d2), s/veh	0.6	0.2	0.1	0.2	0.2	0.0	0.4	1.9	1.9	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.1	0.4	0.4	1.2	0.1	1.4	7.1	7.3	0.5	3.4	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	26.5	24.6	30.9	27.8	26.5	30.0	24.3	24.2	30.3	20.6	17.6
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	B
Approach Vol, veh/h		564			227			1264			1015	
Approach Delay, s/veh		28.1			28.5			25.1			21.1	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	19.3	12.8	28.2	12.9	16.7	11.1	30.0				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5				
Max Green Setting (Gmax), s	15.0	32.0	15.0	45.0	15.0	37.0	15.0	45.0				
Max Q Clear Time (g_c+1/3), s	13.1	7.2	5.8	12.3	6.7	5.0	3.4	21.9				
Green Ext Time (p_c), s	0.0	0.7	0.1	1.9	0.1	0.4	0.0	1.6				

Intersection Summary

































HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 26: Cook St & Frank Sinatra Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	  	
Traffic Volume (veh/h)	226	275	156	52	155	51	184	934	70	68	833	168
Future Volume (veh/h)	226	275	156	52	155	51	184	934	70	68	833	168
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	293	31	55	165	7	196	994	74	72	886	57
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	388	619	276	258	486	217	383	1115	83	296	1570	487
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.17	0.17	0.07	0.14	0.14	0.11	0.33	0.33	0.09	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	30.5	26.5	24.6	30.9	27.8	26.5	30.0	24.3	24.2	30.3	20.6	17.6
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	B
Approach Vol, veh/h		564			227			1264			1015	
Approach Delay, s/veh		28.1			28.5			25.1			21.1	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		10.3	19.3	12.8	28.2	12.9	16.7	11.1	30.0			
Change Period (Y+Rc), s		5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5			
Max Green (Gmax), s		15.0	32.0	15.0	45.0	15.0	37.0	15.0	45.0			
Max Allow Headway (MAH), s		1.8	3.1	1.6	2.7	1.8	3.2	1.6	2.8			
Max Q Clear (g_c+I1), s		3.1	7.2	5.8	12.3	6.7	5.0	3.4	21.9			
Green Ext Time (g_e), s		0.0	0.7	0.1	1.9	0.1	0.4	0.0	1.6			
Prob of Phs Call (p_c)		0.66	1.00	0.98	1.00	0.99	0.97	0.76	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		3353			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		250			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 26: Cook St & Frank Sinatra Dr

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	55	0	196	0	240	0	72	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	1.1	0.0	3.8	0.0	4.7	0.0	1.4	0.0
Cycle Q Clear Time (g_c), s	1.1	0.0	3.8	0.0	4.7	0.0	1.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	258	0	383	0	388	0	296	0
V/C Ratio (X)	0.21	0.00	0.51	0.00	0.62	0.00	0.24	0.00
Avail Cap (c_a), veh/h	734	0	734	0	734	0	734	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	30.7	0.0	29.6	0.0	29.9	0.0	30.2	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.0	0.6	0.0	0.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	30.9	0.0	30.0	0.0	30.5	0.0	30.3	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	1.4	0.0	1.9	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	1.4	0.0	1.9	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.26	0.00	0.35	0.00	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	1
Grp Vol (v), veh/h	0	293	0	886	0	165	0	527
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1777
Q Serve Time (g_s), s	0.0	5.2	0.0	10.3	0.0	3.0	0.0	19.9
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	10.3	0.0	3.0	0.0	19.9
Lane Grp Cap (c), veh/h	0	619	0	1570	0	486	0	591
V/C Ratio (X)	0.00	0.47	0.00	0.56	0.00	0.34	0.00	0.89
Avail Cap (c_a), veh/h	0	1610	0	3253	0	1861	0	1132
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.3	0.0	20.5	0.0	27.6	0.0	22.4
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	0.0	0.2	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.5	0.0	20.6	0.0	27.8	0.0	24.3
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	3.4	0.0	1.2	0.0	6.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis
 26: Cook St & Frank Sinatra Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	3.4	0.0	1.2	0.0	7.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	31	0	57	0	7	0	541
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1825
Q Serve Time (g_s), s	0.0	1.2	0.0	1.8	0.0	0.3	0.0	19.9
Cycle Q Clear Time (g_c), s	0.0	1.2	0.0	1.8	0.0	0.3	0.0	19.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.14
Lane Grp Cap (c), veh/h	0	276	0	487	0	217	0	607
V/C Ratio (X)	0.00	0.11	0.00	0.12	0.00	0.03	0.00	0.89
Avail Cap (c_a), veh/h	0	718	0	1010	0	830	0	1163
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.6	0.0	17.6	0.0	26.4	0.0	22.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.6	0.0	17.6	0.0	26.5	0.0	24.2
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.6	0.0	0.1	0.0	7.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	0.6	0.0	0.1	0.0	7.3
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.07	0.00	0.01	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary

27: Bob Hope Dr & Country Club Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	253	101	206	331	179	115	579	194	161	566	45
Future Volume (veh/h)	58	253	101	206	331	179	115	579	194	161	566	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	261	17	212	341	55	119	597	68	166	584	46
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	497	222	264	832	371	259	855	381	283	825	65
Arrive On Green	0.05	0.14	0.14	0.15	0.23	0.23	0.07	0.24	0.24	0.08	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3333	262
Grp Volume(v), veh/h	60	261	17	212	341	55	119	597	68	166	311	319
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1818
Q Serve(g_s), s	1.9	3.9	0.5	6.5	4.6	1.6	1.9	8.7	1.9	2.6	9.0	9.1
Cycle Q Clear(g_c), s	1.9	3.9	0.5	6.5	4.6	1.6	1.9	8.7	1.9	2.6	9.0	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	96	497	222	264	832	371	259	855	381	283	440	450
V/C Ratio(X)	0.62	0.53	0.08	0.80	0.41	0.15	0.46	0.70	0.18	0.59	0.71	0.71
Avail Cap(c_a), veh/h	788	1886	841	630	1886	841	1223	1761	785	1223	880	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	22.6	21.1	23.3	18.3	17.2	25.1	19.6	17.0	25.0	19.4	19.4
Incr Delay (d2), s/veh	2.5	0.6	0.1	2.2	0.2	0.1	0.5	0.8	0.2	0.7	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.4	0.2	2.5	1.6	0.5	0.7	3.1	0.6	1.0	3.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	23.2	21.2	25.4	18.6	17.3	25.5	20.4	17.2	25.7	20.9	20.9
LnGrp LOS	C	C	C	C	B	B	C	C	B	C	C	C
Approach Vol, veh/h		338			608			784			796	
Approach Delay, s/veh		24.1			20.8			20.9			21.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	20.5	7.6	19.7	9.1	20.1	12.9	14.4				
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5				
Max Green Setting (Gmax), s	20.0	28.0	25.0	30.0	20.0	28.0	20.0	30.0				
Max Q Clear Time (g_c+1/3), s	13.5	11.1	3.9	6.6	4.6	10.7	8.5	5.9				
Green Ext Time (p_c), s	0.1	2.4	0.1	1.6	0.2	2.9	0.2	1.2				

Intersection Summary

























HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	253	101	206	331	179	115	579	194	161	566	45
Future Volume (veh/h)	58	253	101	206	331	179	115	579	194	161	566	45
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	261	17	212	341	55	119	597	68	166	584	46
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	96	497	222	264	832	371	259	855	381	283	825	65
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.14	0.14	0.15	0.23	0.23	0.07	0.24	0.24	0.08	0.25	0.25
Unsig. Movement Delay												
Ln Grp Delay, s/veh	28.6	23.2	21.2	25.4	18.6	17.3	25.5	20.4	17.2	25.7	20.9	20.9
Ln Grp LOS	C	C	C	C	B	B	C	C	B	C	C	C
Approach Vol, veh/h		338			608			784			796	
Approach Delay, s/veh		24.1			20.8			20.9			21.9	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		8.7	20.5	7.6	19.7	9.1	20.1	12.9	14.4			
Change Period (Y+Rc), s		4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5			
Max Green (Gmax), s		20.0	28.0	25.0	30.0	20.0	28.0	20.0	30.0			
Max Allow Headway (MAH), s		2.7	4.3	2.7	4.2	2.7	4.3	2.7	4.3			
Max Q Clear (g_c+I1), s		3.9	11.1	3.9	6.6	4.6	10.7	8.5	5.9			
Green Ext Time (g_e), s		0.1	2.4	0.1	1.6	0.2	2.9	0.2	1.2			
Prob of Phs Call (p_c)		0.85	1.00	0.61	1.00	0.93	1.00	0.96	0.99			
Prob of Max Out (p_x)		0.00	0.03	0.00	0.00	0.00	0.02	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3333		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			262		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
27: Bob Hope Dr & Country Club Dr

02/20/2019

Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	119	0	60	0	166	0	212	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	1.9	0.0	1.9	0.0	2.6	0.0	6.5	0.0
Cycle Q Clear Time (g_c), s	1.9	0.0	1.9	0.0	2.6	0.0	6.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	259	0	96	0	283	0	264	0
V/C Ratio (X)	0.46	0.00	0.62	0.00	0.59	0.00	0.80	0.00
Avail Cap (c_a), veh/h	1223	0	788	0	1223	0	630	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	25.1	0.0	26.2	0.0	25.0	0.0	23.3	0.0
Incr Delay (d2), s/veh	0.5	0.0	2.5	0.0	0.7	0.0	2.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.5	0.0	28.6	0.0	25.7	0.0	25.4	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.7	0.0	0.9	0.0	2.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	0.8	0.0	1.0	0.0	2.5	0.0
%ile Storage Ratio (RQ%)	0.20	0.00	0.13	0.00	0.11	0.00	0.21	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	2	0	2
Grp Vol (v), veh/h	0	311	0	341	0	597	0	261
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	9.0	0.0	4.6	0.0	8.7	0.0	3.9
Cycle Q Clear Time (g_c), s	0.0	9.0	0.0	4.6	0.0	8.7	0.0	3.9
Lane Grp Cap (c), veh/h	0	440	0	832	0	855	0	497
V/C Ratio (X)	0.00	0.71	0.00	0.41	0.00	0.70	0.00	0.53
Avail Cap (c_a), veh/h	0	880	0	1886	0	1761	0	1886
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.4	0.0	18.3	0.0	19.6	0.0	22.6
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.2	0.0	0.8	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.9	0.0	18.6	0.0	20.4	0.0	23.2
1st-Term Q (Q1), veh/ln	0.0	3.0	0.0	1.5	0.0	3.0	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.2	0.0	1.6	0.0	3.1	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	319	0	55	0	68	0	17
Grp Sat Flow (s), veh/h/ln	0	1818	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	9.1	0.0	1.6	0.0	1.9	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	9.1	0.0	1.6	0.0	1.9	0.0	0.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.14	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	450	0	371	0	381	0	222
V/C Ratio (X)	0.00	0.71	0.00	0.15	0.00	0.18	0.00	0.08
Avail Cap (c_a), veh/h	0	901	0	841	0	785	0	841
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.4	0.0	17.2	0.0	17.0	0.0	21.1
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.1	0.0	0.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.9	0.0	17.3	0.0	17.2	0.0	21.2
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	0.5	0.0	0.6	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.3	0.0	0.5	0.0	0.6	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.15	0.00	0.10	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	21.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 28: Monterey Ave & Country Club Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑	↖	↖ ↗	↑ ↑ ↑	↖	↖ ↗	↑ ↑ ↑	↖	↖ ↗	↑ ↑ ↑	↖
Traffic Volume (veh/h)	177	662	268	219	369	168	203	1154	204	236	1101	97
Future Volume (veh/h)	177	662	268	219	369	168	203	1154	204	236	1101	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	697	0	231	388	0	214	1215	109	248	1159	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	241	821		287	888		266	2304	715	303	2358	732
Arrive On Green	0.07	0.16	0.00	0.08	0.17	0.00	0.15	0.90	0.90	0.09	0.46	0.46
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	186	697	0	231	388	0	214	1215	109	248	1159	42
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	6.3	15.9	0.0	7.9	8.2	0.0	7.2	5.3	0.9	8.5	19.0	1.8
Cycle Q Clear(g_c), s	6.3	15.9	0.0	7.9	8.2	0.0	7.2	5.3	0.9	8.5	19.0	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	241	821		287	888		266	2304	715	303	2358	732
V/C Ratio(X)	0.77	0.85		0.81	0.44		0.80	0.53	0.15	0.82	0.49	0.06
Avail Cap(c_a), veh/h	346	1332		432	1459		432	2304	715	374	2358	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.00	0.89	0.89	0.00	0.90	0.90	0.90	0.90	0.90	0.90
Uniform Delay (d), s/veh	54.9	48.9	0.0	54.1	44.3	0.0	49.9	3.5	3.3	53.8	22.5	17.8
Incr Delay (d2), s/veh	3.3	1.3	0.0	3.2	0.1	0.0	2.0	0.8	0.4	8.3	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	6.6	0.0	3.4	3.3	0.0	2.9	1.3	0.4	3.9	7.1	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	50.3	0.0	57.3	44.4	0.0	51.8	4.2	3.7	62.2	23.1	18.0
LnGrp LOS	E	D		E	D		D	A	A	E	C	B
Approach Vol, veh/h		883	A		619	A		1538			1449	
Approach Delay, s/veh		51.9			49.2			10.8			29.7	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.5	61.6	16.0	26.0	15.2	62.8	14.4	27.6				
Change Period (Y+Rc), s	6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7				
Max Green Setting (Gmax), s	13.0	34.6	15.0	31.3	15.0	32.6	12.0	34.3				
Max Q Clear Time (g_c+10), s	10.5	7.3	9.9	17.9	9.2	21.0	8.3	10.2				
Green Ext Time (p_c), s	0.0	2.9	0.1	1.4	0.1	2.2	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 28: Monterey Ave & Country Club Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	662	268	219	369	168	203	1154	204	236	1101	97
Future Volume (veh/h)	177	662	268	219	369	168	203	1154	204	236	1101	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	697	0	231	388	0	214	1215	109	248	1159	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	241	821		287	888		266	2304	715	303	2358	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.16	0.00	0.08	0.17	0.00	0.15	0.90	0.90	0.09	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.2	50.3	0.0	57.3	44.4	0.0	51.8	4.2	3.7	62.2	23.1	18.0
Ln Grp LOS	E	D		E	D		D	A	A	E	C	B
Approach Vol, veh/h		883			619			1538			1449	
Approach Delay, s/veh		51.9			49.2			10.8			29.7	
Approach LOS		D			D			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		16.5	61.6	16.0	26.0	15.2	62.8	14.4	27.6			
Change Period (Y+Rc), s		6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7			
Max Green (Gmax), s		13.0	34.6	15.0	31.3	15.0	32.6	12.0	34.3			
Max Allow Headway (MAH), s		1.6	2.7	1.7	2.8	1.7	2.7	1.7	2.8			
Max Q Clear (g_c+I1), s		10.5	7.3	9.9	17.9	9.2	21.0	8.3	10.2			
Green Ext Time (g_e), s		0.0	2.9	0.1	1.4	0.1	2.2	0.0	0.8			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	248	0	231	0	214	0	186	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	8.5	0.0	7.9	0.0	7.2	0.0	6.3	0.0
Cycle Q Clear Time (g_c), s	8.5	0.0	7.9	0.0	7.2	0.0	6.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	303	0	287	0	266	0	241	0
V/C Ratio (X)	0.82	0.00	0.81	0.00	0.80	0.00	0.77	0.00
Avail Cap (c_a), veh/h	374	0	432	0	432	0	346	0
Upstream Filter (I)	0.90	0.00	0.89	0.00	0.90	0.00	0.90	0.00
Uniform Delay (d1), s/veh	53.8	0.0	54.1	0.0	49.9	0.0	54.9	0.0
Incr Delay (d2), s/veh	8.3	0.0	3.2	0.0	2.0	0.0	3.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	62.2	0.0	57.3	0.0	51.8	0.0	58.2	0.0
1st-Term Q (Q1), veh/ln	3.5	0.0	3.3	0.0	2.8	0.0	2.7	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.1	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.9	0.0	3.4	0.0	2.9	0.0	2.8	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.40	0.00	0.29	0.00	0.51	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	3	0	3
Grp Vol (v), veh/h	0	1215	0	697	0	1159	0	388
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	5.3	0.0	15.9	0.0	19.0	0.0	8.2
Cycle Q Clear Time (g_c), s	0.0	5.3	0.0	15.9	0.0	19.0	0.0	8.2
Lane Grp Cap (c), veh/h	0	2304	0	821	0	2358	0	888
V/C Ratio (X)	0.00	0.53	0.00	0.85	0.00	0.49	0.00	0.44
Avail Cap (c_a), veh/h	0	2304	0	1332	0	2358	0	1459
Upstream Filter (I)	0.00	0.90	0.00	0.90	0.00	0.90	0.00	0.89
Uniform Delay (d1), s/veh	0.0	3.5	0.0	48.9	0.0	22.5	0.0	44.3
Incr Delay (d2), s/veh	0.0	0.8	0.0	1.3	0.0	0.7	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.2	0.0	50.3	0.0	23.1	0.0	44.4
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	6.5	0.0	7.0	0.0	3.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	6.6	0.0	7.1	0.0	3.3
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.03	0.00	0.03	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	109	0	0	0	42	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.9	0.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.9	0.0	0.0	0.0	1.8	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	715	0	255	0	732	0	276
V/C Ratio (X)	0.00	0.15	0.00	0.00	0.00	0.06	0.00	0.00
Avail Cap (c_a), veh/h	0	715	0	413	0	732	0	453
Upstream Filter (I)	0.00	0.90	0.00	0.00	0.00	0.90	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.3	0.0	0.0	0.0	17.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.7	0.0	0.0	0.0	18.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	0.0	0.0	0.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	738	174	158	538	136	147	460	142	68	404	42
Future Volume (veh/h)	37	738	174	158	538	136	147	460	142	68	404	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	769	98	165	560	68	153	479	37	71	421	44
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	968	432	233	1167	521	230	710	317	185	566	59
Arrive On Green	0.07	0.27	0.27	0.13	0.33	0.33	0.13	0.20	0.20	0.10	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3249	338
Grp Volume(v), veh/h	39	769	98	165	560	68	153	479	37	71	229	236
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1810
Q Serve(g_s), s	1.5	14.9	3.5	6.6	9.3	2.2	6.1	9.2	1.4	2.8	9.1	9.1
Cycle Q Clear(g_c), s	1.5	14.9	3.5	6.6	9.3	2.2	6.1	9.2	1.4	2.8	9.1	9.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	133	968	432	233	1167	521	230	710	317	185	310	315
V/C Ratio(X)	0.29	0.79	0.23	0.71	0.48	0.13	0.66	0.67	0.12	0.38	0.74	0.75
Avail Cap(c_a), veh/h	361	1441	643	482	1441	643	482	1633	729	361	769	783
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	25.0	20.9	30.8	19.8	17.4	30.7	27.4	24.2	30.9	29.0	29.0
Incr Delay (d2), s/veh	0.5	1.0	0.1	1.5	0.1	0.0	1.2	0.4	0.1	0.5	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	6.1	1.3	2.8	3.6	0.8	2.6	3.8	0.5	1.2	3.8	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	26.0	21.0	32.3	19.9	17.5	31.9	27.8	24.3	31.4	30.3	30.3
LnGrp LOS	C	C	C	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h	906			793			669			536		
Approach Delay, s/veh	25.8			22.3			28.5			30.4		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	30.0	14.6	18.9	14.7	25.8	12.7	20.8				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	15.0	30.0	20.0	32.0	20.0	30.0	15.0	34.0				
Max Q Clear Time (g_c+1), s	13.5	11.3	8.1	11.1	8.6	16.9	4.8	11.2				
Green Ext Time (p_c), s	0.0	2.6	0.0	1.8	0.1	3.3	0.0	2.2				

Intersection Summary

HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	738	174	158	538	136	147	460	142	68	404	42
Future Volume (veh/h)	37	738	174	158	538	136	147	460	142	68	404	42
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	769	98	165	560	68	153	479	37	71	421	44
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	133	968	432	233	1167	521	230	710	317	185	566	59
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.27	0.27	0.13	0.33	0.33	0.13	0.20	0.20	0.10	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	32.8	26.0	21.0	32.3	19.9	17.5	31.9	27.8	24.3	31.4	30.3	30.3
Ln Grp LOS	C	C	C	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		906			793			669			536	
Approach Delay, s/veh		25.8			22.3			28.5			30.4	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.5	30.0	14.6	18.9	14.7	25.8	12.7	20.8			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		15.0	30.0	20.0	32.0	20.0	30.0	15.0	34.0			
Max Allow Headway (MAH), s		1.8	4.1	1.8	4.3	1.8	4.1	1.8	4.2			
Max Q Clear (g_c+I1), s		3.5	11.3	8.1	11.1	8.6	16.9	4.8	11.2			
Green Ext Time (g_e), s		0.0	2.6	0.0	1.8	0.1	3.3	0.0	2.2			
Prob of Phs Call (p_c)		0.55	1.00	0.96	1.00	0.97	1.00	0.77	1.00			
Prob of Max Out (p_x)		0.00	0.01	0.00	0.00	0.00	0.11	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3249		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		338		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	39	0	153	0	165	0	71	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.5	0.0	6.1	0.0	6.6	0.0	2.8	0.0
Cycle Q Clear Time (g_c), s	1.5	0.0	6.1	0.0	6.6	0.0	2.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	133	0	230	0	233	0	185	0
V/C Ratio (X)	0.29	0.00	0.66	0.00	0.71	0.00	0.38	0.00
Avail Cap (c_a), veh/h	361	0	482	0	482	0	361	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	32.4	0.0	30.7	0.0	30.8	0.0	30.9	0.0
Incr Delay (d2), s/veh	0.5	0.0	1.2	0.0	1.5	0.0	0.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	32.8	0.0	31.9	0.0	32.3	0.0	31.4	0.0
1st-Term Q (Q1), veh/ln	0.6	0.0	2.5	0.0	2.7	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	2.6	0.0	2.8	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.41	0.00	0.40	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	560	0	229	0	769	0	479
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	9.3	0.0	9.1	0.0	14.9	0.0	9.2
Cycle Q Clear Time (g_c), s	0.0	9.3	0.0	9.1	0.0	14.9	0.0	9.2
Lane Grp Cap (c), veh/h	0	1167	0	310	0	968	0	710
V/C Ratio (X)	0.00	0.48	0.00	0.74	0.00	0.79	0.00	0.67
Avail Cap (c_a), veh/h	0	1441	0	769	0	1441	0	1633
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.8	0.0	29.0	0.0	25.0	0.0	27.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.3	0.0	1.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.9	0.0	30.3	0.0	26.0	0.0	27.8
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	3.7	0.0	5.9	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.6	0.0	3.8	0.0	6.1	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.11	0.00	0.03	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	68	0	236	0	98	0	37
Grp Sat Flow (s), veh/h/ln	0	1585	0	1810	0	1585	0	1585
Q Serve Time (g_s), s	0.0	2.2	0.0	9.1	0.0	3.5	0.0	1.4
Cycle Q Clear Time (g_c), s	0.0	2.2	0.0	9.1	0.0	3.5	0.0	1.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.19	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	521	0	315	0	432	0	317
V/C Ratio (X)	0.00	0.13	0.00	0.75	0.00	0.23	0.00	0.12
Avail Cap (c_a), veh/h	0	643	0	783	0	643	0	729
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.4	0.0	29.0	0.0	20.9	0.0	24.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.5	0.0	30.3	0.0	21.0	0.0	24.3
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	3.8	0.0	1.3	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	3.9	0.0	1.3	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.12	0.00	0.32	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 30: Monterey Ave & Hovley Ln W

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1	8	46	6	100	12	1423	61	90	1258	4
Future Volume (veh/h)	2	1	8	46	6	100	12	1423	61	90	1258	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	1	8	48	6	8	13	1498	64	95	1324	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	14	109	160	142	120	37	3652	156	117	4061	12
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.02	0.73	0.73	0.13	1.00	1.00
Sat Flow, veh/h	1400	179	1433	1406	1870	1585	1781	5021	215	1781	5256	16
Grp Volume(v), veh/h	2	0	9	48	6	8	13	1015	547	95	858	470
Grp Sat Flow(s),veh/h/ln1400	0	1612	1406	1870	1585	1781	1702	1832	1781	1702	1868	
Q Serve(g_s), s	0.2	0.0	0.6	3.9	0.4	0.6	0.9	13.9	13.9	6.2	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.6	4.6	0.4	0.6	0.9	13.9	13.9	6.2	0.0	0.0
Prop In Lane	1.00		0.89	1.00		1.00	1.00		0.12	1.00		0.01
Lane Grp Cap(c), veh/h	162	0	123	160	142	120	37	2476	1332	117	2630	1443
V/C Ratio(X)	0.01	0.00	0.07	0.30	0.04	0.07	0.36	0.41	0.41	0.81	0.33	0.33
Avail Cap(c_a), veh/h	429	0	430	428	499	423	148	2476	1332	282	2630	1443
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.57	0.57	0.57	0.80	0.80	0.80
Uniform Delay (d), s/veh	51.6	0.0	51.5	53.6	51.4	51.5	58.0	6.4	6.4	51.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.4	0.0	0.1	1.2	0.3	0.5	4.0	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.3	1.4	0.2	0.2	0.4	3.9	4.3	2.8	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	0.0	51.6	54.0	51.4	51.6	59.2	6.6	6.9	55.4	0.3	0.5
LnGrp LOS	D	A	D	D	D	D	E	A	A	E	A	A
Approach Vol, veh/h		11			62			1575			1423	
Approach Delay, s/veh		51.6			53.5			7.2			4.0	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.9	93.0		14.1	7.5	98.4		14.1				
Change Period (Y+Rc), s	5.0	5.7		5.0	5.0	5.7		5.0				
Max Green Setting (Gmax), s	19.0	53.3		32.0	10.0	62.3		32.0				
Max Q Clear Time (g_c+I), s	19.2	15.9		2.6	2.9	2.0		6.6				
Green Ext Time (p_c), s	0.0	7.3		0.0	0.0	3.8		0.1				

Intersection Summary

HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷	↷	↶	↷↷↷		↶	↷↷↷	
Traffic Volume (veh/h)	2	1	8	46	6	100	12	1423	61	90	1258	4
Future Volume (veh/h)	2	1	8	46	6	100	12	1423	61	90	1258	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	1	8	48	6	8	13	1498	64	95	1324	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	162	14	109	160	142	120	37	3652	156	117	4061	12
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.02	0.73	0.73	0.13	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	51.6	0.0	51.6	54.0	51.4	51.6	59.2	6.6	6.9	55.4	0.3	0.5
Ln Grp LOS	D	A	D	D	D	D	E	A	A	E	A	A
Approach Vol, veh/h		11			62			1575			1423	
Approach Delay, s/veh		51.6			53.5			7.2			4.0	
Approach LOS		D			D			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		6.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		12.9	93.0		14.1	7.5	98.4		14.1			
Change Period (Y+Rc), s		5.0	5.7		5.0	5.0	5.7		5.0			
Max Green (Gmax), s		19.0	53.3		32.0	10.0	62.3		32.0			
Max Allow Headway (MAH), s		1.8	3.8		3.2	1.7	3.2		2.8			
Max Q Clear (g_c+I1), s		8.2	15.9		2.6	2.9	2.0		6.6			
Green Ext Time (g_e), s		0.0	7.3		0.0	0.0	3.8		0.1			
Prob of Phs Call (p_c)		0.96	1.00		0.91	0.35	1.00		0.91			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1400	1781			1406			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5021		179		5256		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			215		1433		16		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

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Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	95	0	0	2	13	0	0	48
Grp Sat Flow (s), veh/h/ln	1781	0	0	1400	1781	0	0	1406
Q Serve Time (g_s), s	6.2	0.0	0.0	0.2	0.9	0.0	0.0	3.9
Cycle Q Clear Time (g_c), s	6.2	0.0	0.0	0.5	0.9	0.0	0.0	4.6
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1400	0	0	0	1406
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	9.1	0.0	0.0	0.0	9.1
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	8.8	0.0	0.0	0.0	8.5
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	3.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	117	0	0	162	37	0	0	160
V/C Ratio (X)	0.81	0.00	0.00	0.01	0.36	0.00	0.00	0.30
Avail Cap (c_a), veh/h	282	0	0	429	148	0	0	428
Upstream Filter (I)	0.80	0.00	0.00	1.00	0.57	0.00	0.00	1.00
Uniform Delay (d1), s/veh	51.4	0.0	0.0	51.6	58.0	0.0	0.0	53.6
Incr Delay (d2), s/veh	4.0	0.0	0.0	0.0	1.2	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	55.4	0.0	0.0	51.6	59.2	0.0	0.0	54.0
1st-Term Q (Q1), veh/ln	2.6	0.0	0.0	0.1	0.4	0.0	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	2.8	0.0	0.0	0.1	0.4	0.0	0.0	1.4
%ile Storage Ratio (RQ%)	0.35	0.00	0.00	0.00	0.10	0.00	0.00	0.32
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	2	0	0	0	2	0	1
Grp Vol (v), veh/h	0	1015	0	0	0	858	0	6
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	13.9	0.0	0.0	0.0	0.0	0.0	0.4
Lane Grp Cap (c), veh/h	0	2476	0	0	0	2630	0	142
V/C Ratio (X)	0.00	0.41	0.00	0.00	0.00	0.33	0.00	0.04
Avail Cap (c_a), veh/h	0	2476	0	0	0	2630	0	499
Upstream Filter (I)	0.00	0.57	0.00	0.00	0.00	0.80	0.00	1.00
Uniform Delay (d1), s/veh	0.0	6.4	0.0	0.0	0.0	0.0	0.0	51.4
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.6	0.0	0.0	0.0	0.3	0.0	51.4
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.9	0.0	0.0	0.0	0.1	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	547	0	9	0	470	0	8
Grp Sat Flow (s), veh/h/ln	0	1832	0	1612	0	1868	0	1585
Q Serve Time (g_s), s	0.0	13.9	0.0	0.6	0.0	0.0	0.0	0.6
Cycle Q Clear Time (g_c), s	0.0	13.9	0.0	0.6	0.0	0.0	0.0	0.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.12	0.00	0.89	0.00	0.01	0.00	1.00
Lane Grp Cap (c), veh/h	0	1332	0	123	0	1443	0	120
V/C Ratio (X)	0.00	0.41	0.00	0.07	0.00	0.33	0.00	0.07
Avail Cap (c_a), veh/h	0	1332	0	430	0	1443	0	423
Upstream Filter (I)	0.00	0.57	0.00	1.00	0.00	0.80	0.00	1.00
Uniform Delay (d1), s/veh	0.0	6.4	0.0	51.5	0.0	0.0	0.0	51.5
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.1	0.0	0.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.9	0.0	51.6	0.0	0.5	0.0	51.6
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	0.3	0.0	0.0	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.3	0.0	0.3	0.0	0.2	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
 31: Monterey Ave & Fred Waring Dr

02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑	↖	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑	↖
Traffic Volume (veh/h)	333	805	87	331	687	243	84	768	277	301	807	231
Future Volume (veh/h)	333	805	87	331	687	243	84	768	277	301	807	231
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	358	866	94	356	739	0	90	826	298	324	868	157
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	412	1524	165	412	1663		219	971	348	379	1574	489
Arrive On Green	0.12	0.33	0.33	0.12	0.33	0.00	0.06	0.26	0.26	0.11	0.31	0.31
Sat Flow, veh/h	3456	4678	506	3456	5106	1585	3456	3706	1329	3456	5106	1585
Grp Volume(v), veh/h	358	629	331	356	739	0	90	758	366	324	868	157
Grp Sat Flow(s),veh/h/ln	1728	1702	1779	1728	1702	1585	1728	1702	1631	1728	1702	1585
Q Serve(g_s), s	12.2	18.3	18.5	12.1	13.7	0.0	3.0	25.4	25.6	11.1	17.0	9.1
Cycle Q Clear(g_c), s	12.2	18.3	18.5	12.1	13.7	0.0	3.0	25.4	25.6	11.1	17.0	9.1
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.81	1.00		1.00
Lane Grp Cap(c), veh/h	412	1109	580	412	1663		219	892	427	379	1574	489
V/C Ratio(X)	0.87	0.57	0.57	0.86	0.44		0.41	0.85	0.86	0.86	0.55	0.32
Avail Cap(c_a), veh/h	490	1109	580	605	1663		288	892	427	490	1574	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	51.9	33.5	33.5	51.9	31.9	0.0	54.0	42.0	42.1	52.5	34.6	31.9
Incr Delay (d2), s/veh	12.1	2.1	4.0	6.2	0.9	0.0	0.5	10.0	19.3	8.9	1.3	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	7.6	8.3	5.5	5.6	0.0	1.3	11.5	12.2	5.1	6.9	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.1	35.6	37.5	58.1	32.8	0.0	54.5	52.0	61.4	61.4	35.9	33.5
LnGrp LOS	E	D	D	E	C		D	D	E	E	D	C
Approach Vol, veh/h		1318			1095	A		1214			1349	
Approach Delay, s/veh		43.8			41.0			55.0			41.7	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.3	45.1	12.6	43.0	19.3	45.1	18.2	37.4				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0				
Max Green Setting (Gmax), s	34.0	10.0	37.0	21.0	30.0	17.0	30.0					
Max Q Clear Time (g_c+1/4), s	15.7	5.0	19.0	14.1	20.5	13.1	27.6					
Green Ext Time (p_c), s	0.1	1.7	0.0	1.9	0.2	1.6	0.1	0.9				

Intersection Summary

































HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 31: Monterey Ave & Fred Waring Dr

02/20/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 	 	 	 	
Traffic Volume (veh/h)	333	805	87	331	687	243	84	768	277	301	807	231
Future Volume (veh/h)	333	805	87	331	687	243	84	768	277	301	807	231
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	358	866	94	356	739	0	90	826	298	324	868	157
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	412	1524	165	412	1663		219	971	348	379	1574	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	0.33	0.33	0.12	0.33	0.00	0.06	0.26	0.26	0.11	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	64.1	35.6	37.5	58.1	32.8	0.0	54.5	52.0	61.4	61.4	35.9	33.5
Ln Grp LOS	E	D	D	E	C		D	D	E	E	D	C
Approach Vol, veh/h		1318			1095			1214			1349	
Approach Delay, s/veh		43.8			41.0			55.0			41.7	
Approach LOS		D			D			E			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		19.3	45.1	12.6	43.0	19.3	45.1	18.2	37.4			
Change Period (Y+Rc), s		5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0			
Max Green (Gmax), s		17.0	34.0	10.0	37.0	21.0	30.0	17.0	30.0			
Max Allow Headway (MAH), s		1.7	2.9	1.7	2.7	1.7	2.9	1.7	3.0			
Max Q Clear (g_c+I1), s		14.2	15.7	5.0	19.0	14.1	20.5	13.1	27.6			
Green Ext Time (g_e), s		0.1	1.7	0.0	1.9	0.2	1.6	0.1	0.9			
Prob of Phs Call (p_c)		1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.11	0.00	0.00	0.00	0.00	0.00	0.01	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		4678		3706			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		506		1329			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 31: Monterey Ave & Fred Waring Dr

02/20/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	358	0	90	0	356	0	324	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	12.2	0.0	3.0	0.0	12.1	0.0	11.1	0.0
Cycle Q Clear Time (g_c), s	12.2	0.0	3.0	0.0	12.1	0.0	11.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	412	0	219	0	412	0	379	0
V/C Ratio (X)	0.87	0.00	0.41	0.00	0.86	0.00	0.86	0.00
Avail Cap (c_a), veh/h	490	0	288	0	605	0	490	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.95	0.00
Uniform Delay (d1), s/veh	51.9	0.0	54.0	0.0	51.9	0.0	52.5	0.0
Incr Delay (d2), s/veh	12.1	0.0	0.5	0.0	6.2	0.0	8.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.1	0.0	54.5	0.0	58.1	0.0	61.4	0.0
1st-Term Q (Q1), veh/ln	5.2	0.0	1.3	0.0	5.1	0.0	4.6	0.0
2nd-Term Q (Q2), veh/ln	0.7	0.0	0.0	0.0	0.4	0.0	0.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	5.8	0.0	1.3	0.0	5.5	0.0	5.1	0.0
%ile Storage Ratio (RQ%)	1.10	0.00	0.19	0.00	0.79	0.00	0.96	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	2	0	2
Grp Vol (v), veh/h	0	739	0	868	0	629	0	758
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	13.7	0.0	17.0	0.0	18.3	0.0	25.4
Cycle Q Clear Time (g_c), s	0.0	13.7	0.0	17.0	0.0	18.3	0.0	25.4
Lane Grp Cap (c), veh/h	0	1663	0	1574	0	1109	0	892
V/C Ratio (X)	0.00	0.44	0.00	0.55	0.00	0.57	0.00	0.85
Avail Cap (c_a), veh/h	0	1663	0	1574	0	1109	0	892
Upstream Filter (I)	0.00	1.00	0.00	0.95	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	31.9	0.0	34.6	0.0	33.5	0.0	42.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	1.3	0.0	2.1	0.0	10.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.8	0.0	35.9	0.0	35.6	0.0	52.0
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	6.7	0.0	7.3	0.0	10.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.3	0.0	1.2

HCM 6th Signalized Intersection Capacity Analysis
 31: Monterey Ave & Fred Waring Dr

02/20/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.6	0.0	6.9	0.0	7.6	0.0	11.5
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.02	0.00	0.07	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	157	0	331	0	366
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1779	0	1631
Q Serve Time (g_s), s	0.0	0.0	0.0	9.1	0.0	18.5	0.0	25.6
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.1	0.0	18.5	0.0	25.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.28	0.00	0.81
Lane Grp Cap (c), veh/h	0	516	0	489	0	580	0	427
V/C Ratio (X)	0.00	0.00	0.00	0.32	0.00	0.57	0.00	0.86
Avail Cap (c_a), veh/h	0	516	0	489	0	580	0	427
Upstream Filter (I)	0.00	0.00	0.00	0.95	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	31.9	0.0	33.5	0.0	42.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.6	0.0	4.0	0.0	19.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	33.5	0.0	37.5	0.0	61.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.4	0.0	7.7	0.0	9.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.7	0.0	2.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.6	0.0	8.3	0.0	12.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.23	0.00	0.07	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 32: Monterey Ave & SR-111



































02/20/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	200	1130	144	220	911	212	249	452	175	313	481	162
Future Volume (veh/h)	200	1130	144	220	911	212	249	452	175	313	481	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	1153	48	224	930	147	254	461	57	319	491	54
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	257	2565	796	276	2595	805	305	533	238	354	583	260
Arrive On Green	0.07	0.50	0.50	0.08	0.51	0.51	0.09	0.15	0.15	0.10	0.16	0.16
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	204	1153	48	224	930	147	254	461	57	319	491	54
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	7.4	18.4	2.0	8.1	13.9	6.4	9.2	16.1	4.0	11.6	17.0	3.7
Cycle Q Clear(g_c), s	7.4	18.4	2.0	8.1	13.9	6.4	9.2	16.1	4.0	11.6	17.0	3.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	257	2565	796	276	2595	805	305	533	238	354	583	260
V/C Ratio(X)	0.80	0.45	0.06	0.81	0.36	0.18	0.83	0.87	0.24	0.90	0.84	0.21
Avail Cap(c_a), veh/h	381	2565	796	381	2595	805	354	1119	499	354	1035	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	20.3	16.2	57.5	18.8	16.9	57.0	52.7	47.6	56.4	51.5	46.0
Incr Delay (d2), s/veh	3.8	0.6	0.1	6.3	0.4	0.5	12.1	1.7	0.2	24.6	1.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	7.1	0.7	3.7	5.3	2.3	4.4	7.1	1.6	6.1	7.5	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	20.9	16.4	63.8	19.2	17.4	69.1	54.4	47.8	81.0	52.8	46.1
LnGrp LOS	E	C	B	E	B	B	E	D	D	F	D	D
Approach Vol, veh/h		1405		1301		772		864				
Approach Delay, s/veh		26.6		26.7		58.7		62.8				
Approach LOS		C		C		E		E				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	65.2	69.8	16.2	25.8	14.4	70.5	18.0	24.0				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	14.0	39.0	13.0	37.0	14.0	34.0	13.0	40.0				
Max Q Clear Time (g_c+I), s	11.0	20.4	11.2	19.0	9.4	15.9	13.6	18.1				
Green Ext Time (p_c), s	0.1	2.8	0.0	1.0	0.1	2.2	0.0	0.9				
Intersection Summary												
HCM 6th Ctrl Delay			39.5									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Capacity Analysis
32: Monterey Ave & SR-111

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	
Traffic Volume (veh/h)	200	1130	144	220	911	212	249	452	175	313	481	162
Future Volume (veh/h)	200	1130	144	220	911	212	249	452	175	313	481	162
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	1153	48	224	930	147	254	461	57	319	491	54
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	257	2565	796	276	2595	805	305	533	238	354	583	260
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.50	0.50	0.08	0.51	0.51	0.09	0.15	0.15	0.10	0.16	0.16
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.6	20.9	16.4	63.8	19.2	17.4	69.1	54.4	47.8	81.0	52.8	46.1
Ln Grp LOS	E	C	B	E	B	B	E	D	D	F	D	D
Approach Vol, veh/h		1405			1301			772			864	
Approach Delay, s/veh		26.6			26.7			58.7			62.8	
Approach LOS		C			C			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.2	69.8	16.2	25.8	14.4	70.5	18.0	24.0			
Change Period (Y+Rc), s		5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0			
Max Green (Gmax), s		14.0	39.0	13.0	37.0	14.0	34.0	13.0	40.0			
Max Allow Headway (MAH), s		1.7	2.9	1.7	2.8	1.7	2.8	1.7	2.8			
Max Q Clear (g_c+I1), s		10.1	20.4	11.2	19.0	9.4	15.9	13.6	18.1			
Green Ext Time (g_e), s		0.1	2.8	0.0	1.0	0.1	2.2	0.0	0.9			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.76	0.00	0.00	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	224	0	254	0	204	0	319	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	8.1	0.0	9.2	0.0	7.4	0.0	11.6	0.0
Cycle Q Clear Time (g_c), s	8.1	0.0	9.2	0.0	7.4	0.0	11.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	276	0	305	0	257	0	354	0
V/C Ratio (X)	0.81	0.00	0.83	0.00	0.80	0.00	0.90	0.00
Avail Cap (c_a), veh/h	381	0	354	0	381	0	354	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	57.5	0.0	57.0	0.0	57.8	0.0	56.4	0.0
Incr Delay (d2), s/veh	6.3	0.0	12.1	0.0	3.8	0.0	24.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.8	0.0	69.1	0.0	61.6	0.0	81.0	0.0
1st-Term Q (Q1), veh/ln	3.5	0.0	3.9	0.0	3.2	0.0	4.9	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.5	0.0	0.1	0.0	1.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.7	0.0	4.4	0.0	3.3	0.0	6.1	0.0
%ile Storage Ratio (RQ%)	0.51	0.00	1.25	0.00	0.33	0.00	0.82	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	1153	0	491	0	930	0	461
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	18.4	0.0	17.0	0.0	13.9	0.0	16.1
Cycle Q Clear Time (g_c), s	0.0	18.4	0.0	17.0	0.0	13.9	0.0	16.1
Lane Grp Cap (c), veh/h	0	2565	0	583	0	2595	0	533
V/C Ratio (X)	0.00	0.45	0.00	0.84	0.00	0.36	0.00	0.87
Avail Cap (c_a), veh/h	0	2565	0	1035	0	2595	0	1119
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.3	0.0	51.5	0.0	18.8	0.0	52.7
Incr Delay (d2), s/veh	0.0	0.6	0.0	1.3	0.0	0.4	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.9	0.0	52.8	0.0	19.2	0.0	54.4
1st-Term Q (Q1), veh/ln	0.0	6.9	0.0	7.4	0.0	5.2	0.0	7.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
 32: Monterey Ave & SR-111

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.1	0.0	7.5	0.0	5.3	0.0	7.1
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.16	0.00	0.06	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	48	0	54	0	147	0	57
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	2.0	0.0	3.7	0.0	6.4	0.0	4.0
Cycle Q Clear Time (g_c), s	0.0	2.0	0.0	3.7	0.0	6.4	0.0	4.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	796	0	260	0	805	0	238
V/C Ratio (X)	0.00	0.06	0.00	0.21	0.00	0.18	0.00	0.24
Avail Cap (c_a), veh/h	0	796	0	462	0	805	0	499
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.2	0.0	46.0	0.0	16.9	0.0	47.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.1	0.0	0.5	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.4	0.0	46.1	0.0	17.4	0.0	47.8
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	1.4	0.0	2.2	0.0	1.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.7	0.0	1.5	0.0	2.3	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.03	0.00	0.91	0.00	0.31
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

HCM 6th TWSC
33: Gerald Ford Dr & Oasis Way

02/20/2019

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	↗
Traffic Vol, veh/h	32	557	491	25	55	42
Future Vol, veh/h	32	557	491	25	55	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	130	-	-	145	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	605	534	27	60	46

















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	561	0	-	0	907
Stage 1	-	-	-	-	534
Stage 2	-	-	-	-	373
Critical Hdwy	4.14	-	-	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	2.22	-	-	-	3.52
Pot Cap-1 Maneuver	1006	-	-	-	275
Stage 1	-	-	-	-	552
Stage 2	-	-	-	-	666
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1006	-	-	-	265
Mov Cap-2 Maneuver	-	-	-	-	265
Stage 1	-	-	-	-	533
Stage 2	-	-	-	-	666

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1006	-	-	-	265	731
HCM Lane V/C Ratio	0.035	-	-	-	0.226	0.062
HCM Control Delay (s)	8.7	-	-	-	22.5	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8	0.2

HCM 6th Signalized Intersection Summary
 34: Monterey Ave & Shadow Ridge Rd

02/20/2019

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			  			  
Traffic Volume (veh/h)	82	67	1367	46	50	1102
Future Volume (veh/h)	82	67	1367	46	50	1102
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	87	5	1454	35	53	1172
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	110	98	3918	1216	74	4321
Arrive On Green	0.06	0.06	0.77	0.77	0.04	0.85
Sat Flow, veh/h	1781	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	87	5	1454	35	53	1172
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1585	1781	1702
Q Serve(g_s), s	5.8	0.4	11.1	0.6	3.5	5.5
Cycle Q Clear(g_c), s	5.8	0.4	11.1	0.6	3.5	5.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	110	98	3918	1216	74	4321
V/C Ratio(X)	0.79	0.05	0.37	0.03	0.72	0.27
Avail Cap(c_a), veh/h	282	251	3918	1216	186	4321
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.84	0.84	0.89	0.89
Uniform Delay (d), s/veh	55.5	53.0	4.5	3.3	56.8	1.8
Incr Delay (d2), s/veh	4.6	0.1	0.2	0.0	4.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.3	2.6	0.1	1.6	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	60.1	53.0	4.8	3.4	61.1	2.0
LnGrp LOS	E	D	A	A	E	A
Approach Vol, veh/h	92		1489			1225
Approach Delay, s/veh	59.7		4.7			4.5
Approach LOS	E		A			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		108.6		11.4	9.5	99.1
Change Period (Y+Rc), s		7.0		4.0	4.5	7.0
Max Green Setting (Gmax), s		90.0		19.0	12.5	73.0
Max Q Clear Time (g_c+I1), s		7.5		7.8	5.5	13.1
Green Ext Time (p_c), s		2.6		0.0	0.0	3.5
Intersection Summary						
HCM 6th Ctrl Delay			6.4			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

02/20/2019



Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑			
Traffic Volume (veh/h)	82	67	1367	46	50	1102			
Future Volume (veh/h)	82	67	1367	46	50	1102			
Number	7	14	6	16	5	2			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00		1.00	1.00				
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No		No			No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	87	5	1454	35	53	1172			
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	110	98	3918	1216	74	4321			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.06	0.06	0.77	0.77	0.04	0.85			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	60.1	53.0	4.8	3.4	61.1	2.0			
Ln Grp LOS	E	D	A	A	E	A			
Approach Vol, veh/h	92		1489			1225			
Approach Delay, s/veh	59.7		4.7			4.5			
Approach LOS	E		A			A			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4	5	6		
Case No			4.0		9.0	2.0	7.0		
Phs Duration (G+Y+Rc), s			108.6		11.4	9.5	99.1		
Change Period (Y+Rc), s			7.0		4.0	4.5	7.0		
Max Green (Gmax), s			90.0		19.0	12.5	73.0		
Max Allow Headway (MAH), s			2.7		1.8	1.6	2.7		
Max Q Clear (g_c+I1), s			7.5		7.8	5.5	13.1		
Green Ext Time (g_e), s			2.6		0.0	0.0	3.5		
Prob of Phs Call (p_c)			1.00		0.95	0.83	1.00		
Prob of Max Out (p_x)			0.00		0.00	0.00	0.00		
Left-Turn Movement Data									
Assigned Mvmt					7	5	1		
Mvmt Sat Flow, veh/h					1781	1781	0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			5274		0		5274		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	0	0	7	5	1	0	0
Lane Assignment					L	L (Prot)			

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

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Lanes in Grp	0	0	0	1	1	0	0	0
Grp Vol (v), veh/h	0	0	0	87	53	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	5.8	3.5	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	5.8	3.5	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	92.1	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	110	74	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.79	0.72	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	282	186	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.89	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	55.5	56.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.6	4.3	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	60.1	61.1	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.6	1.5	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	2.7	1.6	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.07	0.27	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	1172	0	0	0	1454	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	5.5	0.0	0.0	0.0	11.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.5	0.0	0.0	0.0	11.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	4321	0	0	0	3918	0	0
V/C Ratio (X)	0.00	0.27	0.00	0.00	0.00	0.37	0.00	0.00
Avail Cap (c_a), veh/h	0	4321	0	0	0	3918	0	0
Upstream Filter (I)	0.00	0.89	0.00	0.00	0.00	0.84	0.00	0.00
Uniform Delay (d1), s/veh	0.0	1.8	0.0	0.0	0.0	4.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.0	0.0	0.0	0.0	4.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	0.0	0.0	2.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	0.0	0.0	2.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	5	0	35	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.4	0.0	0.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.4	0.0	0.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	98	0	1216	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.05	0.00	0.03	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	251	0	1216	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.84	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	53.0	0.0	3.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	53.0	0.0	3.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	6.4
HCM 6th LOS	A

Intersection						
Int Delay, s/veh	0					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↕	↕	
Traffic Vol, veh/h	0	6	0	1029	747	2
Future Vol, veh/h	0	6	0	1029	747	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	40	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	6	0	1061	770	2

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	386	772	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	612	839	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	612	839	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	839	-	612	-	-
HCM Lane V/C Ratio	-	-	0.01	-	-
HCM Control Delay (s)	0	-	10.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

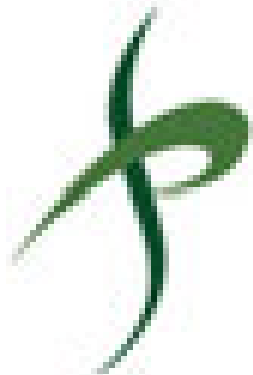
Intersection						
Int Delay, s/veh	0.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	713	3	9	480	0	4
Future Vol, veh/h	713	3	9	480	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	95	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	743	3	9	500	0	4

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	746	0	1013
Stage 1	-	-	-	-	745
Stage 2	-	-	-	-	268
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	858	-	235
Stage 1	-	-	-	-	430
Stage 2	-	-	-	-	753
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	858	-	233
Mov Cap-2 Maneuver	-	-	-	-	233
Stage 1	-	-	-	-	430
Stage 2	-	-	-	-	745

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	624	-	-	858	-
HCM Lane V/C Ratio	0.007	-	-	0.011	-
HCM Control Delay (s)	10.8	-	-	9.2	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-

**APPENDIX C: LEVEL OF SERVICE CALCULATION SHEETS
EXISTING YEAR (2018) PLUS PROJECT CONDITIONS**



HCM 6th Signalized Intersection Summary

1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↖	↗	↘↙	↘↖			↗↘	↗
Traffic Volume (veh/h)	0	0	0	559	1	231	261	347	0	0	154	165
Future Volume (veh/h)	0	0	0	559	1	231	261	347	0	0	154	165
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				622	0	0	290	386	0	0	171	33
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				981	0		514	2108	0	0	684	212
Arrive On Green				0.28	0.00	0.00	0.15	0.41	0.00	0.00	0.13	0.13
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1585
Grp Volume(v), veh/h				622	0	0	290	386	0	0	171	33
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1585
Q Serve(g_s), s				4.7	0.0	0.0	2.4	1.5	0.0	0.0	0.9	0.6
Cycle Q Clear(g_c), s				4.7	0.0	0.0	2.4	1.5	0.0	0.0	0.9	0.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				981	0		514	2108	0	0	684	212
V/C Ratio(X)				0.63	0.00		0.56	0.18	0.00	0.00	0.25	0.16
Avail Cap(c_a), veh/h				4630	0		2807	7465	0	0	7465	2317
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				9.8	0.0	0.0	12.2	5.7	0.0	0.0	11.9	11.8
Incr Delay (d2), s/veh				0.5	0.0	0.0	0.4	0.0	0.0	0.0	0.1	0.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.3	0.0	0.0	0.5	0.1	0.0	0.0	0.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				10.3	0.0	0.0	12.5	5.8	0.0	0.0	12.1	12.0
LnGrp LOS				B	A		B	A	A	A	B	B
Approach Vol, veh/h					622	A		676			204	
Approach Delay, s/veh					10.3			8.7			12.1	
Approach LOS					B			A			B	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		17.5			8.6	8.9		13.3				
Change Period (Y+Rc), s		4.8			4.0	4.8		4.8				
Max Green Setting (Gmax), s		45.0			25.0	45.0		40.0				
Max Q Clear Time (g_c+I1), s		3.5			4.4	2.9		6.7				
Green Ext Time (p_c), s		1.9			0.5	0.9		1.8				

Intersection Summary

HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	559	1	231	261	347	0	0	154	165
Future Volume (veh/h)	0	0	0	559	1	231	261	347	0	0	154	165
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				622	0	0	290	386	0	0	171	33
Peak Hour Factor				0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Opposing Right Turn Influence				Yes			Yes			No		
Cap, veh/h				981	0		514	2108	0	0	684	212
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.28	0.00	0.00	0.15	0.41	0.00	0.00	0.13	0.13
Unsig. Movement Delay												
Ln Grp Delay, s/veh				10.3	0.0	0.0	12.5	5.8	0.0	0.0	12.1	12.0
Ln Grp LOS				B	A		B	A	A	A	B	B
Approach Vol, veh/h					622			676			204	
Approach Delay, s/veh					10.3			8.7			12.1	
Approach LOS					B			A			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8		5	6					
Case No			4.0	9.0		2.0	7.0					
Phs Duration (G+Y+Rc), s			17.5	13.3		8.6	8.9					
Change Period (Y+Rc), s			4.8	4.8		4.0	4.8					
Max Green (Gmax), s			45.0	40.0		25.0	45.0					
Max Allow Headway (MAH), s			4.2	3.3		2.6	4.1					
Max Q Clear (g_c+I1), s			3.5	6.7		4.4	2.9					
Green Ext Time (g_e), s			1.9	1.8		0.5	0.9					
Prob of Phs Call (p_c)			0.96	1.00		0.92	0.83					
Prob of Max Out (p_x)			0.00	0.00		0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt				3		5	1					
Mvmt Sat Flow, veh/h				3563		3456	0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			5274	0			5274					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			0	1585			1585					
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	0	0				
Lane Assignment			L		L (Prot)							

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

Lanes in Grp	0	0	2	0	2	0	0	0
Grp Vol (v), veh/h	0	0	622	0	290	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1728	0	0	0
Q Serve Time (g_s), s	0.0	0.0	4.7	0.0	2.4	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	4.7	0.0	2.4	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	981	0	514	0	0	0
V/C Ratio (X)	0.00	0.00	0.63	0.00	0.56	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	4630	0	2807	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	9.8	0.0	12.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.0	0.4	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	10.3	0.0	12.5	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.3	0.0	0.5	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.3	0.0	0.5	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.04	0.00	0.06	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	386	0	0	0	171	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	1.5	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	0.0	0.0	0.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	2108	0	0	0	684	0	0
V/C Ratio (X)	0.00	0.18	0.00	0.00	0.00	0.25	0.00	0.00
Avail Cap (c_a), veh/h	0	7465	0	0	0	7465	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.7	0.0	0.0	0.0	11.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.8	0.0	0.0	0.0	12.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	33	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	436	0	0	212	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	0	2060	0	0	2317	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	11.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	259	0	722	0	0	0	0	351	29	49	669	0
Future Volume (veh/h)	259	0	722	0	0	0	0	351	29	49	669	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	196	0	798				0	399	9	56	760	0
Peak Hour Factor	0.88	0.88	0.88				0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	654	0	1165				0	983	278	208	1799	0
Arrive On Green	0.37	0.00	0.37				0.00	0.18	0.18	0.06	0.35	0.00
Sat Flow, veh/h	1781	0	3170				0	5611	1585	3456	5274	0
Grp Volume(v), veh/h	196	0	798				0	399	9	56	760	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1870	1585	1728	1702	0
Q Serve(g_s), s	2.7	0.0	7.3				0.0	2.2	0.2	0.5	3.9	0.0
Cycle Q Clear(g_c), s	2.7	0.0	7.3				0.0	2.2	0.2	0.5	3.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	654	0	1165				0	983	278	208	1799	0
V/C Ratio(X)	0.30	0.00	0.69				0.00	0.41	0.03	0.27	0.42	0.00
Avail Cap(c_a), veh/h	2081	0	3703				0	7373	2083	2523	6710	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	7.7	0.0	9.2				0.0	12.5	11.7	15.4	8.4	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.5				0.0	0.2	0.0	0.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.8				0.0	0.6	0.0	0.1	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.9	0.0	9.7				0.0	12.7	11.8	15.6	8.6	0.0
LnGrp LOS	A	A	A				A	B	B	B	A	A
Approach Vol, veh/h	994						408			816		
Approach Delay, s/veh	9.3						12.7			9.0		
Approach LOS	A						B			A		
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	6.1	10.8	17.4	16.9								
Change Period (Y+Rc), s	4.0	4.8	4.8	4.8								
Max Green Setting (Gmax), s	25.0	45.0	40.0	45.0								
Max Q Clear Time (g_c+I), s	12.5	4.2	9.3	5.9								
Green Ext Time (p_c), s	0.1	2.0	3.3	4.0								

Intersection Summary

HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Ramp/I-10 EB On Ramp

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	259	0	722	0	0	0	0	351	29	49	669	0
Future Volume (veh/h)	259	0	722	0	0	0	0	351	29	49	669	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	196	0	798				0	399	9	56	760	0
Peak Hour Factor	0.88	0.88	0.88				0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	654	0	1165				0	983	278	208	1799	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.37	0.00	0.37				0.00	0.18	0.18	0.06	0.35	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	7.9	0.0	9.7				0.0	12.7	11.8	15.6	8.6	0.0
Ln Grp LOS	A	A	A				A	B	B	B	A	A
Approach Vol, veh/h		994						408			816	
Approach Delay, s/veh		9.3						12.7			9.0	
Approach LOS		A						B			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		6.1	10.8		17.4		16.9					
Change Period (Y+Rc), s		4.0	4.8		4.8		4.8					
Max Green (Gmax), s		25.0	45.0		40.0		45.0					
Max Allow Headway (MAH), s		2.6	4.2		3.5		4.2					
Max Q Clear (g_c+I1), s		2.5	4.2		9.3		5.9					
Green Ext Time (g_e), s		0.1	2.0		3.3		4.0					
Prob of Phs Call (p_c)		0.41	0.98		1.00		1.00					
Prob of Max Out (p_x)		0.00	0.00		0.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5611		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	56	0	0	196	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	0.5	0.0	0.0	2.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.5	0.0	0.0	2.7	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	208	0	0	654	0	0	0	0
V/C Ratio (X)	0.27	0.00	0.00	0.30	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	2523	0	0	2081	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	15.4	0.0	0.0	7.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	15.6	0.0	0.0	7.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.1	0.0	0.0	0.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.1	0.0	0.0	0.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	399	0	0	0	760	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	2.2	0.0	0.0	0.0	3.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.2	0.0	0.0	0.0	3.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	983	0	0	0	1799	0	0
V/C Ratio (X)	0.00	0.41	0.00	0.00	0.00	0.42	0.00	0.00
Avail Cap (c_a), veh/h	0	7373	0	0	0	6710	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.5	0.0	0.0	0.0	8.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.7	0.0	0.0	0.0	8.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.0	0.0	0.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	0.0	0.0	0.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	9	0	798	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.2	0.0	7.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	7.3	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	278	0	1165	0	0	0	0
V/C Ratio (X)	0.00	0.03	0.00	0.69	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	2083	0	3703	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.7	0.0	9.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	9.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.34	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	9.9
HCM 6th LOS	A

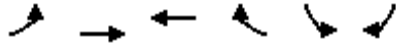
Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: Ramon Rd & Rattler Rd

07/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖ ↗	↑ ↑ ↑	↑ ↑ ↑	↖	↗ ↘	↖	
Traffic Volume (veh/h)	62	998	865	96	69	40	
Future Volume (veh/h)	62	998	865	96	69	40	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	67	1085	940	72	75	8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	196	3914	3190	1090	225	100	
Arrive On Green	0.06	0.77	0.62	0.62	0.06	0.06	
Sat Flow, veh/h	3456	5274	5274	1585	3563	1585	
Grp Volume(v), veh/h	67	1085	940	72	75	8	
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1585	1781	1585	
Q Serve(g_s), s	1.1	3.7	5.0	0.9	1.2	0.3	
Cycle Q Clear(g_c), s	1.1	3.7	5.0	0.9	1.2	0.3	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	196	3914	3190	1090	225	100	
V/C Ratio(X)	0.34	0.28	0.29	0.07	0.33	0.08	
Avail Cap(c_a), veh/h	883	3914	3190	1090	2124	945	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	26.6	2.0	5.1	3.0	26.3	25.9	
Incr Delay (d2), s/veh	1.0	0.2	0.2	0.1	0.9	0.3	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.4	0.1	0.9	0.2	0.5	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	27.7	2.2	5.3	3.1	27.2	26.2	
LnGrp LOS	C	A	A	A	C	C	
Approach Vol, veh/h		1152	1012		83		
Approach Delay, s/veh		3.7	5.1		27.1		
Approach LOS		A	A		C		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				50.0	8.7	8.3	41.7
Change Period (Y+Rc), s				5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s				45.0	35.0	15.0	29.0
Max Q Clear Time (g_c+I1), s				5.7	3.2	3.1	7.0
Green Ext Time (p_c), s				7.9	0.2	0.1	6.1
Intersection Summary							
HCM 6th Ctrl Delay			5.2				
HCM 6th LOS			A				
Notes							
User approved volume balancing among the lanes for turning movement.							

HCM 6th Signalized Intersection Capacity Analysis

3: Ramon Rd & Rattler Rd

07/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖↗	↑↑↑	↑↑↑	↖	↖↗	↖			
Traffic Volume (veh/h)	62	998	865	96	69	40			
Future Volume (veh/h)	62	998	865	96	69	40			
Number	7	4	8	18	1	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	67	1085	940	72	75	8			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	196	3914	3190	1090	225	100			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.06	0.77	0.62	0.62	0.06	0.06			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	27.7	2.2	5.3	3.1	27.2	26.2			
Ln Grp LOS	C	A	A	A	C	C			
Approach Vol, veh/h		1152	1012		83				
Approach Delay, s/veh		3.7	5.1		27.1				
Approach LOS		A	A		C				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		6			4			7	8
Case No		9.0			4.0			2.0	7.0
Phs Duration (G+Y+Rc), s		8.7			50.0			8.3	41.7
Change Period (Y+Rc), s		5.0			5.0			5.0	5.0
Max Green (Gmax), s		35.0			45.0			15.0	29.0
Max Allow Headway (MAH), s		3.8			4.7			3.6	4.7
Max Q Clear (g_c+I1), s		3.2			5.7			3.1	7.0
Green Ext Time (g_e), s		0.2			7.9			0.1	6.1
Prob of Phs Call (p_c)		0.74			1.00			0.66	1.00
Prob of Max Out (p_x)		0.00			0.00			0.00	0.00
Left-Turn Movement Data									
Assigned Mvmt		1						7	3
Mvmt Sat Flow, veh/h		3563						3456	0
Through Movement Data									
Assigned Mvmt		6			4				8
Mvmt Sat Flow, veh/h		0			5274				5274
Right-Turn Movement Data									
Assigned Mvmt		16			14				18
Mvmt Sat Flow, veh/h		1585			0				1585
Left Lane Group Data									
Assigned Mvmt		1	0	0	0	0	0	7	3
Lane Assignment		L						L (Prot)	

HCM 6th Signalized Intersection Capacity Analysis
 3: Ramon Rd & Rattler Rd

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Lanes in Grp	2	0	0	0	0	0	2	0
Grp Vol (v), veh/h	75	0	0	0	0	0	67	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	0	0	0	1728	0
Q Serve Time (g_s), s	1.2	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Cycle Q Clear Time (g_c), s	1.2	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1781	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.7
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	225	0	0	0	0	0	196	0
V/C Ratio (X)	0.33	0.00	0.00	0.00	0.00	0.00	0.34	0.00
Avail Cap (c_a), veh/h	2124	0	0	0	0	0	883	0
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.3	0.0	0.0	0.0	0.0	0.0	26.6	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	27.2	0.0	0.0	0.0	0.0	0.0	27.7	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	0.0	0.0	0.0	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
%ile Back of Q (50%), veh/ln	0.5	0.0	0.0	0.0	0.0	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.00	0.00	0.00	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	6	0	0	4	0	0	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1085	0	0	0	940
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	3.7	0.0	0.0	0.0	5.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.7	0.0	0.0	0.0	5.0
Lane Grp Cap (c), veh/h	0	0	0	3914	0	0	0	3190
V/C Ratio (X)	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.29
Avail Cap (c_a), veh/h	0	0	0	3914	0	0	0	3190
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	2.0	0.0	0.0	0.0	5.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	2.2	0.0	0.0	0.0	5.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
 3: Ramon Rd & Rattler Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	16	0	0	14	0	0	0	18
Lane Assignment	R							R
Lanes in Grp	1	0	0	0	0	0	0	1
Grp Vol (v), veh/h	8	0	0	0	0	0	0	72
Grp Sat Flow (s), veh/h/ln	1585	0	0	0	0	0	0	1585
Q Serve Time (g_s), s	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Cycle Q Clear Time (g_c), s	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	100	0	0	0	0	0	0	1090
V/C Ratio (X)	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Avail Cap (c_a), veh/h	945	0	0	0	0	0	0	1090
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	25.9	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.2	0.0	0.0	0.0	0.0	0.0	0.0	3.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Bob Hope Dr & Ramon Rd



































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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	86	823	240	80	411	4	149	292	82	50	868	516
Future Volume (veh/h)	86	823	240	80	411	4	149	292	82	50	868	516
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	946	156	92	472	2	171	336	31	57	998	349
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	1084	484	313	1081	482	329	1538	477	302	1498	465
Arrive On Green	0.09	0.31	0.31	0.09	0.30	0.30	0.10	0.30	0.30	0.09	0.29	0.29
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	99	946	156	92	472	2	171	336	31	57	998	349
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	3.1	29.0	8.7	2.9	12.3	0.1	5.4	5.7	1.6	1.8	19.7	22.9
Cycle Q Clear(g_c), s	3.1	29.0	8.7	2.9	12.3	0.1	5.4	5.7	1.6	1.8	19.7	22.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	316	1084	484	313	1081	482	329	1538	477	302	1498	465
V/C Ratio(X)	0.31	0.87	0.32	0.29	0.44	0.00	0.52	0.22	0.06	0.19	0.67	0.75
Avail Cap(c_a), veh/h	601	1236	551	601	1236	551	451	1998	620	1051	1998	620
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	37.8	30.8	48.9	32.1	27.9	49.5	30.1	28.6	48.7	35.7	36.8
Incr Delay (d2), s/veh	0.2	6.4	0.4	0.2	0.3	0.0	0.5	0.1	0.1	0.1	0.6	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	12.7	3.2	1.2	5.0	0.0	2.3	2.2	0.6	0.7	7.8	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.1	44.3	31.2	49.1	32.4	27.9	50.0	30.1	28.7	48.8	36.3	40.8
LnGrp LOS	D	D	C	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		1201			566			538			1404	
Approach Delay, s/veh		43.0			35.1			36.4			37.9	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	42.1	15.8	41.6	16.4	41.3	15.9	41.5				
Change Period (Y+Rc), s	5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5				
Max Green Setting (Gmax), s	35.0	45.0	20.0	40.0	15.0	45.0	20.0	40.0				
Max Q Clear Time (g_c+1), s	13.8	7.7	4.9	31.0	7.4	24.9	5.1	14.3				
Green Ext Time (p_c), s	0.0	2.6	0.1	4.1	0.1	8.8	0.1	2.7				
Intersection Summary												
HCM 6th Ctrl Delay											38.9	
HCM 6th LOS											D	

HCM 6th Signalized Intersection Capacity Analysis
4: Bob Hope Dr & Ramon Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	86	823	240	80	411	4	149	292	82	50	868	516
Future Volume (veh/h)	86	823	240	80	411	4	149	292	82	50	868	516
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	946	156	92	472	2	171	336	31	57	998	349
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	316	1084	484	313	1081	482	329	1538	477	302	1498	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.31	0.31	0.09	0.30	0.30	0.10	0.30	0.30	0.09	0.29	0.29
Unsig. Movement Delay												
Ln Grp Delay, s/veh	49.1	44.3	31.2	49.1	32.4	27.9	50.0	30.1	28.7	48.8	36.3	40.8
Ln Grp LOS	D	D	C	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h		1201			566			538			1404	
Approach Delay, s/veh		43.0			35.1			36.4			37.9	
Approach LOS		D			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.5	42.1	15.8	41.6	16.4	41.3	15.9	41.5			
Change Period (Y+Rc), s		5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5			
Max Green (Gmax), s		35.0	45.0	20.0	40.0	15.0	45.0	20.0	40.0			
Max Allow Headway (MAH), s		2.1	5.2	2.1	4.6	2.1	5.0	2.1	4.7			
Max Q Clear (g_c+I1), s		3.8	7.7	4.9	31.0	7.4	24.9	5.1	14.3			
Green Ext Time (g_e), s		0.0	2.6	0.1	4.1	0.1	8.8	0.1	2.7			
Prob of Phs Call (p_c)		0.84	1.00	0.95	1.00	1.00	1.00	0.96	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.54	0.00	0.28	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	57	0	92	0	171	0	99	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	1.8	0.0	2.9	0.0	5.4	0.0	3.1	0.0
Cycle Q Clear Time (g_c), s	1.8	0.0	2.9	0.0	5.4	0.0	3.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	302	0	313	0	329	0	316	0
V/C Ratio (X)	0.19	0.00	0.29	0.00	0.52	0.00	0.31	0.00
Avail Cap (c_a), veh/h	1051	0	601	0	451	0	601	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	48.7	0.0	48.9	0.0	49.5	0.0	48.9	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.5	0.0	0.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.8	0.0	49.1	0.0	50.0	0.0	49.1	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	1.2	0.0	2.2	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	1.2	0.0	2.3	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.09	0.00	0.28	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	336	0	946	0	998	0	472
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	5.7	0.0	29.0	0.0	19.7	0.0	12.3
Cycle Q Clear Time (g_c), s	0.0	5.7	0.0	29.0	0.0	19.7	0.0	12.3
Lane Grp Cap (c), veh/h	0	1538	0	1084	0	1498	0	1081
V/C Ratio (X)	0.00	0.22	0.00	0.87	0.00	0.67	0.00	0.44
Avail Cap (c_a), veh/h	0	1998	0	1236	0	1998	0	1236
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.1	0.0	37.8	0.0	35.7	0.0	32.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	6.4	0.0	0.6	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.1	0.0	44.3	0.0	36.3	0.0	32.4
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	11.7	0.0	7.7	0.0	5.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	12.7	0.0	7.8	0.0	5.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.27	0.00	0.17	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	31	0	156	0	349	0	2
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.6	0.0	8.7	0.0	22.9	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	8.7	0.0	22.9	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	477	0	484	0	465	0	482
V/C Ratio (X)	0.00	0.06	0.00	0.32	0.00	0.75	0.00	0.00
Avail Cap (c_a), veh/h	0	620	0	551	0	620	0	551
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.6	0.0	30.8	0.0	36.8	0.0	27.9
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	4.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.7	0.0	31.2	0.0	40.8	0.0	27.9
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	3.1	0.0	8.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	3.2	0.0	8.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.07	0.00	0.97	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	38.9
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
5: Bob Hope Dr & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	400	149	88	388	101	92	375	100	118	905	78
Future Volume (veh/h)	54	400	149	88	388	101	92	375	100	118	905	78
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	455	58	100	441	31	105	426	0	134	1028	89
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	694	309	130	768	342	231	1669		248	1587	137
Arrive On Green	0.05	0.20	0.20	0.07	0.22	0.22	0.07	0.33	0.00	0.07	0.33	0.33
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	5106	1585	3456	4779	413
Grp Volume(v), veh/h	61	455	58	100	441	31	105	426	0	134	732	385
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1585	1728	1702	1788
Q Serve(g_s), s	2.1	7.4	1.9	3.5	7.0	1.0	1.8	3.9	0.0	2.4	11.5	11.6
Cycle Q Clear(g_c), s	2.1	7.4	1.9	3.5	7.0	1.0	1.8	3.9	0.0	2.4	11.5	11.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	93	694	309	130	768	342	231	1669		248	1130	594
V/C Ratio(X)	0.66	0.66	0.19	0.77	0.57	0.09	0.46	0.26		0.54	0.65	0.65
Avail Cap(c_a), veh/h	565	1974	880	565	1974	880	1097	3646		1097	2431	1277
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	23.4	21.2	28.7	22.1	19.8	28.3	15.6	0.0	28.2	17.9	17.9
Incr Delay (d2), s/veh	2.9	1.1	0.3	3.6	0.7	0.1	0.5	0.1	0.0	0.7	0.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.8	0.6	1.4	2.6	0.3	0.7	1.3	0.0	0.9	3.7	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	24.5	21.5	32.3	22.8	19.9	28.8	15.7	0.0	28.9	18.5	19.1
LnGrp LOS	C	C	C	C	C	B	C	B		C	B	B
Approach Vol, veh/h		574			572			531	A		1251	
Approach Delay, s/veh		25.0			24.3			18.3			19.8	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.5	27.1	8.6	18.8	8.2	27.4	7.3	20.1				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0				
Max Q Clear Time (g_c+1), s	14.4	5.9	5.5	9.4	3.8	13.6	4.1	9.0				
Green Ext Time (p_c), s	0.2	2.7	0.1	2.9	0.1	7.4	0.0	2.7				

Intersection Summary

























HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
5: Bob Hope Dr & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	400	149	88	388	101	92	375	100	118	905	78
Future Volume (veh/h)	54	400	149	88	388	101	92	375	100	118	905	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	455	58	100	441	31	105	426	0	134	1028	89
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	93	694	309	130	768	342	231	1669		248	1587	137
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.20	0.20	0.07	0.22	0.22	0.07	0.33	0.00	0.07	0.33	0.33
Unsig. Movement Delay												
Ln Grp Delay, s/veh	32.3	24.5	21.5	32.3	22.8	19.9	28.8	15.7	0.0	28.9	18.5	19.1
Ln Grp LOS	C	C	C	C	C	B	C	B		C	B	B
Approach Vol, veh/h		574			572			531			1251	
Approach Delay, s/veh		25.0			24.3			18.3			19.8	
Approach LOS		C			C			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		8.5	27.1	8.6	18.8	8.2	27.4	7.3	20.1			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.8	2.7	4.8			
Max Q Clear (g_c+I1), s		4.4	5.9	5.5	9.4	3.8	13.6	4.1	9.0			
Green Ext Time (g_e), s		0.2	2.7	0.1	2.9	0.1	7.4	0.0	2.7			
Prob of Phs Call (p_c)		0.90	1.00	0.83	1.00	0.84	1.00	0.66	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4779		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		413		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

5: Bob Hope Dr & Dinah Shore Dr

07/11/2019

Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	134	0	100	0	105	0	61	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	2.4	0.0	3.5	0.0	1.8	0.0	2.1	0.0
Cycle Q Clear Time (g_c), s	2.4	0.0	3.5	0.0	1.8	0.0	2.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	248	0	130	0	231	0	93	0
V/C Ratio (X)	0.54	0.00	0.77	0.00	0.46	0.00	0.66	0.00
Avail Cap (c_a), veh/h	1097	0	565	0	1097	0	565	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	28.2	0.0	28.7	0.0	28.3	0.0	29.3	0.0
Incr Delay (d2), s/veh	0.7	0.0	3.6	0.0	0.5	0.0	2.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	28.9	0.0	32.3	0.0	28.8	0.0	32.3	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	1.3	0.0	0.7	0.0	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.9	0.0	1.4	0.0	0.7	0.0	0.9	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.16	0.00	0.07	0.00	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	426	0	455	0	732	0	441
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	3.9	0.0	7.4	0.0	11.5	0.0	7.0
Cycle Q Clear Time (g_c), s	0.0	3.9	0.0	7.4	0.0	11.5	0.0	7.0
Lane Grp Cap (c), veh/h	0	1669	0	694	0	1130	0	768
V/C Ratio (X)	0.00	0.26	0.00	0.66	0.00	0.65	0.00	0.57
Avail Cap (c_a), veh/h	0	3646	0	1974	0	2431	0	1974
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.6	0.0	23.4	0.0	17.9	0.0	22.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.1	0.0	0.6	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.7	0.0	24.5	0.0	18.5	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	2.7	0.0	3.6	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
 5: Bob Hope Dr & Dinah Shore Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	2.8	0.0	3.7	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.01	0.00	0.04	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	58	0	385	0	31
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1788	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	1.9	0.0	11.6	0.0	1.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.9	0.0	11.6	0.0	1.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.23	0.00	1.00
Lane Grp Cap (c), veh/h	0	518	0	309	0	594	0	342
V/C Ratio (X)	0.00	0.00	0.00	0.19	0.00	0.65	0.00	0.09
Avail Cap (c_a), veh/h	0	1132	0	880	0	1277	0	880
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	21.2	0.0	17.9	0.0	19.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	1.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	21.5	0.0	19.1	0.0	19.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	3.8	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.6	0.0	4.0	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.13	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Monterey Ave & Varner Rd

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	87	201	725	194	108	152	176	212	45	495	14
Future Volume (veh/h)	19	87	201	725	194	108	152	176	212	45	495	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	101	126	843	226	34	177	205	0	52	576	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	138	234	793	944	421	819	1604		124	980	
Arrive On Green	0.05	0.07	0.07	0.23	0.27	0.27	0.24	0.45	0.00	0.07	0.28	0.00
Sat Flow, veh/h	1781	1870	3170	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	22	101	126	843	226	34	177	205	0	52	576	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.6	7.2	5.2	31.2	6.8	2.2	5.6	4.6	0.0	3.8	19.1	0.0
Cycle Q Clear(g_c), s	1.6	7.2	5.2	31.2	6.8	2.2	5.6	4.6	0.0	3.8	19.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	138	234	793	944	421	819	1604		124	980	
V/C Ratio(X)	0.27	0.73	0.54	1.06	0.24	0.08	0.22	0.13		0.42	0.59	
Avail Cap(c_a), veh/h	169	447	758	793	944	421	819	1604		165	980	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.7	61.7	60.7	52.4	39.2	37.5	41.7	21.7	0.0	60.6	42.6	0.0
Incr Delay (d2), s/veh	0.7	7.2	1.9	46.8	0.1	0.1	0.1	0.2	0.0	0.8	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.6	2.1	18.1	2.9	0.8	2.4	2.0	0.0	1.7	8.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.4	68.9	62.7	99.2	39.3	37.5	41.8	21.9	0.0	61.5	45.2	0.0
LnGrp LOS	E	E	E	F	D	D	D	C		E	D	
Approach Vol, veh/h		249			1103			382	A		628	A
Approach Delay, s/veh		65.2			85.0			31.1			46.5	
Approach LOS		E			F			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	67.6	37.7	15.8	38.5	44.0	10.9	42.6				
Change Period (Y+Rc), s	5.4	6.2	6.5	* 5.8	6.2	* 6.5	* 4.7	6.5				
Max Green Setting (Gmax), s	12.6	20.9	31.2	* 33	11.5	* 38	* 13	35.3				
Max Q Clear Time (g_c+1/8), s	15.8	6.6	33.2	9.2	7.6	21.1	3.6	8.8				
Green Ext Time (p_c), s	0.0	1.0	0.0	0.9	0.1	3.0	0.0	1.3				

Intersection Summary

























HCM 6th Ctrl Delay	64.0
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	87	201	725	194	108	152	176	212	45	495	14
Future Volume (veh/h)	19	87	201	725	194	108	152	176	212	45	495	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	101	126	843	226	34	177	205	0	52	576	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	81	138	234	793	944	421	819	1604		124	980	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.07	0.07	0.23	0.27	0.27	0.24	0.45	0.00	0.07	0.28	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.4	68.9	62.7	99.2	39.3	37.5	41.8	21.9	0.0	61.5	45.2	0.0
Ln Grp LOS	E	E	E	F	D	D	D	C		E	D	
Approach Vol, veh/h		249			1103			382			628	
Approach Delay, s/veh		65.2			85.0			31.1			46.5	
Approach LOS		E			F			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	3.0	3.0	2.0	3.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.9	67.6	15.8	37.7	44.0	38.5	10.9	42.6			
Change Period (Y+Rc), s		5.4	6.2	* 5.8	6.5	* 6.5	6.2	* 4.7	6.5			
Max Green (Gmax), s		12.6	20.9	* 33	31.2	* 38	11.5	* 13	35.3			
Max Allow Headway (MAH), s		2.1	5.2	4.3	2.1	4.7	3.3	2.1	4.6			
Max Q Clear (g_c+I1), s		5.8	6.6	9.2	33.2	21.1	7.6	3.6	8.8			
Green Ext Time (g_e), s		0.0	1.0	0.9	0.0	3.0	0.1	0.0	1.3			
Prob of Phs Call (p_c)		0.86	1.00	1.00	1.00	1.00	1.00	0.56	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	1.00	0.00	0.52	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1781			3456		3456	1781				
Through Movement Data												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			3554	1870		3554			3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			1585	3170		1585			1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		L (Prot)			L (Prot)		L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

6: Monterey Ave & Varner Rd

07/11/2019

Lanes in Grp	1	0	0	2	0	2	1	0
Grp Vol (v), veh/h	52	0	0	843	0	177	22	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1728	0	1728	1781	0
Q Serve Time (g_s), s	3.8	0.0	0.0	31.2	0.0	5.6	1.6	0.0
Cycle Q Clear Time (g_c), s	3.8	0.0	0.0	31.2	0.0	5.6	1.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	124	0	0	793	0	819	81	0
V/C Ratio (X)	0.42	0.00	0.00	1.06	0.00	0.22	0.27	0.00
Avail Cap (c_a), veh/h	165	0	0	793	0	819	169	0
Upstream Filter (I)	1.00	0.00	0.00	0.79	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	60.6	0.0	0.0	52.4	0.0	41.7	62.7	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	46.8	0.0	0.1	0.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	61.5	0.0	0.0	99.2	0.0	41.8	63.4	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	0.0	12.9	0.0	2.4	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.7	0.0	0.0	18.1	0.0	2.4	0.7	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.00	1.53	0.00	0.26	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	12.6	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	1	0	2	0	0	2
Grp Vol (v), veh/h	0	205	101	0	576	0	0	226
Grp Sat Flow (s), veh/h/ln	0	1777	1870	0	1777	0	0	1777
Q Serve Time (g_s), s	0.0	4.6	7.2	0.0	19.1	0.0	0.0	6.8
Cycle Q Clear Time (g_c), s	0.0	4.6	7.2	0.0	19.1	0.0	0.0	6.8
Lane Grp Cap (c), veh/h	0	1604	138	0	980	0	0	944
V/C Ratio (X)	0.00	0.13	0.73	0.00	0.59	0.00	0.00	0.24
Avail Cap (c_a), veh/h	0	1604	447	0	980	0	0	944
Upstream Filter (I)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	0.79
Uniform Delay (d1), s/veh	0.0	21.7	61.7	0.0	42.6	0.0	0.0	39.2
Incr Delay (d2), s/veh	0.0	0.2	7.2	0.0	2.6	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.9	68.9	0.0	45.2	0.0	0.0	39.3
1st-Term Q (Q1), veh/ln	0.0	1.9	3.3	0.0	8.0	0.0	0.0	2.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.4	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	3.6	0.0	8.4	0.0	0.0	2.9
%ile Storage Ratio (RQ%)	0.00	0.21	0.06	0.00	0.26	0.00	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		R	R		R			R
Lanes in Grp	0	1	2	0	1	0	0	1
Grp Vol (v), veh/h	0	0	126	0	0	0	0	34
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	0	1585
Q Serve Time (g_s), s	0.0	0.0	5.2	0.0	0.0	0.0	0.0	2.2
Cycle Q Clear Time (g_c), s	0.0	0.0	5.2	0.0	0.0	0.0	0.0	2.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	716	234	0	437	0	0	421
V/C Ratio (X)	0.00	0.00	0.54	0.00	0.00	0.00	0.00	0.08
Avail Cap (c_a), veh/h	0	716	758	0	437	0	0	421
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.79
Uniform Delay (d1), s/veh	0.0	0.0	60.7	0.0	0.0	0.0	0.0	37.5
Incr Delay (d2), s/veh	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	62.7	0.0	0.0	0.0	0.0	37.5
1st-Term Q (Q1), veh/ln	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

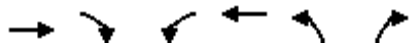
HCM 6th Ctrl Delay	64.0
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 7: I-10 WB Off Ramp & Varner Rd







07/11/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	↑
Traffic Volume (veh/h)	180	0	0	224	800	5
Future Volume (veh/h)	180	0	0	224	800	5
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	214	0	0	267	952	0
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	753	0	0	753	1402	643
Arrive On Green	0.21	0.00	0.00	0.21	0.41	0.00
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	214	0	0	267	952	0
Grp Sat Flow(s),veh/h/ln1777		0	0	1777	1728	1585
Q Serve(g_s), s	1.5	0.0	0.0	1.9	6.6	0.0
Cycle Q Clear(g_c), s	1.5	0.0	0.0	1.9	6.6	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	753	0	0	753	1402	643
V/C Ratio(X)	0.28	0.00	0.00	0.35	0.68	0.00
Avail Cap(c_a), veh/h	4248	0	0	4248	3540	1624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	9.8	7.1	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.3		0.0	0.0	0.4	1.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	9.9	0.0	0.0	10.1	7.6	0.0
LnGrp LOS	A	A	A	B	A	A
Approach Vol, veh/h	214			267	952	
Approach Delay, s/veh	9.9			10.1	7.6	
Approach LOS	A			B	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		12.0			12.0	17.3
Change Period (Y+Rc), s		5.8			5.8	5.4
Max Green Setting (Gmax), s		35.0			35.0	30.0
Max Q Clear Time (g_c+I1), s		3.5			3.9	8.6
Green Ext Time (p_c), s		1.0			1.3	3.3
Intersection Summary						
HCM 6th Ctrl Delay			8.4			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

07/11/2019

									
Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations	↑↑			↑↑	↘↘	↗			
Traffic Volume (veh/h)	180	0	0	224	800	5			
Future Volume (veh/h)	180	0	0	224	800	5			
Number	2	12	1	6	3	18			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)		1.00	1.00		1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870			
Adj Flow Rate, veh/h	214	0	0	267	952	0			
Peak Hour Factor	0.84	0.84	0.84	0.84	0.84	0.84			
Percent Heavy Veh, %	2	0	0	2	2	2			
Opposing Right Turn Influence	No			Yes					
Cap, veh/h	753	0	0	753	1402	643			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.21	0.00	0.00	0.21	0.41	0.00			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	9.9	0.0	0.0	10.1	7.6	0.0			
Ln Grp LOS	A	A	A	B	A	A			
Approach Vol, veh/h	214			267	952				
Approach Delay, s/veh	9.9			10.1	7.6				
Approach LOS	A			B	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2	8			6		
Case No			8.0	9.0			8.0		
Phs Duration (G+Y+Rc), s			12.0	17.3			12.0		
Change Period (Y+Rc), s			5.8	5.4			5.8		
Max Green (Gmax), s			35.0	30.0			35.0		
Max Allow Headway (MAH), s			4.4	3.5			4.4		
Max Q Clear (g_c+I1), s			3.5	8.6			3.9		
Green Ext Time (g_e), s			1.0	3.3			1.3		
Prob of Phs Call (p_c)			0.82	1.00			0.89		
Prob of Max Out (p_x)			0.00	0.00			0.00		
Left-Turn Movement Data									
Assigned Mvmt			5	3			1		
Mvmt Sat Flow, veh/h			0	3456			0		
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			3741	0			3741		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			0	1585			0		
Left Lane Group Data									
Assigned Mvmt	0	5	3	0	0	1	0	0	
Lane Assignment	L								

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Lanes in Grp	0	0	2	0	0	0	0	0
Grp Vol (v), veh/h	0	0	952	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1728	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	6.6	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1728	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	6.2	0.0	0.0	0.0	6.2	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1402	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.68	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	3540	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	7.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	214	0	0	0	267	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	1.5	0.0	0.0	0.0	1.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	0.0	0.0	1.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	753	0	0	0	753	0	0
V/C Ratio (X)	0.00	0.28	0.00	0.00	0.00	0.35	0.00	0.00
Avail Cap (c_a), veh/h	0	4248	0	0	0	4248	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.7	0.0	0.0	0.0	9.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.9	0.0	0.0	0.0	10.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	0.0	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment	R							
Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	643	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1624	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.4
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary

8: Monterey Ave & I-10 EB Ramps

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	2	1043	0	0	0	0	858	369	173	1220	0
Future Volume (veh/h)	41	2	1043	0	0	0	0	858	369	173	1220	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	33	0	1194				0	998	131	201	1419	0
Peak Hour Factor	0.86	0.86	0.86				0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	724	0	1289				0	1942	603	266	1765	0
Arrive On Green	0.41	0.00	0.41				0.00	0.38	0.38	0.08	0.50	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	33	0	1194				0	998	131	201	1419	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	1.3	0.0	43.0				0.0	18.1	6.7	6.8	40.2	0.0
Cycle Q Clear(g_c), s	1.3	0.0	43.0				0.0	18.1	6.7	6.8	40.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	724	0	1289				0	1942	603	266	1765	0
V/C Ratio(X)	0.05	0.00	0.93				0.00	0.51	0.22	0.75	0.80	0.00
Avail Cap(c_a), veh/h	846	0	1506				0	1942	603	518	1765	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.92	0.92	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.5	0.0	33.9				0.0	28.6	25.1	54.3	25.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	9.0				0.0	0.9	0.8	4.3	4.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	17.8				0.0	7.5	2.7	3.1	17.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	0.0	42.9				0.0	29.5	25.9	58.6	29.3	0.0
LnGrp LOS	C	A	D				A	C	C	E	C	A
Approach Vol, veh/h		1227						1129			1620	
Approach Delay, s/veh		42.3						29.1			32.9	
Approach LOS		D						C			C	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	4.0	51.4	54.6	65.4								
Change Period (Y+Rc), s	4.7	5.8	5.8	5.8								
Max Green Setting (Gmax), s	18	28.0	57.0	51.0								
Max Q Clear Time (g_c+I), s	19	20.1	45.0	42.2								
Green Ext Time (p_c), s	0.4	4.3	3.8	6.1								

Intersection Summary

HCM 6th Ctrl Delay	34.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
8: Monterey Ave & I-10 EB Ramps

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	2	1043	0	0	0	0	858	369	173	1220	0
Future Volume (veh/h)	41	2	1043	0	0	0	0	858	369	173	1220	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	33	0	1194				0	998	131	201	1419	0
Peak Hour Factor	0.86	0.86	0.86				0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	724	0	1289				0	1942	603	266	1765	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.41	0.00	0.41				0.00	0.38	0.38	0.08	0.50	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	21.5	0.0	42.9				0.0	29.5	25.9	58.6	29.3	0.0
Ln Grp LOS	C	A	D				A	C	C	E	C	A
Approach Vol, veh/h		1227						1129			1620	
Approach Delay, s/veh		42.3						29.1			32.9	
Approach LOS		D						C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		14.0	51.4		54.6		65.4					
Change Period (Y+Rc), s		* 4.7	5.8		5.8		5.8					
Max Green (Gmax), s		* 18	28.0		57.0		51.0					
Max Allow Headway (MAH), s		3.8	5.1		3.5		5.2					
Max Q Clear (g_c+I1), s		8.8	20.1		45.0		42.2					
Green Ext Time (g_e), s		0.4	4.3		3.8		6.1					
Prob of Phs Call (p_c)		1.00	1.00		1.00		1.00					
Prob of Max Out (p_x)		0.01	0.00		0.16		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5274		0		3647					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 8: Monterey Ave & I-10 EB Ramps

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Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	201	0	0	33	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	6.8	0.0	0.0	1.3	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	6.8	0.0	0.0	1.3	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	45.6	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	266	0	0	724	0	0	0	0
V/C Ratio (X)	0.75	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	518	0	0	846	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	54.3	0.0	0.0	21.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	58.6	0.0	0.0	21.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	3.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	3.1	0.0	0.0	0.6	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.22	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	998	0	0	0	1419	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	18.1	0.0	0.0	0.0	40.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	18.1	0.0	0.0	0.0	40.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	1942	0	0	0	1765	0	0
V/C Ratio (X)	0.00	0.51	0.00	0.00	0.00	0.80	0.00	0.00
Avail Cap (c_a), veh/h	0	1942	0	0	0	1765	0	0
Upstream Filter (I)	0.00	0.92	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	28.6	0.0	0.0	0.0	25.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	4.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.5	0.0	0.0	0.0	29.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.3	0.0	0.0	0.0	16.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	1.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

8: Monterey Ave & I-10 EB Ramps

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	7.5	0.0	0.0	0.0	17.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.00	0.00	1.21	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	131	0	1194	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	6.7	0.0	43.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.7	0.0	43.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	603	0	1289	0	0	0	0
V/C Ratio (X)	0.00	0.22	0.00	0.93	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	603	0	1506	0	0	0	0
Upstream Filter (I)	0.00	0.92	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	25.1	0.0	33.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	9.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.9	0.0	42.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	16.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.6	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	17.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	4.52	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	34.7
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 9: Monterey Ave & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑	↖	↖	↑ ↑	↖	↖ ↗	↑ ↑ ↖		↖ ↗	↑ ↑ ↑	↖
Traffic Volume (veh/h)	289	233	200	34	201	312	175	626	16	355	1521	382
Future Volume (veh/h)	289	233	200	34	201	312	175	626	16	355	1521	382
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	321	259	48	38	223	0	194	696	18	394	1690	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	504	225	82	285		245	2642	68	445	2933	
Arrive On Green	0.11	0.14	0.14	0.05	0.08	0.00	0.07	0.52	0.52	0.13	0.57	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	5116	132	3456	5106	1585
Grp Volume(v), veh/h	321	259	48	38	223	0	194	462	252	394	1690	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1702	1844	1728	1702	1585
Q Serve(g_s), s	11.9	8.8	3.5	2.7	8.0	0.0	7.2	9.9	9.9	14.6	27.4	0.0
Cycle Q Clear(g_c), s	11.9	8.8	3.5	2.7	8.0	0.0	7.2	9.9	9.9	14.6	27.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	372	504	225	82	285		245	1758	953	445	2933	
V/C Ratio(X)	0.86	0.51	0.21	0.46	0.78		0.79	0.26	0.26	0.88	0.58	
Avail Cap(c_a), veh/h	505	957	427	110	847		346	1758	953	638	2933	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	1.00	1.00	0.00	0.93	0.93	0.93	0.36	0.36	0.00
Uniform Delay (d), s/veh	57.1	51.6	49.4	60.5	58.7	0.0	59.4	17.6	17.6	55.7	17.6	0.0
Incr Delay (d2), s/veh	7.7	0.3	0.1	1.5	1.8	0.0	4.8	0.3	0.6	3.1	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	3.8	1.3	1.2	3.6	0.0	3.2	3.7	4.1	6.3	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.7	51.9	49.5	62.0	60.5	0.0	64.2	17.9	18.2	58.8	17.9	0.0
LnGrp LOS	E	D	D	E	E		E	B	B	E	B	
Approach Vol, veh/h		628			261	A		908			2084	A
Approach Delay, s/veh		58.3			60.7			27.9			25.6	
Approach LOS		E			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	1.0	24.1	14.2	80.7	19.0	16.1	21.8	73.1				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	3.0	35.0	13.0	45.0	19.0	31.0	24.0	34.0				
Max Q Clear Time (g_c+1/4), s	11.7	10.8	9.2	29.4	13.9	10.0	16.6	11.9				
Green Ext Time (p_c), s	0.0	0.5	0.0	3.8	0.1	0.4	0.2	1.2				

Intersection Summary


































HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 			 		 	  		  	  	
Traffic Volume (veh/h)	289	233	200	34	201	312	175	626	16	355	1521	382
Future Volume (veh/h)	289	233	200	34	201	312	175	626	16	355	1521	382
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	321	259	48	38	223	0	194	696	18	394	1690	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	372	504	225	82	285		245	2642	68	445	2933	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.14	0.14	0.05	0.08	0.00	0.07	0.52	0.52	0.13	0.57	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	64.7	51.9	49.5	62.0	60.5	0.0	64.2	17.9	18.2	58.8	17.9	0.0
Ln Grp LOS	E	D	D	E	E		E	B	B	E	B	
Approach Vol, veh/h		628			261			908			2084	
Approach Delay, s/veh		58.3			60.7			27.9			25.6	
Approach LOS		E			E			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		11.0	24.1	14.2	80.7	19.0	16.1	21.8	73.1			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		8.0	35.0	13.0	45.0	19.0	31.0	24.0	34.0			
Max Allow Headway (MAH), s		1.7	2.7	1.6	2.7	1.7	2.9	1.6	2.7			
Max Q Clear (g_c+I1), s		4.7	10.8	9.2	29.4	13.9	10.0	16.6	11.9			
Green Ext Time (g_e), s		0.0	0.5	0.0	3.8	0.1	0.4	0.2	1.2			
Prob of Phs Call (p_c)		0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		5116			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		132			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

07/11/2019

Lanes in Grp	1	0	2	0	2	0	2	0
Grp Vol (v), veh/h	38	0	194	0	321	0	394	0
Grp Sat Flow (s), veh/h/ln	1781	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	2.7	0.0	7.2	0.0	11.9	0.0	14.6	0.0
Cycle Q Clear Time (g_c), s	2.7	0.0	7.2	0.0	11.9	0.0	14.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	82	0	245	0	372	0	445	0
V/C Ratio (X)	0.46	0.00	0.79	0.00	0.86	0.00	0.88	0.00
Avail Cap (c_a), veh/h	110	0	346	0	505	0	638	0
Upstream Filter (I)	1.00	0.00	0.93	0.00	0.86	0.00	0.36	0.00
Uniform Delay (d1), s/veh	60.5	0.0	59.4	0.0	57.1	0.0	55.7	0.0
Incr Delay (d2), s/veh	1.5	0.0	4.8	0.0	7.7	0.0	3.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	62.0	0.0	64.2	0.0	64.7	0.0	58.8	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	3.0	0.0	5.0	0.0	6.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.4	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	3.2	0.0	5.4	0.0	6.3	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.31	0.00	0.49	0.00	0.91	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	259	0	1690	0	223	0	462
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	8.8	0.0	27.4	0.0	8.0	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	8.8	0.0	27.4	0.0	8.0	0.0	9.9
Lane Grp Cap (c), veh/h	0	504	0	2933	0	285	0	1758
V/C Ratio (X)	0.00	0.51	0.00	0.58	0.00	0.78	0.00	0.26
Avail Cap (c_a), veh/h	0	957	0	2933	0	847	0	1758
Upstream Filter (I)	0.00	0.86	0.00	0.36	0.00	1.00	0.00	0.93
Uniform Delay (d1), s/veh	0.0	51.6	0.0	17.6	0.0	58.7	0.0	17.6
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.3	0.0	1.8	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	51.9	0.0	17.9	0.0	60.5	0.0	17.9
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	9.6	0.0	3.5	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

9: Monterey Ave & Dinah Shore Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.8	0.0	9.6	0.0	3.6	0.0	3.7
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.19	0.00	0.09	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	48	0	0	0	0	0	252
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1844
Q Serve Time (g_s), s	0.0	3.5	0.0	0.0	0.0	0.0	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	0.0	0.0	0.0	0.0	9.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.07
Lane Grp Cap (c), veh/h	0	225	0	910	0	127	0	953
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.26
Avail Cap (c_a), veh/h	0	427	0	910	0	378	0	953
Upstream Filter (I)	0.00	0.86	0.00	0.00	0.00	0.00	0.00	0.93
Uniform Delay (d1), s/veh	0.0	49.4	0.0	0.0	0.0	0.0	0.0	17.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	49.5	0.0	0.0	0.0	0.0	0.0	18.2
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	0.0	0.0	0.0	0.0	3.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	0.0	0.0	0.0	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 12: Portola Rd & Dinah Shore Dr

07/11/2019



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↩	↑↑	↗	↖	↑↑	↖↗	↗
Traffic Volume (veh/h)	10	120	235	40	100	398	20
Future Volume (veh/h)	10	120	235	40	100	398	20
Initial Q (Qb), veh		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No	No	
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		130	0	43	109	433	22
Peak Hour Factor		0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %		2	2	2	2	2	2
Cap, veh/h		667		134	1451	832	382
Arrive On Green		0.19	0.00	0.08	0.41	0.24	0.24
Sat Flow, veh/h		3647	1585	1781	3647	3456	1585
Grp Volume(v), veh/h		130	0	43	109	433	22
Grp Sat Flow(s),veh/h/ln		1777	1585	1781	1777	1728	1585
Q Serve(g_s), s		1.3	0.0	0.9	0.8	4.5	0.4
Cycle Q Clear(g_c), s		1.3	0.0	0.9	0.8	4.5	0.4
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		667		134	1451	832	382
V/C Ratio(X)		0.19		0.32	0.08	0.52	0.06
Avail Cap(c_a), veh/h		3355		862	3699	3095	1420
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		14.2	0.0	18.1	7.5	13.6	12.1
Incr Delay (d2), s/veh		0.1	0.0	0.5	0.0	0.2	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.4	0.0	0.3	0.2	1.2	0.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh		14.2	0.0	18.6	7.5	13.8	12.1
LnGrp LOS		B		B	A	B	B
Approach Vol, veh/h		130	A		152	455	
Approach Delay, s/veh		14.2			10.6	13.7	
Approach LOS		B			B	B	
Timer - Assigned Phs		2			5	6	8
Phs Duration (G+Y+Rc), s		23.9			9.1	14.8	17.4
Change Period (Y+Rc), s		7.0			6.0	7.0	7.5
Max Green Setting (Gmax), s		43.0			20.0	39.0	37.0
Max Q Clear Time (g_c+I1), s		2.8			2.9	3.3	6.5
Green Ext Time (p_c), s		0.4			0.0	0.5	0.8

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

07/11/2019



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↔	↑↑	↗	↖	↑↑	↖↗	↗		
Traffic Volume (veh/h)	10	120	235	40	100	398	20		
Future Volume (veh/h)	10	120	235	40	100	398	20		
Number		6	16	5	2	3	18		
Initial Q, veh		0	0	0	0	0	0		
Ped-Bike Adj (A_pbT)			1.00	1.00		1.00	1.00		
Parking Bus Adj		1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No	No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h		130	0	43	109	433	22		
Peak Hour Factor		0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %		2	2	2	2	2	2		
Opposing Right Turn Influence				Yes		Yes			
Cap, veh/h		667		134	1451	832	382		
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00		
Prop Arrive On Green		0.19	0.00	0.08	0.41	0.24	0.24		
Unsig. Movement Delay									
Ln Grp Delay, s/veh		14.2	0.0	18.6	7.5	13.8	12.1		
Ln Grp LOS		B		B	A	B	B		
Approach Vol, veh/h		130			152	455			
Approach Delay, s/veh		14.2			10.6	13.7			
Approach LOS		B			B	B			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2	8		5	6		
Case No			4.0	9.0		2.0	7.0		
Phs Duration (G+Y+Rc), s			23.9	17.4		9.1	14.8		
Change Period (Y+Rc), s			7.0	7.5		6.0	7.0		
Max Green (Gmax), s			43.0	37.0		20.0	39.0		
Max Allow Headway (MAH), s			3.9	2.7		2.7	3.9		
Max Q Clear (g_c+I1), s			2.8	6.5		2.9	3.3		
Green Ext Time (g_e), s			0.4	0.8		0.0	0.5		
Prob of Phs Call (p_c)			0.71	0.99		0.39	0.78		
Prob of Max Out (p_x)			0.00	0.00		0.00	0.00		
Left-Turn Movement Data									
Assigned Mvmt				3		5	1		
Mvmt Sat Flow, veh/h				3456		1781	0		
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			3647	0			3647		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			0	1585			1585		
Left Lane Group Data									
Assigned Mvmt		0	0	3	0	5	1	0	0
Lane Assignment				L		L (Prot)			

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

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Lanes in Grp	0	0	2	0	1	0	0	0
Grp Vol (v), veh/h	0	0	433	0	43	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1728	0	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	4.5	0.0	0.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	4.5	0.0	0.9	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1728	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	7.8	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	832	0	134	0	0	0
V/C Ratio (X)	0.00	0.00	0.52	0.00	0.32	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	3095	0	862	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	13.6	0.0	18.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	0.5	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	13.8	0.0	18.6	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.2	0.0	0.3	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.2	0.0	0.3	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	109	0	0	0	130	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.8	0.0	0.0	0.0	1.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.8	0.0	0.0	0.0	1.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	1451	0	0	0	667	0	0
V/C Ratio (X)	0.00	0.08	0.00	0.00	0.00	0.19	0.00	0.00
Avail Cap (c_a), veh/h	0	3699	0	0	0	3355	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.5	0.0	0.0	0.0	14.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.5	0.0	0.0	0.0	14.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	22	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	382	0	0	297	0	0
V/C Ratio (X)	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1420	0	0	1496	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	13.2
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 13: Date Palm Dr & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	51	21	300	56	158	27	223	181	170	470	62
Future Volume (veh/h)	47	51	21	300	56	158	27	223	181	170	470	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	52	21	347	0	26	28	228	71	173	480	63
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	126	178	68	440	0	196	47	1807	806	144	1779	233
Arrive On Green	0.07	0.07	0.07	0.12	0.00	0.12	0.03	0.51	0.51	0.08	0.56	0.56
Sat Flow, veh/h	1781	2515	959	3563	0	1585	1781	3554	1585	1781	3160	413
Grp Volume(v), veh/h	48	36	37	347	0	26	28	228	71	173	269	274
Grp Sat Flow(s),veh/h/ln	1781	1777	1698	1781	0	1585	1781	1777	1585	1781	1777	1796
Q Serve(g_s), s	2.8	2.1	2.3	10.4	0.0	1.6	1.7	3.7	2.5	8.9	8.6	8.7
Cycle Q Clear(g_c), s	2.8	2.1	2.3	10.4	0.0	1.6	1.7	3.7	2.5	8.9	8.6	8.7
Prop In Lane	1.00		0.56	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	126	126	120	440	0	196	47	1807	806	144	1001	1011
V/C Ratio(X)	0.38	0.28	0.31	0.79	0.00	0.13	0.60	0.13	0.09	1.20	0.27	0.27
Avail Cap(c_a), veh/h	141	141	134	1023	0	455	96	1807	806	144	1001	1011
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.00	0.86	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.8	48.5	48.5	46.8	0.0	43.0	53.0	14.2	13.9	50.5	12.4	12.4
Incr Delay (d2), s/veh	1.9	1.2	1.4	2.8	0.0	0.3	4.6	0.1	0.2	138.8	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.0	1.0	4.6	0.0	0.7	0.8	1.5	0.9	9.4	3.4	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	49.7	50.0	49.6	0.0	43.2	57.6	14.4	14.1	189.3	13.0	13.0
LnGrp LOS	D	D	D	D	A	D	E	B	B	F	B	B
Approach Vol, veh/h		121			373			327			716	
Approach Delay, s/veh		50.2			49.1			18.0			55.6	
Approach LOS		D			D			B			E	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	68.3		19.9	14.9	62.3		12.9				
Change Period (Y+Rc), s	6.0	6.4		6.3	6.0	6.4		5.1				
Max Green Setting (Gmax), s	5.9	40.0		31.6	8.9	37.0		8.7				
Max Q Clear Time (g_c+1/3), s	13.7	10.7		12.4	10.9	5.7		4.8				
Green Ext Time (p_c), s	0.0	6.4		1.2	0.0	3.2		0.1				

Intersection Summary
























HCM 6th Ctrl Delay	45.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	51	21	300	56	158	27	223	181	170	470	62
Future Volume (veh/h)	47	51	21	300	56	158	27	223	181	170	470	62
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	52	21	347	0	26	28	228	71	173	480	63
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	126	178	68	440	0	196	47	1807	806	144	1779	233
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.07	0.07	0.12	0.00	0.12	0.03	0.51	0.51	0.08	0.56	0.56
Unsig. Movement Delay												
Ln Grp Delay, s/veh	50.7	49.7	50.0	49.6	0.0	43.2	57.6	14.4	14.1	189.3	13.0	13.0
Ln Grp LOS	D	D	D	D	A	D	E	B	B	F	B	B
Approach Vol, veh/h		121			373			327			716	
Approach Delay, s/veh		50.2			49.1			18.0			55.6	
Approach LOS		D			D			B			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	4.0	10.0	9.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		8.9	68.3	12.9	19.9	14.9	62.3					
Change Period (Y+Rc), s		6.0	6.4	5.1	6.3	6.0	6.4					
Max Green (Gmax), s		5.9	40.0	8.7	31.6	8.9	37.0					
Max Allow Headway (MAH), s		2.7	7.0	4.8	3.7	2.7	6.8					
Max Q Clear (g_c+I1), s		3.7	10.7	4.8	12.4	10.9	5.7					
Green Ext Time (g_e), s		0.0	6.4	0.1	1.2	0.0	3.2					
Prob of Phs Call (p_c)		0.57	1.00	0.98	1.00	0.99	1.00					
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	1.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		1781		1781	3563	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3160	2515	0		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			413	959	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

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Lanes in Grp	1	0	1	2	1	0	0	0
Grp Vol (v), veh/h	28	0	48	347	173	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	1.7	0.0	2.8	10.4	8.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	1.7	0.0	2.8	10.4	8.9	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	47	0	126	440	144	0	0	0
V/C Ratio (X)	0.60	0.00	0.38	0.79	1.20	0.00	0.00	0.00
Avail Cap (c_a), veh/h	96	0	141	1023	144	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.86	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	53.0	0.0	48.8	46.8	50.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.6	0.0	1.9	2.8	138.8	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	57.6	0.0	50.7	49.6	189.3	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.3	4.5	3.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.2	5.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.8	0.0	1.3	4.6	9.4	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.24	0.00	0.34	1.18	1.46	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	7.2	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T			T		
Lanes in Grp	0	1	1	0	0	2	0	0
Grp Vol (v), veh/h	0	269	36	0	0	228	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	1777	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	8.6	2.1	0.0	0.0	3.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.6	2.1	0.0	0.0	3.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	1001	126	0	0	1807	0	0
V/C Ratio (X)	0.00	0.27	0.28	0.00	0.00	0.13	0.00	0.00
Avail Cap (c_a), veh/h	0	1001	141	0	0	1807	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.4	48.5	0.0	0.0	14.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	1.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.0	49.7	0.0	0.0	14.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	0.9	0.0	0.0	1.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.4	1.0	0.0	0.0	1.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.04	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	T+R	R		R		
Lanes in Grp	0	1	1	1	0	1	0	0
Grp Vol (v), veh/h	0	274	37	26	0	71	0	0
Grp Sat Flow (s), veh/h/ln	0	1796	1698	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	8.7	2.3	1.6	0.0	2.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.7	2.3	1.6	0.0	2.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.23	0.56	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1011	120	196	0	806	0	0
V/C Ratio (X)	0.00	0.27	0.31	0.13	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	1011	134	455	0	806	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.86	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.4	48.5	43.0	0.0	13.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	1.4	0.3	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.0	50.0	43.2	0.0	14.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	1.0	0.6	0.0	0.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.4	1.0	0.7	0.0	0.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.04	0.00	0.00	0.27	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	45.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
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




















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↗	↖
Traffic Volume (veh/h)	37	425	193	40	358	116	91	235	29	137	490	68
Future Volume (veh/h)	37	425	193	40	358	116	91	235	29	137	490	68
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	500	227	47	421	136	107	276	7	161	576	80
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	690	312	79	773	247	139	782	349	204	805	111
Arrive On Green	0.04	0.29	0.29	0.04	0.29	0.29	0.08	0.22	0.22	0.11	0.26	0.26
Sat Flow, veh/h	1781	2379	1075	1781	2648	847	1781	3554	1585	1781	3135	434
Grp Volume(v), veh/h	44	373	354	47	281	276	107	276	7	161	326	330
Grp Sat Flow(s),veh/h/ln	1781	1777	1677	1781	1777	1718	1781	1777	1585	1781	1777	1792
Q Serve(g_s), s	1.5	12.0	12.1	1.6	8.4	8.6	3.7	4.2	0.2	5.6	10.6	10.7
Cycle Q Clear(g_c), s	1.5	12.0	12.1	1.6	8.4	8.6	3.7	4.2	0.2	5.6	10.6	10.7
Prop In Lane	1.00		0.64	1.00		0.49	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	76	515	486	79	519	502	139	782	349	204	456	460
V/C Ratio(X)	0.58	0.72	0.73	0.59	0.54	0.55	0.77	0.35	0.02	0.79	0.71	0.72
Avail Cap(c_a), veh/h	561	1260	1189	561	1260	1218	561	1959	874	561	980	988
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.8	20.2	20.3	29.8	18.9	19.0	28.7	20.9	19.4	27.3	21.5	21.5
Incr Delay (d2), s/veh	2.6	1.9	2.1	2.6	0.9	0.9	3.4	0.3	0.0	2.6	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.4	4.2	0.7	3.0	3.0	1.6	1.6	0.1	2.3	4.1	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.4	22.2	22.4	32.4	19.8	19.9	32.1	21.2	19.4	29.9	23.6	23.6
LnGrp LOS	C	C	C	C	B	B	C	C	B	C	C	C
Approach Vol, veh/h		771			604			390			817	
Approach Delay, s/veh		22.9			20.8			24.2			24.8	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	25.0	11.3	20.5	6.8	24.9	8.9	22.8				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0				
Max Q Clear Time (g_c+1), s	13.5	10.6	7.6	6.2	3.6	14.1	5.7	12.7				
Green Ext Time (p_c), s	0.0	3.2	0.2	1.6	0.0	4.3	0.1	3.6				
Intersection Summary												
HCM 6th Ctrl Delay											23.2	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	425	193	40	358	116	91	235	29	137	490	68
Future Volume (veh/h)	37	425	193	40	358	116	91	235	29	137	490	68
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	44	500	227	47	421	136	107	276	7	161	576	80
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	76	690	312	79	773	247	139	782	349	204	805	111
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.29	0.29	0.04	0.29	0.29	0.08	0.22	0.22	0.11	0.26	0.26
Unsig. Movement Delay												
Ln Grp Delay, s/veh	32.4	22.2	22.4	32.4	19.8	19.9	32.1	21.2	19.4	29.9	23.6	23.6
Ln Grp LOS	C	C	C	C	B	B	C	C	B	C	C	C
Approach Vol, veh/h		771			604			390			817	
Approach Delay, s/veh		22.9			20.8			24.2			24.8	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		6.7	25.0	11.3	20.5	6.8	24.9	8.9	22.8			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0			
Max Allow Headway (MAH), s		2.7	4.9	2.7	4.9	2.7	4.9	2.7	4.9			
Max Q Clear (g_c+I1), s		3.5	10.6	7.6	6.2	3.6	14.1	5.7	12.7			
Green Ext Time (g_e), s		0.0	3.2	0.2	1.6	0.0	4.3	0.1	3.6			
Prob of Phs Call (p_c)		0.54	1.00	0.94	0.99	0.56	1.00	0.85	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.02			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2648		3554		2379		3135			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			847		1585		1075		434			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	44	0	161	0	47	0	107	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.5	0.0	5.6	0.0	1.6	0.0	3.7	0.0
Cycle Q Clear Time (g_c), s	1.5	0.0	5.6	0.0	1.6	0.0	3.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	76	0	204	0	79	0	139	0
V/C Ratio (X)	0.58	0.00	0.79	0.00	0.59	0.00	0.77	0.00
Avail Cap (c_a), veh/h	561	0	561	0	561	0	561	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	29.8	0.0	27.3	0.0	29.8	0.0	28.7	0.0
Incr Delay (d2), s/veh	2.6	0.0	2.6	0.0	2.6	0.0	3.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	32.4	0.0	29.9	0.0	32.4	0.0	32.1	0.0
1st-Term Q (Q1), veh/ln	0.6	0.0	2.1	0.0	0.6	0.0	1.4	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.6	0.0	2.3	0.0	0.7	0.0	1.6	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.41	0.00	0.17	0.00	0.20	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	281	0	276	0	373	0	326
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	8.4	0.0	4.2	0.0	12.0	0.0	10.6
Cycle Q Clear Time (g_c), s	0.0	8.4	0.0	4.2	0.0	12.0	0.0	10.6
Lane Grp Cap (c), veh/h	0	519	0	782	0	515	0	456
V/C Ratio (X)	0.00	0.54	0.00	0.35	0.00	0.72	0.00	0.71
Avail Cap (c_a), veh/h	0	1260	0	1959	0	1260	0	980
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.9	0.0	20.9	0.0	20.2	0.0	21.5
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.3	0.0	1.9	0.0	2.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.8	0.0	21.2	0.0	22.2	0.0	23.6
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	1.5	0.0	4.1	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.3

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	1.6	0.0	4.4	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	276	0	7	0	354	0	330
Grp Sat Flow (s), veh/h/ln	0	1718	0	1585	0	1677	0	1792
Q Serve Time (g_s), s	0.0	8.6	0.0	0.2	0.0	12.1	0.0	10.7
Cycle Q Clear Time (g_c), s	0.0	8.6	0.0	0.2	0.0	12.1	0.0	10.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.49	0.00	1.00	0.00	0.64	0.00	0.24
Lane Grp Cap (c), veh/h	0	502	0	349	0	486	0	460
V/C Ratio (X)	0.00	0.55	0.00	0.02	0.00	0.73	0.00	0.72
Avail Cap (c_a), veh/h	0	1218	0	874	0	1189	0	988
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.0	0.0	19.4	0.0	20.3	0.0	21.5
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	2.1	0.0	2.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.9	0.0	19.4	0.0	22.4	0.0	23.6
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	0.1	0.0	3.9	0.0	3.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	0.1	0.0	4.2	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.02	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	23.2
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	97	435	147	131	429	172	76	327	50	131	852	64
Future Volume (veh/h)	97	435	147	131	429	172	76	327	50	131	852	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	494	52	149	488	39	86	372	23	149	968	32
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	647	289	219	693	309	159	1626	725	219	1687	753
Arrive On Green	0.05	0.18	0.18	0.06	0.20	0.20	0.05	0.46	0.46	0.06	0.47	0.47
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	110	494	52	149	488	39	86	372	23	149	968	32
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.1	13.0	2.7	4.2	12.6	2.0	2.4	6.2	0.8	4.2	19.3	1.1
Cycle Q Clear(g_c), s	3.1	13.0	2.7	4.2	12.6	2.0	2.4	6.2	0.8	4.2	19.3	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	174	647	289	219	693	309	159	1626	725	219	1687	753
V/C Ratio(X)	0.63	0.76	0.18	0.68	0.70	0.13	0.54	0.23	0.03	0.68	0.57	0.04
Avail Cap(c_a), veh/h	703	1265	564	703	1265	564	703	1626	725	703	1687	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.8	38.2	34.0	45.1	36.9	32.7	45.9	16.2	14.7	45.1	18.6	13.8
Incr Delay (d2), s/veh	1.4	1.9	0.3	1.4	1.3	0.2	1.1	0.3	0.1	1.4	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	5.5	1.0	1.7	5.3	0.7	1.0	2.3	0.3	1.7	7.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	40.1	34.3	46.5	38.3	32.8	47.0	16.5	14.8	46.5	19.1	13.9
LnGrp LOS	D	D	C	D	D	C	D	B	B	D	B	B
Approach Vol, veh/h		656			676			481			1149	
Approach Delay, s/veh		40.9			39.8			21.9			22.5	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	53.2	11.2	24.4	11.2	51.5	9.9	25.7				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0				
Max Q Clear Time (g_c+1), s	14.4	21.3	6.2	15.0	6.2	8.2	5.1	14.6				
Green Ext Time (p_c), s	0.1	6.6	0.2	2.9	0.2	2.2	0.1	2.9				
Intersection Summary												
HCM 6th Ctrl Delay											30.4	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	435	147	131	429	172	76	327	50	131	852	64
Future Volume (veh/h)	97	435	147	131	429	172	76	327	50	131	852	64
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	110	494	52	149	488	39	86	372	23	149	968	32
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	174	647	289	219	693	309	159	1626	725	219	1687	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.18	0.18	0.06	0.20	0.20	0.05	0.46	0.46	0.06	0.47	0.47
Unsig. Movement Delay												
Ln Grp Delay, s/veh	47.2	40.1	34.3	46.5	38.3	32.8	47.0	16.5	14.8	46.5	19.1	13.9
Ln Grp LOS	D	D	C	D	D	C	D	B	B	D	B	B
Approach Vol, veh/h		656			676			481			1149	
Approach Delay, s/veh		40.9			39.8			21.9			22.5	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.5	53.2	11.2	24.4	11.2	51.5	9.9	25.7			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5			
Max Green (Gmax), s		20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.7	2.7	4.7			
Max Q Clear (g_c+I1), s		4.4	21.3	6.2	15.0	6.2	8.2	5.1	14.6			
Green Ext Time (g_e), s		0.1	6.6	0.2	2.9	0.2	2.2	0.1	2.9			
Prob of Phs Call (p_c)		0.90	1.00	0.98	1.00	0.98	1.00	0.95	1.00			
Prob of Max Out (p_x)		0.00	0.06	0.00	0.01	0.00	0.00	0.00	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	86	0	149	0	149	0	110	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	2.4	0.0	4.2	0.0	4.2	0.0	3.1	0.0
Cycle Q Clear Time (g_c), s	2.4	0.0	4.2	0.0	4.2	0.0	3.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	159	0	219	0	219	0	174	0
V/C Ratio (X)	0.54	0.00	0.68	0.00	0.68	0.00	0.63	0.00
Avail Cap (c_a), veh/h	703	0	703	0	703	0	703	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	45.9	0.0	45.1	0.0	45.1	0.0	45.8	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.4	0.0	1.4	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	47.0	0.0	46.5	0.0	46.5	0.0	47.2	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	1.7	0.0	1.7	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	1.7	0.0	1.7	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.11	0.00	0.20	0.00	0.20	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	968	0	494	0	372	0	488
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	19.3	0.0	13.0	0.0	6.2	0.0	12.6
Cycle Q Clear Time (g_c), s	0.0	19.3	0.0	13.0	0.0	6.2	0.0	12.6
Lane Grp Cap (c), veh/h	0	1687	0	647	0	1626	0	693
V/C Ratio (X)	0.00	0.57	0.00	0.76	0.00	0.23	0.00	0.70
Avail Cap (c_a), veh/h	0	1687	0	1265	0	1626	0	1265
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.6	0.0	38.2	0.0	16.2	0.0	36.9
Incr Delay (d2), s/veh	0.0	0.5	0.0	1.9	0.0	0.3	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.1	0.0	40.1	0.0	16.5	0.0	38.3
1st-Term Q (Q1), veh/ln	0.0	7.0	0.0	5.3	0.0	2.2	0.0	5.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.1	0.0	5.5	0.0	2.3	0.0	5.3
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.01	0.00	0.03	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	32	0	52	0	23	0	39
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.1	0.0	2.7	0.0	0.8	0.0	2.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	2.7	0.0	0.8	0.0	2.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	753	0	289	0	725	0	309
V/C Ratio (X)	0.00	0.04	0.00	0.18	0.00	0.03	0.00	0.13
Avail Cap (c_a), veh/h	0	753	0	564	0	725	0	564
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.8	0.0	34.0	0.0	14.7	0.0	32.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.9	0.0	34.3	0.0	14.8	0.0	32.8
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	1.0	0.0	0.3	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	1.0	0.0	0.3	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.18	0.00	0.04	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 16: Monterey Ave & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↖		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	199	318	255	119	384	45	183	700	41	35	1417	144
Future Volume (veh/h)	199	318	255	119	384	45	183	700	41	35	1417	144
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	361	93	135	436	8	208	795	47	40	1610	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	633	282	190	539	240	264	2674	158	105	2533	
Arrive On Green	0.08	0.18	0.18	0.06	0.15	0.15	0.08	0.54	0.54	0.03	0.50	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4932	291	3456	5106	1585
Grp Volume(v), veh/h	226	361	93	135	436	8	208	548	294	40	1610	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1818	1728	1702	1585
Q Serve(g_s), s	7.8	11.3	6.2	4.7	14.5	0.5	7.2	10.7	10.8	1.4	28.3	0.0
Cycle Q Clear(g_c), s	7.8	11.3	6.2	4.7	14.5	0.5	7.2	10.7	10.8	1.4	28.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	282	633	282	190	539	240	264	1846	986	105	2533	
V/C Ratio(X)	0.80	0.57	0.33	0.71	0.81	0.03	0.79	0.30	0.30	0.38	0.64	
Avail Cap(c_a), veh/h	368	903	403	368	874	390	368	1846	986	340	2533	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.97	0.97	0.97	0.96	0.96	0.96	0.72	0.72	0.00
Uniform Delay (d), s/veh	55.0	45.9	43.8	56.7	50.1	44.1	55.4	15.2	15.3	58.0	22.6	0.0
Incr Delay (d2), s/veh	6.3	0.7	0.6	1.8	2.9	0.1	4.6	0.4	0.7	0.6	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	4.9	2.4	2.0	6.4	0.2	3.2	3.9	4.2	0.6	10.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.3	46.6	44.4	58.5	52.9	44.2	60.0	15.6	16.0	58.6	23.5	0.0
LnGrp LOS	E	D	D	E	D	D	E	B	B	E	C	
Approach Vol, veh/h		680			579			1050			1650	A
Approach Delay, s/veh		51.2			54.1			24.5			24.4	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.3	67.5	15.0	25.2	8.7	73.1	11.7	28.4				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.7	5.0	7.0	5.0	6.7				
Max Green Setting (Gmax), s	13.0	41.0	13.0	30.0	12.0	42.0	13.0	31.0				
Max Q Clear Time (g_c+1), s	19.2	30.3	9.8	16.5	3.4	12.8	6.7	13.3				
Green Ext Time (p_c), s	0.1	7.6	0.1	2.0	0.0	6.2	0.1	2.1				

Intersection Summary































HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 		
Traffic Volume (veh/h)	199	318	255	119	384	45	183	700	41	35	1417	144
Future Volume (veh/h)	199	318	255	119	384	45	183	700	41	35	1417	144
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	226	361	93	135	436	8	208	795	47	40	1610	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	282	633	282	190	539	240	264	2674	158	105	2533	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.18	0.18	0.06	0.15	0.15	0.08	0.54	0.54	0.03	0.50	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.3	46.6	44.4	58.5	52.9	44.2	60.0	15.6	16.0	58.6	23.5	0.0
Ln Grp LOS	E	D	D	E	D	D	E	B	B	E	C	
Approach Vol, veh/h		680			579			1050			1650	
Approach Delay, s/veh		51.2			54.1			24.5			24.4	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.3	67.5	15.0	25.2	8.7	73.1	11.7	28.4			
Change Period (Y+Rc), s		5.0	7.0	5.0	6.7	5.0	7.0	5.0	6.7			
Max Green (Gmax), s		13.0	41.0	13.0	30.0	12.0	42.0	13.0	31.0			
Max Allow Headway (MAH), s		2.6	5.2	2.7	4.7	2.6	5.2	2.6	4.6			
Max Q Clear (g_c+I1), s		9.2	30.3	9.8	16.5	3.4	12.8	6.7	13.3			
Green Ext Time (g_e), s		0.1	7.6	0.1	2.0	0.0	6.2	0.1	2.1			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	0.74	1.00	0.99	1.00			
Prob of Max Out (p_x)		0.20	0.00	0.52	0.04	0.00	0.00	0.00	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4932		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		291		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	208	0	226	0	40	0	135	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	7.2	0.0	7.8	0.0	1.4	0.0	4.7	0.0
Cycle Q Clear Time (g_c), s	7.2	0.0	7.8	0.0	1.4	0.0	4.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	264	0	282	0	105	0	190	0
V/C Ratio (X)	0.79	0.00	0.80	0.00	0.38	0.00	0.71	0.00
Avail Cap (c_a), veh/h	368	0	368	0	340	0	368	0
Upstream Filter (I)	0.96	0.00	0.90	0.00	0.72	0.00	0.97	0.00
Uniform Delay (d1), s/veh	55.4	0.0	55.0	0.0	58.0	0.0	56.7	0.0
Incr Delay (d2), s/veh	4.6	0.0	6.3	0.0	0.6	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.0	0.0	61.3	0.0	58.6	0.0	58.5	0.0
1st-Term Q (Q1), veh/ln	3.0	0.0	3.3	0.0	0.6	0.0	2.0	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.2	0.0	3.5	0.0	0.6	0.0	2.0	0.0
%ile Storage Ratio (RQ%)	0.40	0.00	0.55	0.00	0.08	0.00	0.28	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1610	0	436	0	548	0	361
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	28.3	0.0	14.5	0.0	10.7	0.0	11.3
Cycle Q Clear Time (g_c), s	0.0	28.3	0.0	14.5	0.0	10.7	0.0	11.3
Lane Grp Cap (c), veh/h	0	2533	0	539	0	1846	0	633
V/C Ratio (X)	0.00	0.64	0.00	0.81	0.00	0.30	0.00	0.57
Avail Cap (c_a), veh/h	0	2533	0	874	0	1846	0	903
Upstream Filter (I)	0.00	0.72	0.00	0.97	0.00	0.96	0.00	0.90
Uniform Delay (d1), s/veh	0.0	22.6	0.0	50.1	0.0	15.2	0.0	45.9
Incr Delay (d2), s/veh	0.0	0.9	0.0	2.9	0.0	0.4	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.5	0.0	52.9	0.0	15.6	0.0	46.6
1st-Term Q (Q1), veh/ln	0.0	10.2	0.0	6.1	0.0	3.8	0.0	4.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.4	0.0	6.4	0.0	3.9	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.03	0.00	0.07	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	8	0	294	0	93
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1818	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	0.5	0.0	10.8	0.0	6.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.5	0.0	10.8	0.0	6.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.16	0.00	1.00
Lane Grp Cap (c), veh/h	0	786	0	240	0	986	0	282
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.30	0.00	0.33
Avail Cap (c_a), veh/h	0	786	0	390	0	986	0	403
Upstream Filter (I)	0.00	0.00	0.00	0.97	0.00	0.96	0.00	0.90
Uniform Delay (d1), s/veh	0.0	0.0	0.0	44.1	0.0	15.3	0.0	43.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.7	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	44.2	0.0	16.0	0.0	44.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.2	0.0	4.0	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	4.2	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.37
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.4
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

17: Portola Rd & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖↗↘	↖	↖↗	↖↗↘	↖	↖↗	↖↗↘	↖
Traffic Volume (veh/h)	9	329	139	43	435	153	114	286	48	63	208	4
Future Volume (veh/h)	9	329	139	43	435	153	114	286	48	63	208	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	346	146	45	458	0	120	301	9	66	219	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	457	189	251	1134		425	1058	328	321	904	
Arrive On Green	0.02	0.19	0.19	0.07	0.22	0.00	0.12	0.21	0.21	0.09	0.18	0.00
Sat Flow, veh/h	1781	2449	1015	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	9	249	243	45	458	0	120	301	9	66	219	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1688	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.3	7.2	7.4	0.7	4.2	0.0	1.7	2.7	0.2	1.0	2.0	0.0
Cycle Q Clear(g_c), s	0.3	7.2	7.4	0.7	4.2	0.0	1.7	2.7	0.2	1.0	2.0	0.0
Prop In Lane	1.00		0.60	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	332	315	251	1134		425	1058	328	321	904	
V/C Ratio(X)	0.27	0.75	0.77	0.18	0.40		0.28	0.28	0.03	0.21	0.24	
Avail Cap(c_a), veh/h	524	1371	1302	952	3470		1270	3564	1106	952	3377	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	26.3	20.9	21.0	23.7	18.1	0.0	21.7	18.2	17.2	22.8	19.3	0.0
Incr Delay (d2), s/veh	1.6	1.3	1.5	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.5	2.5	0.2	1.3	0.0	0.6	0.9	0.1	0.3	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	22.3	22.5	23.8	18.2	0.0	21.8	18.2	17.2	23.0	19.3	0.0
LnGrp LOS	C	C	C	C	B		C	B	B	C	B	
Approach Vol, veh/h		501			503	A		430			285	A
Approach Delay, s/veh		22.5			18.7			19.2			20.2	
Approach LOS		C			B			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.1	18.3	8.9	17.2	11.7	16.6	7.0	19.1				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7				
Max Green Setting (Gmax), s	15.0	38.0	15.0	42.0	20.0	36.0	16.0	* 37				
Max Q Clear Time (g_c+1), s	13.0	4.7	2.7	9.4	3.7	4.0	2.3	6.2				
Green Ext Time (p_c), s	0.0	0.6	0.0	0.7	0.1	0.4	0.0	1.0				

Intersection Summary

HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	329	139	43	435	153	114	286	48	63	208	4
Future Volume (veh/h)	9	329	139	43	435	153	114	286	48	63	208	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	346	146	45	458	0	120	301	9	66	219	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	33	457	189	251	1134		425	1058	328	321	904	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.19	0.19	0.07	0.22	0.00	0.12	0.21	0.21	0.09	0.18	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	27.9	22.3	22.5	23.8	18.2	0.0	21.8	18.2	17.2	23.0	19.3	0.0
Ln Grp LOS	C	C	C	C	B		C	B	B	C	B	
Approach Vol, veh/h		501			503			430			285	
Approach Delay, s/veh		22.5			18.7			19.2			20.2	
Approach LOS		C			B			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.1	18.3	8.9	17.2	11.7	16.6	7.0	19.1			
Change Period (Y+Rc), s		5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7			
Max Green (Gmax), s		15.0	38.0	15.0	42.0	20.0	36.0	16.0	* 37			
Max Allow Headway (MAH), s		1.7	2.7	1.7	2.8	1.6	2.8	1.6	2.8			
Max Q Clear (g_c+I1), s		3.0	4.7	2.7	9.4	3.7	4.0	2.3	6.2			
Green Ext Time (g_e), s		0.0	0.6	0.0	0.7	0.1	0.4	0.0	1.0			
Prob of Phs Call (p_c)		0.63	0.99	0.49	1.00	0.84	0.96	0.13	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		2449		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1015		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	1	0
Grp Vol (v), veh/h	66	0	45	0	120	0	9	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1781	0
Q Serve Time (g_s), s	1.0	0.0	0.7	0.0	1.7	0.0	0.3	0.0
Cycle Q Clear Time (g_c), s	1.0	0.0	0.7	0.0	1.7	0.0	0.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	321	0	251	0	425	0	33	0
V/C Ratio (X)	0.21	0.00	0.18	0.00	0.28	0.00	0.27	0.00
Avail Cap (c_a), veh/h	952	0	952	0	1270	0	524	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	22.8	0.0	23.7	0.0	21.7	0.0	26.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.1	0.0	1.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	23.0	0.0	23.8	0.0	21.8	0.0	27.9	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.2	0.0	0.6	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	0.2	0.0	0.6	0.0	0.1	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.02	0.00	0.06	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	3	0	3
Grp Vol (v), veh/h	0	301	0	249	0	219	0	458
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1702
Q Serve Time (g_s), s	0.0	2.7	0.0	7.2	0.0	2.0	0.0	4.2
Cycle Q Clear Time (g_c), s	0.0	2.7	0.0	7.2	0.0	2.0	0.0	4.2
Lane Grp Cap (c), veh/h	0	1058	0	332	0	904	0	1134
V/C Ratio (X)	0.00	0.28	0.00	0.75	0.00	0.24	0.00	0.40
Avail Cap (c_a), veh/h	0	3564	0	1371	0	3377	0	3470
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	20.9	0.0	19.3	0.0	18.1
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.3	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.2	0.0	22.3	0.0	19.3	0.0	18.2
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	2.4	0.0	0.7	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.9	0.0	2.5	0.0	0.7	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	9	0	243	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1688	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.2	0.0	7.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	7.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.60	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	328	0	315	0	281	0	352
V/C Ratio (X)	0.00	0.03	0.00	0.77	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1106	0	1302	0	1048	0	1077
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.2	0.0	21.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.2	0.0	22.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	2.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	2.5	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 18: Cook St & I-10 WB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕	↕		↕	↕		↕	↕
Traffic Volume (veh/h)	0	0	0	884	3	83	0	411	303	0	418	40
Future Volume (veh/h)	0	0	0	884	3	83	0	411	303	0	418	40
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				1065	4	65	0	495	0	0	504	48
Peak Hour Factor				0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				645	2	576	0	1906		0	2546	240
Arrive On Green				0.36	0.36	0.36	0.00	0.18	0.00	0.00	0.54	0.54
Sat Flow, veh/h				1775	7	1585	0	3647	1585	0	4916	447
Grp Volume(v), veh/h				1069	0	65	0	495	0	0	360	192
Grp Sat Flow(s),veh/h/ln				1782	0	1585	0	1777	1585	0	1702	1790
Q Serve(g_s), s				40.0	0.0	3.0	0.0	13.2	0.0	0.0	6.0	6.1
Cycle Q Clear(g_c), s				40.0	0.0	3.0	0.0	13.2	0.0	0.0	6.0	6.1
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.25
Lane Grp Cap(c), veh/h				648	0	576	0	1906		0	1826	960
V/C Ratio(X)				1.65	0.00	0.11	0.00	0.26		0.00	0.20	0.20
Avail Cap(c_a), veh/h				648	0	576	0	1906		0	1826	960
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.88	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				35.0	0.0	23.2	0.0	26.4	0.0	0.0	13.2	13.2
Incr Delay (d2), s/veh				299.4	0.0	0.1	0.0	0.3	0.0	0.0	0.2	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				70.7	0.0	1.1	0.0	6.4	0.0	0.0	2.1	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				334.4	0.0	23.3	0.0	26.7	0.0	0.0	13.5	13.7
LnGrp LOS				F	A	C	A	C		A	B	B
Approach Vol, veh/h				1134			495			A	552	
Approach Delay, s/veh				316.6			26.7				13.5	
Approach LOS				F			C				B	
Timer - Assigned Phs		2				6			8			
Phs Duration (G+Y+Rc), s		65.0				65.0			45.0			
Change Period (Y+Rc), s		6.0				6.0			5.0			
Max Green Setting (Gmax), s		59.0				59.0			40.0			
Max Q Clear Time (g_c+I1), s		15.2				8.1			42.0			
Green Ext Time (p_c), s		3.8				3.2			0.0			

Intersection Summary



















HCM 6th Ctrl Delay	174.1
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	884	3	83	0	411	303	0	418	40
Future Volume (veh/h)	0	0	0	884	3	83	0	411	303	0	418	40
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				1065	4	65	0	495	0	0	504	48
Peak Hour Factor				0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Opposing Right Turn Influence				Yes			No			No		
Cap, veh/h				645	2	576	0	1906		0	2546	240
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green				0.36	0.36	0.36	0.00	0.18	0.00	0.00	0.54	0.54
Unsig. Movement Delay												
Ln Grp Delay, s/veh				334.4	0.0	23.3	0.0	26.7	0.0	0.0	13.5	13.7
Ln Grp LOS				F	A	C	A	C		A	B	B
Approach Vol, veh/h					1134			495			552	
Approach Delay, s/veh					316.6			26.7			13.5	
Approach LOS					F			C			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8			6					
Case No			7.0	11.0			8.0					
Phs Duration (G+Y+Rc), s			65.0	45.0			65.0					
Change Period (Y+Rc), s			6.0	5.0			6.0					
Max Green (Gmax), s			59.0	40.0			59.0					
Max Allow Headway (MAH), s			5.2	5.3			4.8					
Max Q Clear (g_c+I1), s			15.2	42.0			8.1					
Green Ext Time (g_e), s			3.8	0.0			3.2					
Prob of Phs Call (p_c)			1.00	1.00			1.00					
Prob of Max Out (p_x)			0.00	1.00			0.00					
Left-Turn Movement Data												
Assigned Mvmt			5	3			1					
Mvmt Sat Flow, veh/h			0	1775			0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			3647	7			4916					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			1585	1585			447					
Left Lane Group Data												
Assigned Mvmt	0	5	3	0	0	1	0	0				
Lane Assignment			L+T									

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

07/11/2019

Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	1069	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1782	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	40.0	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	59.0	0.0	0.0	0.0	59.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	648	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	1.65	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	648	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	35.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	299.4	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	334.4	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	16.8	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	53.9	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	70.7	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	2.04	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	105.3	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	495	0	0	0	360	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	13.2	0.0	0.0	0.0	6.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	13.2	0.0	0.0	0.0	6.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1906	0	0	0	1826	0	0
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.20	0.00	0.00
Avail Cap (c_a), veh/h	0	1906	0	0	0	1826	0	0
Upstream Filter (I)	0.00	0.88	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	26.4	0.0	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.7	0.0	0.0	0.0	13.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	6.3	0.0	0.0	0.0	2.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	6.4	0.0	0.0	0.0	2.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.00	0.00	0.15	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	65	0	0	192	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1790	0	0
Q Serve Time (g_s), s	0.0	0.0	3.0	0.0	0.0	6.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	3.0	0.0	0.0	6.1	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.25	0.00	0.00
Lane Grp Cap (c), veh/h	0	850	576	0	0	960	0	0
V/C Ratio (X)	0.00	0.00	0.11	0.00	0.00	0.20	0.00	0.00
Avail Cap (c_a), veh/h	0	850	576	0	0	960	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	23.2	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	23.3	0.0	0.0	13.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.1	0.0	0.0	2.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.1	0.0	0.0	2.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.03	0.00	0.00	0.17	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	174.1
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

19: Cook St & I-10 EB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	89	2	929	0	0	0	0	628	419	48	1252	0	
Future Volume (veh/h)	89	2	929	0	0	0	0	628	419	48	1252	0	
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No						No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0	
Adj Flow Rate, veh/h	109	0	1079				0	766	511	59	1527	0	
Peak Hour Factor	0.82	0.82	0.82				0.82	0.82	0.82	0.82	0.82	0.82	
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0	
Cap, veh/h	486	0	865				0	1849	861	77	3203	0	
Arrive On Green	0.27	0.00	0.27				0.00	0.54	0.54	0.03	0.42	0.00	
Sat Flow, veh/h	1781	0	3170				0	3572	1585	1781	5274	0	
Grp Volume(v), veh/h	109	0	1079				0	766	511	59	1527	0	
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1781	1702	0	
Q Serve(g_s), s	5.2	0.0	30.0				0.0	14.6	23.9	3.6	23.8	0.0	
Cycle Q Clear(g_c), s	5.2	0.0	30.0				0.0	14.6	23.9	3.6	23.8	0.0	
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00	
Lane Grp Cap(c), veh/h	486	0	865				0	1849	861	77	3203	0	
V/C Ratio(X)	0.22	0.00	1.25				0.00	0.41	0.59	0.77	0.48	0.00	
Avail Cap(c_a), veh/h	486	0	865				0	1849	861	405	3203	0	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00	
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.86	0.86	0.99	0.99	0.00	
Uniform Delay (d), s/veh	31.0	0.0	40.0				0.0	14.8	16.9	52.9	18.8	0.0	
Incr Delay (d2), s/veh	0.2	0.0	121.2				0.0	0.6	2.6	5.9	0.5	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	2.3	0.0	26.1				0.0	5.1	8.1	1.8	10.2	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	31.2	0.0	161.2				0.0	15.4	19.5	58.8	19.3	0.0	
LnGrp LOS	C	A	F				A	B	B	E	B	A	
Approach Vol, veh/h	1188						1277			1586			
Approach Delay, s/veh	149.3						17.0			20.8			
Approach LOS	F						B			C			
Timer - Assigned Phs	1	2	4	6									
Phs Duration (G+Y+Rc), s	9.2	65.8	35.0	75.0									
Change Period (Y+Rc), s	4.5	6.0	5.0	6.0									
Max Green Setting (Gmax), s	25.0	37.0	30.0	69.0									
Max Q Clear Time (g_c+I), s	15.6	25.9	32.0	25.8									
Green Ext Time (p_c), s	0.1	5.7	0.0	16.6									

Intersection Summary

HCM 6th Ctrl Delay	57.3
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	2	929	0	0	0	0	628	419	48	1252	0
Future Volume (veh/h)	89	2	929	0	0	0	0	628	419	48	1252	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	109	0	1079				0	766	511	59	1527	0
Peak Hour Factor	0.82	0.82	0.82				0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	486	0	865				0	1849	861	77	3203	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.67	0.67	1.00
Prop Arrive On Green	0.27	0.00	0.27				0.00	0.54	0.54	0.03	0.42	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	31.2	0.0	161.2				0.0	15.4	19.5	58.8	19.3	0.0
Ln Grp LOS	C	A	F				A	B	B	E	B	A
Approach Vol, veh/h		1188						1277			1586	
Approach Delay, s/veh		149.3						17.0			20.8	
Approach LOS		F						B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	8.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		9.2	65.8		35.0		75.0					
Change Period (Y+Rc), s		4.5	6.0		5.0		6.0					
Max Green (Gmax), s		25.0	37.0		30.0		69.0					
Max Allow Headway (MAH), s		2.8	4.9		4.0		5.2					
Max Q Clear (g_c+I1), s		5.6	25.9		32.0		25.8					
Green Ext Time (g_e), s		0.1	5.7		0.0		16.6					
Prob of Phs Call (p_c)		0.84	1.00		1.00		1.00					
Prob of Max Out (p_x)		0.00	0.00		1.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		1781	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			3572		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

07/11/2019

Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	59	0	0	109	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	3.6	0.0	0.0	5.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	3.6	0.0	0.0	5.2	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	59.8	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	77	0	0	486	0	0	0	0
V/C Ratio (X)	0.77	0.00	0.00	0.22	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	405	0	0	486	0	0	0	0
Upstream Filter (I)	0.99	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	52.9	0.0	0.0	31.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.9	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	58.8	0.0	0.0	31.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	0.0	2.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	0.0	2.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.16	0.00	0.00	0.08	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	3	0	0
Grp Vol (v), veh/h	0	766	0	0	0	1527	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	14.6	0.0	0.0	0.0	23.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.6	0.0	0.0	0.0	23.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	1849	0	0	0	3203	0	0
V/C Ratio (X)	0.00	0.41	0.00	0.00	0.00	0.48	0.00	0.00
Avail Cap (c_a), veh/h	0	1849	0	0	0	3203	0	0
Upstream Filter (I)	0.00	0.86	0.00	0.00	0.00	0.99	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.8	0.0	0.0	0.0	18.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.4	0.0	0.0	0.0	19.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.9	0.0	0.0	0.0	10.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.1	0.0	0.0	0.0	10.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.00	0.00	0.54	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	511	0	1079	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	23.9	0.0	30.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	23.9	0.0	30.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	861	0	865	0	0	0	0
V/C Ratio (X)	0.00	0.59	0.00	1.25	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	861	0	865	0	0	0	0
Upstream Filter (I)	0.00	0.86	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.9	0.0	40.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.6	0.0	121.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.5	0.0	161.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.5	0.0	11.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	14.6	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	8.1	0.0	26.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	1.59	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	53.6	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	57.3
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

20: Cook St & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	289	130	116	42	225	153	167	604	36	247	1414	372
Future Volume (veh/h)	289	130	116	42	225	153	167	604	36	247	1414	372
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	348	157	0	51	271	23	201	728	15	298	1704	311
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	434	638		177	374	167	284	1823	566	383	1970	612
Arrive On Green	0.13	0.18	0.00	0.05	0.11	0.11	0.08	0.36	0.36	0.11	0.39	0.39
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	348	157	0	51	271	23	201	728	15	298	1704	311
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	7.7	3.0	0.0	1.1	5.8	1.0	4.5	8.4	0.5	6.6	24.3	11.8
Cycle Q Clear(g_c), s	7.7	3.0	0.0	1.1	5.8	1.0	4.5	8.4	0.5	6.6	24.3	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	434	638		177	374	167	284	1823	566	383	1970	612
V/C Ratio(X)	0.80	0.25		0.29	0.73	0.14	0.71	0.40	0.03	0.78	0.87	0.51
Avail Cap(c_a), veh/h	875	1125		657	1125	502	875	2910	903	875	2910	903
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	27.8	0.0	36.1	34.2	32.1	35.3	19.0	16.5	34.2	22.4	18.5
Incr Delay (d2), s/veh	1.3	0.1	0.0	0.3	1.0	0.1	1.2	0.1	0.0	1.3	1.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.2	0.0	0.4	2.4	0.4	1.8	2.9	0.2	2.6	8.3	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.9	27.9	0.0	36.4	35.2	32.2	36.5	19.1	16.5	35.4	23.7	18.8
LnGrp LOS	C	C		D	D	C	D	B	B	D	C	B
Approach Vol, veh/h		505	A		345			944			2313	
Approach Delay, s/veh		32.7			35.2			22.8			24.6	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.8	35.0	9.5	19.7	12.5	37.3	15.4	13.8				
Change Period (Y+Rc), s	6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5				
Max Green Setting (Gmax), s	20.0	45.0	15.0	25.0	20.0	45.0	20.0	25.0				
Max Q Clear Time (g_c+1), s	10.6	10.4	3.1	5.0	6.5	26.3	9.7	7.8				
Green Ext Time (p_c), s	0.1	1.5	0.0	0.3	0.1	4.2	0.2	0.5				

Intersection Summary



































HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 20: Cook St & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  	 	
Traffic Volume (veh/h)	289	130	116	42	225	153	167	604	36	247	1414	372
Future Volume (veh/h)	289	130	116	42	225	153	167	604	36	247	1414	372
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	348	157	0	51	271	23	201	728	15	298	1704	311
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	434	638		177	374	167	284	1823	566	383	1970	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.18	0.00	0.05	0.11	0.11	0.08	0.36	0.36	0.11	0.39	0.39
Unsig. Movement Delay												
Ln Grp Delay, s/veh	34.9	27.9	0.0	36.4	35.2	32.2	36.5	19.1	16.5	35.4	23.7	18.8
Ln Grp LOS	C	C		D	D	C	D	B	B	D	C	B
Approach Vol, veh/h		505			345			944			2313	
Approach Delay, s/veh		32.7			35.2			22.8			24.6	
Approach LOS		C			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.8	35.0	9.5	19.7	12.5	37.3	15.4	13.8			
Change Period (Y+Rc), s		6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5			
Max Green (Gmax), s		20.0	45.0	15.0	25.0	20.0	45.0	20.0	25.0			
Max Allow Headway (MAH), s		1.6	2.7	1.7	2.8	1.6	2.6	1.7	2.7			
Max Q Clear (g_c+I1), s		8.6	10.4	3.1	5.0	6.5	26.3	9.7	7.8			
Green Ext Time (g_e), s		0.1	1.5	0.0	0.3	0.1	4.2	0.2	0.5			
Prob of Phs Call (p_c)		1.00	1.00	0.67	1.00	0.99	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	298	0	51	0	201	0	348	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	6.6	0.0	1.1	0.0	4.5	0.0	7.7	0.0
Cycle Q Clear Time (g_c), s	6.6	0.0	1.1	0.0	4.5	0.0	7.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	383	0	177	0	284	0	434	0
V/C Ratio (X)	0.78	0.00	0.29	0.00	0.71	0.00	0.80	0.00
Avail Cap (c_a), veh/h	875	0	657	0	875	0	875	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	34.2	0.0	36.1	0.0	35.3	0.0	33.6	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.3	0.0	1.2	0.0	1.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	35.4	0.0	36.4	0.0	36.5	0.0	34.9	0.0
1st-Term Q (Q1), veh/ln	2.5	0.0	0.4	0.0	1.7	0.0	3.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.6	0.0	0.4	0.0	1.8	0.0	3.1	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.07	0.00	0.21	0.00	0.35	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	728	0	157	0	1704	0	271
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	8.4	0.0	3.0	0.0	24.3	0.0	5.8
Cycle Q Clear Time (g_c), s	0.0	8.4	0.0	3.0	0.0	24.3	0.0	5.8
Lane Grp Cap (c), veh/h	0	1823	0	638	0	1970	0	374
V/C Ratio (X)	0.00	0.40	0.00	0.25	0.00	0.87	0.00	0.73
Avail Cap (c_a), veh/h	0	2910	0	1125	0	2910	0	1125
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.0	0.0	27.8	0.0	22.4	0.0	34.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.1	0.0	1.4	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.1	0.0	27.9	0.0	23.7	0.0	35.2
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	1.2	0.0	8.0	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.9	0.0	1.2	0.0	8.3	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.04	0.00	0.14	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	15	0	0	0	311	0	23
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.5	0.0	0.0	0.0	11.8	0.0	1.0
Cycle Q Clear Time (g_c), s	0.0	0.5	0.0	0.0	0.0	11.8	0.0	1.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	566	0	284	0	612	0	167
V/C Ratio (X)	0.00	0.03	0.00	0.00	0.00	0.51	0.00	0.14
Avail Cap (c_a), veh/h	0	903	0	502	0	903	0	502
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.5	0.0	0.0	0.0	18.5	0.0	32.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.5	0.0	0.0	0.0	18.8	0.0	32.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.0	0.0	3.7	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	3.8	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.55	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 21: SR-111 & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	27	20	292	68	346	25	768	81	272	1144	39
Future Volume (veh/h)	13	27	20	292	68	346	25	768	81	272	1144	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	30	22	321	75	0	27	844	0	299	1257	18
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	25	83	61	462	378		45	1238		439	1759	546
Arrive On Green	0.01	0.08	0.08	0.13	0.20	0.00	0.03	0.24	0.00	0.13	0.34	0.34
Sat Flow, veh/h	1781	1003	735	3456	1870	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	14	0	52	321	75	0	27	844	0	299	1257	18
Grp Sat Flow(s),veh/h/ln	1781	0	1738	1728	1870	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.4	0.0	1.4	4.4	1.6	0.0	0.7	7.4	0.0	4.1	10.6	0.4
Cycle Q Clear(g_c), s	0.4	0.0	1.4	4.4	1.6	0.0	0.7	7.4	0.0	4.1	10.6	0.4
Prop In Lane	1.00		0.42	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	25	0	143	462	378		45	1238		439	1759	546
V/C Ratio(X)	0.56	0.00	0.36	0.69	0.20		0.60	0.68		0.68	0.71	0.03
Avail Cap(c_a), veh/h	720	0	1580	1396	1700		720	3301		1396	2579	801
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.2	0.0	21.5	20.5	16.4	0.0	23.9	17.0	0.0	20.6	14.1	10.8
Incr Delay (d2), s/veh	6.9	0.0	1.5	0.7	0.3	0.0	4.8	0.2	0.0	0.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.5	1.5	0.6	0.0	0.3	2.3	0.0	1.5	3.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	0.0	23.0	21.2	16.7	0.0	28.7	17.3	0.0	21.3	14.3	10.8
LnGrp LOS	C	A	C	C	B		C	B		C	B	B
Approach Vol, veh/h		66			396	A		871	A		1574	
Approach Delay, s/veh		24.7			20.3			17.6			15.6	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	11.1	5.2	22.6	4.7	17.0	10.3	17.5				
Change Period (Y+Rc), s	4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	25.0	20.0	45.0	20.0	32.0				
Max Q Clear Time (g_c+1), s	10.4	3.4	2.7	12.6	2.4	3.6	6.1	9.4				
Green Ext Time (p_c), s	0.3	0.2	0.0	3.9	0.0	0.3	0.3	2.6				

Intersection Summary






























HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 21: SR-111 & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  		 	  	
Traffic Volume (veh/h)	13	27	20	292	68	346	25	768	81	272	1144	39
Future Volume (veh/h)	13	27	20	292	68	346	25	768	81	272	1144	39
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	30	22	321	75	0	27	844	0	299	1257	18
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	25	83	61	462	378		45	1238		439	1759	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.01	0.08	0.08	0.13	0.20	0.00	0.03	0.24	0.00	0.13	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	31.1	0.0	23.0	21.2	16.7	0.0	28.7	17.3	0.0	21.3	14.3	10.8
Ln Grp LOS	C	A	C	C	B		C	B		C	B	B
Approach Vol, veh/h		66			396			871			1574	
Approach Delay, s/veh		24.7			20.3			17.6			15.6	
Approach LOS		C			C			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.6	11.1	5.2	22.6	4.7	17.0	10.3	17.5			
Change Period (Y+Rc), s		4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5			
Max Green (Gmax), s		20.0	45.0	20.0	25.0	20.0	45.0	20.0	32.0			
Max Allow Headway (MAH), s		2.2	5.0	2.2	3.5	2.2	4.8	2.2	3.3			
Max Q Clear (g_c+I1), s		6.4	3.4	2.7	12.6	2.4	3.6	6.1	9.4			
Green Ext Time (g_e), s		0.3	0.2	0.0	3.9	0.0	0.3	0.3	2.6			
Prob of Phs Call (p_c)		0.99	0.51	0.31	1.00	0.18	0.64	0.98	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		1781		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1003		5106		1870		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			735		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	1	0	1	0	2	0
Grp Vol (v), veh/h	321	0	27	0	14	0	299	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	4.4	0.0	0.7	0.0	0.4	0.0	4.1	0.0
Cycle Q Clear Time (g_c), s	4.4	0.0	0.7	0.0	0.4	0.0	4.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	462	0	45	0	25	0	439	0
V/C Ratio (X)	0.69	0.00	0.60	0.00	0.56	0.00	0.68	0.00
Avail Cap (c_a), veh/h	1396	0	720	0	720	0	1396	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	20.5	0.0	23.9	0.0	24.2	0.0	20.6	0.0
Incr Delay (d2), s/veh	0.7	0.0	4.8	0.0	6.9	0.0	0.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	21.2	0.0	28.7	0.0	31.1	0.0	21.3	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	0.3	0.0	0.1	0.0	1.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	0.3	0.0	0.2	0.0	1.5	0.0
%ile Storage Ratio (RQ%)	0.30	0.00	0.05	0.00	0.01	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	3	0	1	0	3
Grp Vol (v), veh/h	0	0	0	1257	0	75	0	844
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	10.6	0.0	1.6	0.0	7.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.6	0.0	1.6	0.0	7.4
Lane Grp Cap (c), veh/h	0	0	0	1759	0	378	0	1238
V/C Ratio (X)	0.00	0.00	0.00	0.71	0.00	0.20	0.00	0.68
Avail Cap (c_a), veh/h	0	0	0	2579	0	1700	0	3301
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	14.1	0.0	16.4	0.0	17.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.3	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	14.3	0.0	16.7	0.0	17.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.2	0.0	0.6	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.2	0.0	0.6	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	52	0	18	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1738	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.4	0.0	0.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	0.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.42	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	143	0	546	0	320	0	384
V/C Ratio (X)	0.00	0.36	0.00	0.03	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1580	0	801	0	1441	0	1025
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	21.5	0.0	10.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.0	0.0	10.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 22: Morningside Dr & Frank Sinatra Dr























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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	483	212	49	568	21	89	16	28	20	24	16
Future Volume (veh/h)	11	483	212	49	568	21	89	16	28	20	24	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	568	249	58	668	25	105	19	12	24	28	19
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	366	1153	505	311	1675	63	570	666	565	580	753	463
Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.36	0.36	0.36	0.36	0.36	0.36
Sat Flow, veh/h	751	2405	1052	669	3493	131	1359	1870	1585	1378	2115	1299
Grp Volume(v), veh/h	13	419	398	58	340	353	105	19	12	24	23	24
Grp Sat Flow(s),veh/h/ln	751	1777	1681	669	1777	1847	1359	1870	1585	1378	1777	1637
Q Serve(g_s), s	0.8	11.7	11.8	4.7	9.0	9.0	4.0	0.5	0.4	0.8	0.6	0.7
Cycle Q Clear(g_c), s	9.8	11.7	11.8	16.5	9.0	9.0	4.7	0.5	0.4	1.3	0.6	0.7
Prop In Lane	1.00		0.63	1.00		0.07	1.00		1.00	1.00		0.79
Lane Grp Cap(c), veh/h	366	852	806	311	852	885	570	666	565	580	633	583
V/C Ratio(X)	0.04	0.49	0.49	0.19	0.40	0.40	0.18	0.03	0.02	0.04	0.04	0.04
Avail Cap(c_a), veh/h	366	852	806	311	852	885	570	666	565	580	633	583
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.4	12.9	13.0	18.6	12.2	12.2	16.9	15.3	15.2	15.7	15.3	15.4
Incr Delay (d2), s/veh	0.2	2.0	2.2	1.3	1.4	1.3	0.7	0.1	0.1	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.3	4.1	0.8	3.5	3.7	1.2	0.2	0.1	0.3	0.2	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	15.0	15.1	19.9	13.6	13.6	17.6	15.4	15.3	15.7	15.4	15.4
LnGrp LOS	B	B	B	B	B	B	B	B	B	B	B	B
Approach Vol, veh/h		830			751			136			71	
Approach Delay, s/veh		15.0			14.1			17.1			15.5	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.5		31.5		41.5		31.5				
Change Period (Y+Rc), s		6.5		5.5		6.5		5.5				
Max Green Setting (Gmax), s		35.0		26.0		35.0		26.0				
Max Q Clear Time (g_c+1), s		13.8		3.3		18.5		6.7				
Green Ext Time (p_c), s		4.9		0.2		4.4		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				14.8								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Capacity Analysis
 22: Morningside Dr & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	483	212	49	568	21	89	16	28	20	24	16
Future Volume (veh/h)	11	483	212	49	568	21	89	16	28	20	24	16
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	568	249	58	668	25	105	19	12	24	28	19
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	366	1153	505	311	1675	63	570	666	565	580	753	463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.48	0.48	0.48	0.48	0.48	0.48	0.36	0.36	0.36	0.36	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	15.6	15.0	15.1	19.9	13.6	13.6	17.6	15.4	15.3	15.7	15.4	15.4
Ln Grp LOS	B	B	B	B	B	B	B	B	B	B	B	B
Approach Vol, veh/h		830			751			136			71	
Approach Delay, s/veh		15.0			14.1			17.1			15.5	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		5.0			
Phs Duration (G+Y+Rc), s			41.5		31.5		41.5		31.5			
Change Period (Y+Rc), s			6.5		5.5		6.5		5.5			
Max Green (Gmax), s			35.0		26.0		35.0		26.0			
Max Allow Headway (MAH), s			5.0		4.9		5.4		3.9			
Max Q Clear (g_c+I1), s			13.8		3.3		18.5		6.7			
Green Ext Time (g_e), s			4.9		0.2		4.4		0.3			
Prob of Phs Call (p_c)			1.00		0.76		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.00		0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			751		1378		669		1359			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2405		2115		3493		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1052		1299		131		1585			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	13	0	24	0	58	0	105
Grp Sat Flow (s), veh/h/ln	0	751	0	1378	0	669	0	1359
Q Serve Time (g_s), s	0.0	0.8	0.0	0.8	0.0	4.7	0.0	4.0
Cycle Q Clear Time (g_c), s	0.0	9.8	0.0	1.3	0.0	16.5	0.0	4.7
Perm LT Sat Flow (s_l), veh/h/ln	0	751	0	1378	0	669	0	1359
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	35.0	0.0	26.0	0.0	35.0	0.0	26.0
Perm LT Serve Time (g_u), s	0.0	26.0	0.0	25.5	0.0	23.2	0.0	25.3
Perm LT Q Serve Time (g_ps), s	0.0	0.8	0.0	0.8	0.0	4.7	0.0	4.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	366	0	580	0	311	0	570
V/C Ratio (X)	0.00	0.04	0.00	0.04	0.00	0.19	0.00	0.18
Avail Cap (c_a), veh/h	0	366	0	580	0	311	0	570
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.4	0.0	15.7	0.0	18.6	0.0	16.9
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	1.3	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.6	0.0	15.7	0.0	19.9	0.0	17.6
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.3	0.0	0.7	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.3	0.0	0.8	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.07	0.00	0.16	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	419	0	23	0	340	0	19
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1870
Q Serve Time (g_s), s	0.0	11.7	0.0	0.6	0.0	9.0	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	11.7	0.0	0.6	0.0	9.0	0.0	0.5
Lane Grp Cap (c), veh/h	0	852	0	633	0	852	0	666
V/C Ratio (X)	0.00	0.49	0.00	0.04	0.00	0.40	0.00	0.03
Avail Cap (c_a), veh/h	0	852	0	633	0	852	0	666
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	15.3	0.0	12.2	0.0	15.3
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.0	0.0	1.4	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.0	0.0	15.4	0.0	13.6	0.0	15.4
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	0.2	0.0	3.2	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.3	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.3	0.0	0.2	0.0	3.5	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	398	0	24	0	353	0	12
Grp Sat Flow (s), veh/h/ln	0	1681	0	1637	0	1847	0	1585
Q Serve Time (g_s), s	0.0	11.8	0.0	0.7	0.0	9.0	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	11.8	0.0	0.7	0.0	9.0	0.0	0.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.63	0.00	0.79	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	806	0	583	0	885	0	565
V/C Ratio (X)	0.00	0.49	0.00	0.04	0.00	0.40	0.00	0.02
Avail Cap (c_a), veh/h	0	806	0	583	0	885	0	565
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.0	0.0	15.4	0.0	12.2	0.0	15.2
Incr Delay (d2), s/veh	0.0	2.2	0.0	0.0	0.0	1.3	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.1	0.0	15.4	0.0	13.6	0.0	15.3
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	0.2	0.0	3.3	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	0.3	0.0	3.7	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
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































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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕		↖↗	↕	↖	↖↗↕	↕		↖↗	↕↕↕	↖
Traffic Volume (veh/h)	50	296	201	206	492	74	81	293	59	67	925	93
Future Volume (veh/h)	50	296	201	206	492	74	81	293	59	67	925	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	315	214	219	523	19	86	312	63	71	984	45
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	139	413	273	302	890	397	167	1867	363	157	2214	687
Arrive On Green	0.04	0.20	0.20	0.09	0.25	0.25	0.05	0.44	0.44	0.05	0.43	0.43
Sat Flow, veh/h	3456	2032	1344	3456	3554	1585	3456	4280	831	3456	5106	1585
Grp Volume(v), veh/h	53	274	255	219	523	19	86	246	129	71	984	45
Grp Sat Flow(s),veh/h/ln	1728	1777	1600	1728	1777	1585	1728	1702	1706	1728	1702	1585
Q Serve(g_s), s	1.4	13.4	13.9	5.7	11.9	0.8	2.2	4.0	4.3	1.8	12.5	1.5
Cycle Q Clear(g_c), s	1.4	13.4	13.9	5.7	11.9	0.8	2.2	4.0	4.3	1.8	12.5	1.5
Prop In Lane	1.00		0.84	1.00		1.00	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	139	361	325	302	890	397	167	1485	745	157	2214	687
V/C Ratio(X)	0.38	0.76	0.78	0.73	0.59	0.05	0.52	0.17	0.17	0.45	0.44	0.07
Avail Cap(c_a), veh/h	749	674	607	749	1348	601	749	1485	745	749	2214	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.2	34.6	34.8	41.0	30.4	26.2	42.9	15.8	15.9	42.9	18.3	15.2
Incr Delay (d2), s/veh	1.3	3.3	4.1	2.5	0.6	0.0	1.8	0.2	0.5	1.5	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	5.8	5.5	2.4	4.8	0.3	1.0	1.5	1.6	0.8	4.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.4	37.9	39.0	43.5	31.0	26.3	44.7	16.0	16.4	44.4	19.0	15.4
LnGrp LOS	D	D	D	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		582			761			461			1100	
Approach Delay, s/veh		39.0			34.5			21.5			20.5	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.4	46.5	12.1	25.2	8.2	46.8	7.7	29.6				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	40.0	20.0	35.0	20.0	40.0	20.0	35.0				
Max Q Clear Time (g_c+14.2), s	14.2	14.5	7.7	15.9	3.8	6.3	3.4	13.9				
Green Ext Time (p_c), s	0.1	6.8	0.4	2.8	0.1	2.2	0.1	3.0				
Intersection Summary												
HCM 6th Ctrl Delay											28.0	
HCM 6th LOS											C	

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  	  	
Traffic Volume (veh/h)	50	296	201	206	492	74	81	293	59	67	925	93
Future Volume (veh/h)	50	296	201	206	492	74	81	293	59	67	925	93
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	315	214	219	523	19	86	312	63	71	984	45
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	139	413	273	302	890	397	167	1867	363	157	2214	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.20	0.20	0.09	0.25	0.25	0.05	0.44	0.44	0.05	0.43	0.43
Unsig. Movement Delay												
Ln Grp Delay, s/veh	44.4	37.9	39.0	43.5	31.0	26.3	44.7	16.0	16.4	44.4	19.0	15.4
Ln Grp LOS	D	D	D	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		582			761			461			1100	
Approach Delay, s/veh		39.0			34.5			21.5			20.5	
Approach LOS		D			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		8.4	46.5	12.1	25.2	8.2	46.8	7.7	29.6			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	40.0	20.0	35.0	20.0	40.0	20.0	35.0			
Max Allow Headway (MAH), s		3.2	4.8	3.2	5.1	3.2	5.0	3.2	4.8			
Max Q Clear (g_c+I1), s		4.2	14.5	7.7	15.9	3.8	6.3	3.4	13.9			
Green Ext Time (g_e), s		0.1	6.8	0.4	2.8	0.1	2.2	0.1	3.0			
Prob of Phs Call (p_c)		0.89	1.00	1.00	1.00	0.84	1.00	0.74	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		2032		4280		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1344		831		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	86	0	219	0	71	0	53	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	2.2	0.0	5.7	0.0	1.8	0.0	1.4	0.0
Cycle Q Clear Time (g_c), s	2.2	0.0	5.7	0.0	1.8	0.0	1.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	167	0	302	0	157	0	139	0
V/C Ratio (X)	0.52	0.00	0.73	0.00	0.45	0.00	0.38	0.00
Avail Cap (c_a), veh/h	749	0	749	0	749	0	749	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	42.9	0.0	41.0	0.0	42.9	0.0	43.2	0.0
Incr Delay (d2), s/veh	1.8	0.0	2.5	0.0	1.5	0.0	1.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	44.7	0.0	43.5	0.0	44.4	0.0	44.4	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	2.3	0.0	0.7	0.0	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	2.4	0.0	0.8	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.49	0.00	0.06	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	2	0	2
Grp Vol (v), veh/h	0	984	0	274	0	246	0	523
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	12.5	0.0	13.4	0.0	4.0	0.0	11.9
Cycle Q Clear Time (g_c), s	0.0	12.5	0.0	13.4	0.0	4.0	0.0	11.9
Lane Grp Cap (c), veh/h	0	2214	0	361	0	1485	0	890
V/C Ratio (X)	0.00	0.44	0.00	0.76	0.00	0.17	0.00	0.59
Avail Cap (c_a), veh/h	0	2214	0	674	0	1485	0	1348
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.3	0.0	34.6	0.0	15.8	0.0	30.4
Incr Delay (d2), s/veh	0.0	0.6	0.0	3.3	0.0	0.2	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.0	0.0	37.9	0.0	16.0	0.0	31.0
1st-Term Q (Q1), veh/ln	0.0	4.4	0.0	5.5	0.0	1.4	0.0	4.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.5	0.0	5.8	0.0	1.5	0.0	4.8
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.03	0.00	0.02	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	45	0	255	0	129	0	19
Grp Sat Flow (s), veh/h/ln	0	1585	0	1600	0	1706	0	1585
Q Serve Time (g_s), s	0.0	1.5	0.0	13.9	0.0	4.3	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	13.9	0.0	4.3	0.0	0.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.84	0.00	0.49	0.00	1.00
Lane Grp Cap (c), veh/h	0	687	0	325	0	745	0	397
V/C Ratio (X)	0.00	0.07	0.00	0.78	0.00	0.17	0.00	0.05
Avail Cap (c_a), veh/h	0	687	0	607	0	745	0	601
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.2	0.0	34.8	0.0	15.9	0.0	26.2
Incr Delay (d2), s/veh	0.0	0.2	0.0	4.1	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.4	0.0	39.0	0.0	16.4	0.0	26.3
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	5.1	0.0	1.5	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	5.5	0.0	1.6	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.03	0.00	0.03	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙↘	↑↑	↗	↙↘	↑↑	↗	↙↘	↑↑↔		↙↘	↑↑↑	↗
Traffic Volume (veh/h)	82	265	103	116	494	83	83	666	49	91	1467	182
Future Volume (veh/h)	82	265	103	116	494	83	83	666	49	91	1467	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	301	20	132	561	94	94	757	56	103	1667	147
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	625	279	185	669	298	144	2707	199	154	2863	889
Arrive On Green	0.04	0.18	0.18	0.05	0.19	0.19	0.04	0.56	0.56	0.04	0.56	0.56
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4853	357	3456	5106	1585
Grp Volume(v), veh/h	93	301	20	132	561	94	94	530	283	103	1667	147
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1806	1728	1702	1585
Q Serve(g_s), s	3.2	9.3	1.3	4.6	18.6	6.2	3.3	9.9	10.0	3.6	26.0	5.5
Cycle Q Clear(g_c), s	3.2	9.3	1.3	4.6	18.6	6.2	3.3	9.9	10.0	3.6	26.0	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	142	625	279	185	669	298	144	1899	1008	154	2863	889
V/C Ratio(X)	0.65	0.48	0.07	0.71	0.84	0.31	0.65	0.28	0.28	0.67	0.58	0.17
Avail Cap(c_a), veh/h	312	1019	455	312	1019	455	340	1899	1008	340	2863	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	0.89	0.89	0.89	0.97	0.97	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.6	45.3	42.0	56.8	47.7	42.7	57.6	14.1	14.1	57.4	17.5	13.0
Incr Delay (d2), s/veh	1.8	0.2	0.0	1.7	2.1	0.2	1.8	0.4	0.7	1.9	0.9	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	4.0	0.5	2.0	8.4	2.4	1.4	3.5	3.9	1.5	9.2	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	45.5	42.0	58.5	49.8	42.9	59.4	14.5	14.8	59.3	18.3	13.4
LnGrp LOS	E	D	D	E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		414			787			907			1917	
Approach Delay, s/veh		48.4			50.4			19.2			20.2	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	74.9	9.0	29.0	9.4	74.6	10.5	27.5				
Change Period (Y+Rc), s	4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0				
Max Green Setting (Gmax), s	12.0	43.5	11.0	* 35	12.0	43.5	11.0	35.0				
Max Q Clear Time (g_c+1/3), s	15.3	28.0	5.2	20.6	5.6	12.0	6.6	11.3				
Green Ext Time (p_c), s	0.0	6.9	0.0	2.4	0.0	2.9	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 24: Monterey Ave & Frank Sinatra Dr

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	265	103	116	494	83	83	666	49	91	1467	182
Future Volume (veh/h)	82	265	103	116	494	83	83	666	49	91	1467	182
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	301	20	132	561	94	94	757	56	103	1667	147
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	142	625	279	185	669	298	144	2707	199	154	2863	889
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.18	0.18	0.05	0.19	0.19	0.04	0.56	0.56	0.04	0.56	0.56
Unsig. Movement Delay												
Ln Grp Delay, s/veh	59.4	45.5	42.0	58.5	49.8	42.9	59.4	14.5	14.8	59.3	18.3	13.4
Ln Grp LOS	E	D	D	E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		414			787			907			1917	
Approach Delay, s/veh		48.4			50.4			19.2			20.2	
Approach LOS		D			D			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.1	74.9	9.0	29.0	9.4	74.6	10.5	27.5			
Change Period (Y+Rc), s		4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0			
Max Green (Gmax), s		12.0	43.5	11.0	* 35	12.0	43.5	11.0	35.0			
Max Allow Headway (MAH), s		1.8	3.7	1.7	4.1	1.6	3.8	1.8	3.8			
Max Q Clear (g_c+I1), s		5.3	28.0	5.2	20.6	5.6	12.0	6.6	11.3			
Green Ext Time (g_e), s		0.0	6.9	0.0	2.4	0.0	2.9	0.0	1.1			
Prob of Phs Call (p_c)		0.96	1.00	0.96	1.00	0.97	1.00	0.99	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4853		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		357		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	94	0	93	0	103	0	132	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	3.3	0.0	3.2	0.0	3.6	0.0	4.6	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	3.2	0.0	3.6	0.0	4.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	144	0	142	0	154	0	185	0
V/C Ratio (X)	0.65	0.00	0.65	0.00	0.67	0.00	0.71	0.00
Avail Cap (c_a), veh/h	340	0	312	0	340	0	312	0
Upstream Filter (I)	0.97	0.00	0.96	0.00	1.00	0.00	0.89	0.00
Uniform Delay (d1), s/veh	57.6	0.0	57.6	0.0	57.4	0.0	56.8	0.0
Incr Delay (d2), s/veh	1.8	0.0	1.8	0.0	1.9	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.4	0.0	59.4	0.0	59.3	0.0	58.5	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	1.4	0.0	1.5	0.0	2.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.4	0.0	1.4	0.0	1.5	0.0	2.0	0.0
%ile Storage Ratio (RQ%)	0.14	0.00	0.22	0.00	0.20	0.00	0.37	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1667	0	561	0	530	0	301
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	26.0	0.0	18.6	0.0	9.9	0.0	9.3
Cycle Q Clear Time (g_c), s	0.0	26.0	0.0	18.6	0.0	9.9	0.0	9.3
Lane Grp Cap (c), veh/h	0	2863	0	669	0	1899	0	625
V/C Ratio (X)	0.00	0.58	0.00	0.84	0.00	0.28	0.00	0.48
Avail Cap (c_a), veh/h	0	2863	0	1019	0	1899	0	1019
Upstream Filter (I)	0.00	1.00	0.00	0.89	0.00	0.97	0.00	0.96
Uniform Delay (d1), s/veh	0.0	17.5	0.0	47.7	0.0	14.1	0.0	45.3
Incr Delay (d2), s/veh	0.0	0.9	0.0	2.1	0.0	0.4	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.3	0.0	49.8	0.0	14.5	0.0	45.5
1st-Term Q (Q1), veh/ln	0.0	9.0	0.0	8.2	0.0	3.4	0.0	4.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.2	0.0	8.4	0.0	3.5	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.17	0.00	0.04	0.00	0.02	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	147	0	94	0	283	0	20
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1806	0	1585
Q Serve Time (g_s), s	0.0	5.5	0.0	6.2	0.0	10.0	0.0	1.3
Cycle Q Clear Time (g_c), s	0.0	5.5	0.0	6.2	0.0	10.0	0.0	1.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	889	0	298	0	1008	0	279
V/C Ratio (X)	0.00	0.17	0.00	0.31	0.00	0.28	0.00	0.07
Avail Cap (c_a), veh/h	0	889	0	455	0	1008	0	455
Upstream Filter (I)	0.00	1.00	0.00	0.89	0.00	0.97	0.00	0.96
Uniform Delay (d1), s/veh	0.0	13.0	0.0	42.7	0.0	14.1	0.0	42.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.2	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.4	0.0	42.9	0.0	14.8	0.0	42.0
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	2.4	0.0	3.7	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	2.4	0.0	3.9	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.27	0.00	0.43	0.00	0.02	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	28.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
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






















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	325	122	134	529	29	111	378	87	34	350	9
Future Volume (veh/h)	19	325	122	134	529	29	111	378	87	34	350	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	365	30	151	594	11	125	425	98	38	393	10
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	627	280	228	941	420	217	978	219	113	903	23
Arrive On Green	0.04	0.18	0.18	0.13	0.26	0.26	0.12	0.23	0.23	0.06	0.18	0.18
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	4173	933	1781	5121	130
Grp Volume(v), veh/h	21	365	30	151	594	11	125	344	179	38	261	142
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1702	1702	1781	1702	1847
Q Serve(g_s), s	0.6	5.3	0.9	4.6	8.4	0.3	3.8	4.9	5.1	1.2	3.9	3.9
Cycle Q Clear(g_c), s	0.6	5.3	0.9	4.6	8.4	0.3	3.8	4.9	5.1	1.2	3.9	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.55	1.00		0.07
Lane Grp Cap(c), veh/h	71	627	280	228	941	420	217	798	399	113	600	326
V/C Ratio(X)	0.30	0.58	0.11	0.66	0.63	0.03	0.58	0.43	0.45	0.34	0.43	0.44
Avail Cap(c_a), veh/h	472	2198	980	472	2198	980	472	2105	1053	472	2105	1142
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	21.4	19.6	23.5	18.4	15.4	23.5	18.5	18.5	25.4	20.8	20.8
Incr Delay (d2), s/veh	0.9	0.3	0.1	1.2	0.3	0.0	0.9	0.1	0.3	0.6	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.8	0.3	1.7	2.7	0.1	1.4	1.6	1.6	0.4	1.3	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.3	21.7	19.6	24.7	18.6	15.4	24.4	18.6	18.8	26.0	21.0	21.1
LnGrp LOS	C	C	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		416			756			648			441	
Approach Delay, s/veh		21.8			19.8			19.8			21.5	
Approach LOS		C			B			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.6	19.8	12.3	16.0	11.9	16.5	7.2	21.0				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0				
Max Green Setting (Gmax), s	15.0	35.0	15.0	35.0	15.0	35.0	15.0	35.0				
Max Q Clear Time (g_c+1), s	13.2	7.1	6.6	7.3	5.8	5.9	2.6	10.4				
Green Ext Time (p_c), s	0.0	0.9	0.0	0.7	0.0	0.6	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay											20.5	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	325	122	134	529	29	111	378	87	34	350	9
Future Volume (veh/h)	19	325	122	134	529	29	111	378	87	34	350	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	365	30	151	594	11	125	425	98	38	393	10
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	71	627	280	228	941	420	217	978	219	113	903	23
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.18	0.18	0.13	0.26	0.26	0.12	0.23	0.23	0.06	0.18	0.18
Unsig. Movement Delay												
Ln Grp Delay, s/veh	27.3	21.7	19.6	24.7	18.6	15.4	24.4	18.6	18.8	26.0	21.0	21.1
Ln Grp LOS	C	C	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h	416			756			648			441		
Approach Delay, s/veh	21.8			19.8			19.8			21.5		
Approach LOS	C			B			B			C		
Timer:	1 2 3 4 5 6 7 8											
Assigned Phs	1 2 3 4 5 6 7 8											
Case No	2.0 4.0 2.0 3.0 2.0 4.0 2.0 3.0											
Phs Duration (G+Y+Rc), s	8.6 19.8 12.3 16.0 11.9 16.5 7.2 21.0											
Change Period (Y+Rc), s	5.0 6.5 5.0 6.0 5.0 6.5 5.0 6.0											
Max Green (Gmax), s	15.0 35.0 15.0 35.0 15.0 35.0 15.0 35.0											
Max Allow Headway (MAH), s	1.6 2.8 1.6 2.7 1.6 2.7 1.6 2.7											
Max Q Clear (g_c+I1), s	3.2 7.1 6.6 7.3 5.8 5.9 2.6 10.4											
Green Ext Time (g_e), s	0.0 0.9 0.0 0.7 0.0 0.6 0.0 1.1											
Prob of Phs Call (p_c)	0.45 1.00 0.91 1.00 0.86 1.00 0.28 1.00											
Prob of Max Out (p_x)	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00											
Left-Turn Movement Data												
Assigned Mvmt	1 3 5 7											
Mvmt Sat Flow, veh/h	1781 1781 1781 1781											
Through Movement Data												
Assigned Mvmt	2 4 6 8											
Mvmt Sat Flow, veh/h	4173 3554 5121 3554											
Right-Turn Movement Data												
Assigned Mvmt	12 14 16 18											
Mvmt Sat Flow, veh/h	933 1585 130 1585											
Left Lane Group Data												
Assigned Mvmt	1 0 3 0 5 0 7 0											
Lane Assignment	L (Prot) L (Prot) L (Prot) L (Prot)											

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	38	0	151	0	125	0	21	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.2	0.0	4.6	0.0	3.8	0.0	0.6	0.0
Cycle Q Clear Time (g_c), s	1.2	0.0	4.6	0.0	3.8	0.0	0.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	113	0	228	0	217	0	71	0
V/C Ratio (X)	0.34	0.00	0.66	0.00	0.58	0.00	0.30	0.00
Avail Cap (c_a), veh/h	472	0	472	0	472	0	472	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	25.4	0.0	23.5	0.0	23.5	0.0	26.4	0.0
Incr Delay (d2), s/veh	0.6	0.0	1.2	0.0	0.9	0.0	0.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.0	0.0	24.7	0.0	24.4	0.0	27.3	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	1.6	0.0	1.3	0.0	0.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	1.7	0.0	1.4	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.29	0.00	0.14	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	344	0	365	0	261	0	594
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	4.9	0.0	5.3	0.0	3.9	0.0	8.4
Cycle Q Clear Time (g_c), s	0.0	4.9	0.0	5.3	0.0	3.9	0.0	8.4
Lane Grp Cap (c), veh/h	0	798	0	627	0	600	0	941
V/C Ratio (X)	0.00	0.43	0.00	0.58	0.00	0.43	0.00	0.63
Avail Cap (c_a), veh/h	0	2105	0	2198	0	2105	0	2198
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.5	0.0	21.4	0.0	20.8	0.0	18.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	0.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.6	0.0	21.7	0.0	21.0	0.0	18.6
1st-Term Q (Q1), veh/ln	0.0	1.5	0.0	1.8	0.0	1.3	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	1.8	0.0	1.3	0.0	2.7
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	179	0	30	0	142	0	11
Grp Sat Flow (s), veh/h/ln	0	1702	0	1585	0	1847	0	1585
Q Serve Time (g_s), s	0.0	5.1	0.0	0.9	0.0	3.9	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	5.1	0.0	0.9	0.0	3.9	0.0	0.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.55	0.00	1.00	0.00	0.07	0.00	1.00
Lane Grp Cap (c), veh/h	0	399	0	280	0	326	0	420
V/C Ratio (X)	0.00	0.45	0.00	0.11	0.00	0.44	0.00	0.03
Avail Cap (c_a), veh/h	0	1053	0	980	0	1142	0	980
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.5	0.0	19.6	0.0	20.8	0.0	15.4
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.1	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.8	0.0	19.6	0.0	21.1	0.0	15.4
1st-Term Q (Q1), veh/ln	0.0	1.6	0.0	0.3	0.0	1.4	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	0.3	0.0	1.4	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.5
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

26: Cook St & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	183	125	142	49	263	59	124	652	22	50	1146	340
Future Volume (veh/h)	183	125	142	49	263	59	124	652	22	50	1146	340
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	139	31	54	292	10	138	724	24	56	1273	164
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	388	642	286	257	507	226	369	1167	39	262	1541	478
Arrive On Green	0.11	0.18	0.18	0.07	0.14	0.14	0.11	0.33	0.33	0.08	0.30	0.30
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3510	116	3456	5106	1585
Grp Volume(v), veh/h	203	139	31	54	292	10	138	366	382	56	1273	164
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1849	1728	1702	1585
Q Serve(g_s), s	3.9	2.3	1.1	1.0	5.4	0.4	2.6	12.1	12.1	1.1	16.2	5.6
Cycle Q Clear(g_c), s	3.9	2.3	1.1	1.0	5.4	0.4	2.6	12.1	12.1	1.1	16.2	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	388	642	286	257	507	226	369	591	615	262	1541	478
V/C Ratio(X)	0.52	0.22	0.11	0.21	0.58	0.04	0.37	0.62	0.62	0.21	0.83	0.34
Avail Cap(c_a), veh/h	742	1628	726	742	1882	840	742	1145	1192	742	3290	1021
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.2	24.4	23.9	30.4	28.0	25.8	29.0	19.6	19.6	30.3	22.7	19.0
Incr Delay (d2), s/veh	0.4	0.1	0.1	0.1	0.4	0.0	0.2	0.4	0.4	0.1	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.9	0.4	0.4	2.0	0.1	1.0	4.2	4.4	0.4	5.4	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	24.5	24.0	30.5	28.3	25.9	29.3	20.0	20.0	30.5	23.1	19.1
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	C	B
Approach Vol, veh/h		373			356			886			1493	
Approach Delay, s/veh		27.2			28.6			21.4			23.0	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	19.6	12.5	27.6	12.8	17.0	10.3	29.7				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5				
Max Green Setting (Gmax), s	15.0	32.0	15.0	45.0	15.0	37.0	15.0	45.0				
Max Q Clear Time (g_c+1), s	13.0	4.3	4.6	18.2	5.9	7.4	3.1	14.1				
Green Ext Time (p_c), s	0.0	0.2	0.1	2.9	0.1	0.5	0.0	1.1				

Intersection Summary
























HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 26: Cook St & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	183	125	142	49	263	59	124	652	22	50	1146	340
Future Volume (veh/h)	183	125	142	49	263	59	124	652	22	50	1146	340
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	139	31	54	292	10	138	724	24	56	1273	164
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	388	642	286	257	507	226	369	1167	39	262	1541	478
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.18	0.18	0.07	0.14	0.14	0.11	0.33	0.33	0.08	0.30	0.30
Unsig. Movement Delay												
Ln Grp Delay, s/veh	29.6	24.5	24.0	30.5	28.3	25.9	29.3	20.0	20.0	30.5	23.1	19.1
Ln Grp LOS	C	C	C	C	C	C	C	B	B	C	C	B
Approach Vol, veh/h		373			356			886			1493	
Approach Delay, s/veh		27.2			28.6			21.4			23.0	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		10.2	19.6	12.5	27.6	12.8	17.0	10.3	29.7			
Change Period (Y+Rc), s		5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5			
Max Green (Gmax), s		15.0	32.0	15.0	45.0	15.0	37.0	15.0	45.0			
Max Allow Headway (MAH), s		1.6	2.6	1.6	2.6	1.6	2.7	1.6	2.7			
Max Q Clear (g_c+I1), s		3.0	4.3	4.6	18.2	5.9	7.4	3.1	14.1			
Green Ext Time (g_e), s		0.0	0.2	0.1	2.9	0.1	0.5	0.0	1.1			
Prob of Phs Call (p_c)		0.65	0.96	0.93	1.00	0.98	1.00	0.66	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		3510			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		116			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	54	0	138	0	203	0	56	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	1.0	0.0	2.6	0.0	3.9	0.0	1.1	0.0
Cycle Q Clear Time (g_c), s	1.0	0.0	2.6	0.0	3.9	0.0	1.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	257	0	369	0	388	0	262	0
V/C Ratio (X)	0.21	0.00	0.37	0.00	0.52	0.00	0.21	0.00
Avail Cap (c_a), veh/h	742	0	742	0	742	0	742	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	30.4	0.0	29.0	0.0	29.2	0.0	30.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.0	0.4	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	30.5	0.0	29.3	0.0	29.6	0.0	30.5	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	1.0	0.0	1.4	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	1.0	0.0	1.4	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.18	0.00	0.26	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	1
Grp Vol (v), veh/h	0	139	0	1273	0	292	0	366
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1777
Q Serve Time (g_s), s	0.0	2.3	0.0	16.2	0.0	5.4	0.0	12.1
Cycle Q Clear Time (g_c), s	0.0	2.3	0.0	16.2	0.0	5.4	0.0	12.1
Lane Grp Cap (c), veh/h	0	642	0	1541	0	507	0	591
V/C Ratio (X)	0.00	0.22	0.00	0.83	0.00	0.58	0.00	0.62
Avail Cap (c_a), veh/h	0	1628	0	3290	0	1882	0	1145
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.4	0.0	22.7	0.0	28.0	0.0	19.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.4	0.0	0.4	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.5	0.0	23.1	0.0	28.3	0.0	20.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	5.4	0.0	2.0	0.0	4.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.9	0.0	5.4	0.0	2.0	0.0	4.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.04	0.00	0.03	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	31	0	164	0	10	0	382
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1849
Q Serve Time (g_s), s	0.0	1.1	0.0	5.6	0.0	0.4	0.0	12.1
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	5.6	0.0	0.4	0.0	12.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.06
Lane Grp Cap (c), veh/h	0	286	0	478	0	226	0	615
V/C Ratio (X)	0.00	0.11	0.00	0.34	0.00	0.04	0.00	0.62
Avail Cap (c_a), veh/h	0	726	0	1021	0	840	0	1192
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.9	0.0	19.0	0.0	25.8	0.0	19.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.0	0.0	19.1	0.0	25.9	0.0	20.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	1.7	0.0	0.1	0.0	4.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	1.8	0.0	0.1	0.0	4.4
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.20	0.00	0.01	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	23.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 27: Bob Hope Dr & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	250	111	190	257	179	59	294	99	161	550	45
Future Volume (veh/h)	64	250	111	190	257	179	59	294	99	161	550	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	263	19	200	271	50	62	309	22	169	579	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	524	234	253	818	365	194	759	339	297	808	65
Arrive On Green	0.06	0.15	0.15	0.14	0.23	0.23	0.06	0.21	0.21	0.09	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3324	269
Grp Volume(v), veh/h	67	263	19	200	271	50	62	309	22	169	309	317
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1817
Q Serve(g_s), s	2.0	3.6	0.6	5.8	3.4	1.3	0.9	4.0	0.6	2.5	8.5	8.6
Cycle Q Clear(g_c), s	2.0	3.6	0.6	5.8	3.4	1.3	0.9	4.0	0.6	2.5	8.5	8.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.15
Lane Grp Cap(c), veh/h	105	524	234	253	818	365	194	759	339	297	432	442
V/C Ratio(X)	0.64	0.50	0.08	0.79	0.33	0.14	0.32	0.41	0.06	0.57	0.72	0.72
Avail Cap(c_a), veh/h	833	1993	889	666	1993	889	1292	1860	830	1292	930	951
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	21.0	19.7	22.2	17.2	16.4	24.3	18.1	16.8	23.5	18.5	18.6
Incr Delay (d2), s/veh	2.4	0.6	0.1	2.1	0.2	0.1	0.3	0.3	0.1	0.6	1.7	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.3	0.2	2.2	1.1	0.4	0.3	1.4	0.2	0.9	3.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	21.6	19.8	24.3	17.3	16.5	24.6	18.4	16.8	24.1	20.2	20.2
LnGrp LOS	C	C	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		349			521			393			795	
Approach Delay, s/veh		22.5			19.9			19.3			21.0	
Approach LOS		C			B			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.5	19.5	7.7	18.8	9.1	17.9	12.1	14.4				
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5				
Max Green Setting (Gmax), s	20.0	28.0	25.0	30.0	20.0	28.0	20.0	30.0				
Max Q Clear Time (g_c+1), s	12.5	10.6	4.0	5.4	4.5	6.0	7.8	5.6				
Green Ext Time (p_c), s	0.1	2.4	0.1	1.3	0.2	1.4	0.2	1.2				

Intersection Summary

























HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	250	111	190	257	179	59	294	99	161	550	45
Future Volume (veh/h)	64	250	111	190	257	179	59	294	99	161	550	45
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	67	263	19	200	271	50	62	309	22	169	579	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	105	524	234	253	818	365	194	759	339	297	808	65
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.15	0.15	0.14	0.23	0.23	0.06	0.21	0.21	0.09	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	27.0	21.6	19.8	24.3	17.3	16.5	24.6	18.4	16.8	24.1	20.2	20.2
Ln Grp LOS	C	C	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		349			521			393			795	
Approach Delay, s/veh		22.5			19.9			19.3			21.0	
Approach LOS		C			B			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		7.5	19.5	7.7	18.8	9.1	17.9	12.1	14.4			
Change Period (Y+Rc), s		4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5			
Max Green (Gmax), s		20.0	28.0	25.0	30.0	20.0	28.0	20.0	30.0			
Max Allow Headway (MAH), s		2.7	4.3	2.7	4.2	2.7	4.3	2.7	4.3			
Max Q Clear (g_c+I1), s		2.9	10.6	4.0	5.4	4.5	6.0	7.8	5.6			
Green Ext Time (g_e), s		0.1	2.4	0.1	1.3	0.2	1.4	0.2	1.2			
Prob of Phs Call (p_c)		0.60	1.00	0.63	0.99	0.92	0.99	0.95	0.98			
Prob of Max Out (p_x)		0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3324		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			269		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

07/11/2019

Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	62	0	67	0	169	0	200	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	0.9	0.0	2.0	0.0	2.5	0.0	5.8	0.0
Cycle Q Clear Time (g_c), s	0.9	0.0	2.0	0.0	2.5	0.0	5.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	194	0	105	0	297	0	253	0
V/C Ratio (X)	0.32	0.00	0.64	0.00	0.57	0.00	0.79	0.00
Avail Cap (c_a), veh/h	1292	0	833	0	1292	0	666	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	24.3	0.0	24.6	0.0	23.5	0.0	22.2	0.0
Incr Delay (d2), s/veh	0.3	0.0	2.4	0.0	0.6	0.0	2.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.6	0.0	27.0	0.0	24.1	0.0	24.3	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.7	0.0	0.9	0.0	2.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.3	0.0	0.8	0.0	0.9	0.0	2.2	0.0
%ile Storage Ratio (RQ%)	0.10	0.00	0.13	0.00	0.10	0.00	0.18	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	2	0	2
Grp Vol (v), veh/h	0	309	0	271	0	309	0	263
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	8.5	0.0	3.4	0.0	4.0	0.0	3.6
Cycle Q Clear Time (g_c), s	0.0	8.5	0.0	3.4	0.0	4.0	0.0	3.6
Lane Grp Cap (c), veh/h	0	432	0	818	0	759	0	524
V/C Ratio (X)	0.00	0.72	0.00	0.33	0.00	0.41	0.00	0.50
Avail Cap (c_a), veh/h	0	930	0	1993	0	1860	0	1993
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.5	0.0	17.2	0.0	18.1	0.0	21.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.2	0.0	0.3	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.2	0.0	17.3	0.0	18.4	0.0	21.6
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	1.1	0.0	1.4	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

27: Bob Hope Dr & Country Club Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	1.1	0.0	1.4	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	317	0	50	0	22	0	19
Grp Sat Flow (s), veh/h/ln	0	1817	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	8.6	0.0	1.3	0.0	0.6	0.0	0.6
Cycle Q Clear Time (g_c), s	0.0	8.6	0.0	1.3	0.0	0.6	0.0	0.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.15	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	442	0	365	0	339	0	234
V/C Ratio (X)	0.00	0.72	0.00	0.14	0.00	0.06	0.00	0.08
Avail Cap (c_a), veh/h	0	951	0	889	0	830	0	889
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.6	0.0	16.4	0.0	16.8	0.0	19.7
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.1	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.2	0.0	16.5	0.0	16.8	0.0	19.8
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	0.4	0.0	0.2	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	0.4	0.0	0.2	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.12	0.00	0.03	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 28: Monterey Ave & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑	↖	↖ ↗	↑ ↑ ↑	↖	↖ ↗	↑ ↑ ↑	↖	↖ ↗	↑ ↑ ↑	↖
Traffic Volume (veh/h)	74	304	159	174	648	117	310	578	65	191	1263	160
Future Volume (veh/h)	74	304	159	174	648	117	310	578	65	191	1263	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	79	323	0	185	689	0	330	615	32	203	1344	72
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	187	736		240	815		378	2523	783	258	2346	728
Arrive On Green	0.05	0.14	0.00	0.07	0.16	0.00	0.22	0.99	0.99	0.07	0.46	0.46
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	79	323	0	185	689	0	330	615	32	203	1344	72
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	2.7	6.9	0.0	6.3	15.7	0.0	11.1	0.2	0.0	6.9	23.2	3.1
Cycle Q Clear(g_c), s	2.7	6.9	0.0	6.3	15.7	0.0	11.1	0.2	0.0	6.9	23.2	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	187	736		240	815		378	2523	783	258	2346	728
V/C Ratio(X)	0.42	0.44		0.77	0.85		0.87	0.24	0.04	0.79	0.57	0.10
Avail Cap(c_a), veh/h	259	1332		346	1459		432	2523	783	346	2346	728
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.00	0.61	0.61	0.00	0.95	0.95	0.95	0.77	0.77	0.77
Uniform Delay (d), s/veh	54.9	46.9	0.0	54.9	49.0	0.0	46.1	0.4	0.4	54.6	23.8	18.4
Incr Delay (d2), s/veh	0.5	0.1	0.0	2.2	0.6	0.0	14.1	0.2	0.1	4.6	0.8	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.9	0.0	2.7	6.5	0.0	4.8	0.1	0.0	3.1	8.7	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.5	47.1	0.0	57.1	49.6	0.0	60.2	0.6	0.4	59.1	24.6	18.6
LnGrp LOS	E	D		E	D		E	A	A	E	C	B
Approach Vol, veh/h		402	A		874	A		977			1619	
Approach Delay, s/veh		48.7			51.2			20.7			28.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.0	66.7	14.3	24.0	19.1	62.5	12.5	25.8				
Change Period (Y+Rc), s	6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7				
Max Green Setting (Gmax), s	12.0	38.6	12.0	31.3	15.0	35.6	9.0	34.3				
Max Q Clear Time (g_c+1), s	10.5	2.2	8.3	8.9	13.1	25.2	4.7	17.7				
Green Ext Time (p_c), s	0.0	1.3	0.0	0.6	0.1	2.6	0.0	1.4				

Intersection Summary





































HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 28: Monterey Ave & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		 	  	
Traffic Volume (veh/h)	74	304	159	174	648	117	310	578	65	191	1263	160
Future Volume (veh/h)	74	304	159	174	648	117	310	578	65	191	1263	160
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	79	323	0	185	689	0	330	615	32	203	1344	72
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	187	736		240	815		378	2523	783	258	2346	728
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.14	0.00	0.07	0.16	0.00	0.22	0.99	0.99	0.07	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.5	47.1	0.0	57.1	49.6	0.0	60.2	0.6	0.4	59.1	24.6	18.6
Ln Grp LOS	E	D		E	D		E	A	A	E	C	B
Approach Vol, veh/h		402			874			977			1619	
Approach Delay, s/veh		48.7			51.2			20.7			28.6	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.0	66.7	14.3	24.0	19.1	62.5	12.5	25.8			
Change Period (Y+Rc), s		6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7			
Max Green (Gmax), s		12.0	38.6	12.0	31.3	15.0	35.6	9.0	34.3			
Max Allow Headway (MAH), s		1.6	2.8	1.7	2.8	1.7	2.7	1.7	2.8			
Max Q Clear (g_c+I1), s		8.9	2.2	8.3	8.9	13.1	25.2	4.7	17.7			
Green Ext Time (g_e), s		0.0	1.3	0.0	0.6	0.1	2.6	0.0	1.4			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	0.93	1.00			
Prob of Max Out (p_x)		0.02	0.00	0.00	0.00	0.57	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	203	0	185	0	330	0	79	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	6.9	0.0	6.3	0.0	11.1	0.0	2.7	0.0
Cycle Q Clear Time (g_c), s	6.9	0.0	6.3	0.0	11.1	0.0	2.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	258	0	240	0	378	0	187	0
V/C Ratio (X)	0.79	0.00	0.77	0.00	0.87	0.00	0.42	0.00
Avail Cap (c_a), veh/h	346	0	346	0	432	0	259	0
Upstream Filter (I)	0.77	0.00	0.61	0.00	0.95	0.00	0.92	0.00
Uniform Delay (d1), s/veh	54.6	0.0	54.9	0.0	46.1	0.0	54.9	0.0
Incr Delay (d2), s/veh	4.6	0.0	2.2	0.0	14.1	0.0	0.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.1	0.0	57.1	0.0	60.2	0.0	55.5	0.0
1st-Term Q (Q1), veh/ln	2.9	0.0	2.7	0.0	4.1	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.1	0.0	0.7	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.1	0.0	2.7	0.0	4.8	0.0	1.1	0.0
%ile Storage Ratio (RQ%)	0.01	0.00	0.32	0.00	0.48	0.00	0.21	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	3	0	3
Grp Vol (v), veh/h	0	615	0	323	0	1344	0	689
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	0.2	0.0	6.9	0.0	23.2	0.0	15.7
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	6.9	0.0	23.2	0.0	15.7
Lane Grp Cap (c), veh/h	0	2523	0	736	0	2346	0	815
V/C Ratio (X)	0.00	0.24	0.00	0.44	0.00	0.57	0.00	0.85
Avail Cap (c_a), veh/h	0	2523	0	1332	0	2346	0	1459
Upstream Filter (I)	0.00	0.95	0.00	0.92	0.00	0.77	0.00	0.61
Uniform Delay (d1), s/veh	0.0	0.4	0.0	46.9	0.0	23.8	0.0	49.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	0.0	0.8	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.6	0.0	47.1	0.0	24.6	0.0	49.6
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	2.8	0.0	8.5	0.0	6.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	2.9	0.0	8.7	0.0	6.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.04	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	32	0	0	0	72	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	783	0	229	0	728	0	253
V/C Ratio (X)	0.00	0.04	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	783	0	413	0	728	0	453
Upstream Filter (I)	0.00	0.95	0.00	0.00	0.00	0.77	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.4	0.0	0.0	0.0	18.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.4	0.0	0.0	0.0	18.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.8
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 29: Portola Ave & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	379	153	145	687	62	211	476	176	67	365	49
Future Volume (veh/h)	57	379	153	145	687	62	211	476	176	67	365	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	436	63	167	790	20	243	547	59	77	420	56
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	179	856	382	234	965	430	284	801	357	192	547	72
Arrive On Green	0.10	0.24	0.24	0.13	0.27	0.27	0.16	0.23	0.23	0.11	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3154	418
Grp Volume(v), veh/h	66	436	63	167	790	20	243	547	59	77	236	240
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1795
Q Serve(g_s), s	2.5	7.8	2.3	6.6	15.3	0.7	9.8	10.4	2.2	3.0	9.3	9.4
Cycle Q Clear(g_c), s	2.5	7.8	2.3	6.6	15.3	0.7	9.8	10.4	2.2	3.0	9.3	9.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	179	856	382	234	965	430	284	801	357	192	308	311
V/C Ratio(X)	0.37	0.51	0.17	0.71	0.82	0.05	0.85	0.68	0.17	0.40	0.76	0.77
Avail Cap(c_a), veh/h	363	1448	646	484	1448	646	484	1641	732	363	772	780
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	24.2	22.1	30.6	25.1	19.8	30.1	26.1	22.9	30.6	29.0	29.0
Incr Delay (d2), s/veh	0.5	0.2	0.1	1.5	1.4	0.0	3.0	0.4	0.1	0.5	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0	2.9	0.8	2.7	5.8	0.2	4.0	3.9	0.7	1.2	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.4	24.4	22.2	32.2	26.5	19.8	33.1	26.5	23.0	31.1	30.5	30.6
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h	565			977			849			553		
Approach Delay, s/veh	24.9			27.3			28.1			30.6		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	25.7	16.8	18.8	14.7	23.4	12.9	22.6				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	15.0	30.0	20.0	32.0	20.0	30.0	15.0	34.0				
Max Q Clear Time (g_c+1), s	14.5	17.3	11.8	11.4	8.6	9.8	5.0	12.4				
Green Ext Time (p_c), s	0.0	2.7	0.1	1.4	0.0	1.6	0.0	2.1				

Intersection Summary

























HCM 6th Ctrl Delay	27.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	379	153	145	687	62	211	476	176	67	365	49
Future Volume (veh/h)	57	379	153	145	687	62	211	476	176	67	365	49
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	436	63	167	790	20	243	547	59	77	420	56
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	179	856	382	234	965	430	284	801	357	192	547	72
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.24	0.24	0.13	0.27	0.27	0.16	0.23	0.23	0.11	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	31.4	24.4	22.2	32.2	26.5	19.8	33.1	26.5	23.0	31.1	30.5	30.6
Ln Grp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		565			977			849			553	
Approach Delay, s/veh		24.9			27.3			28.1			30.6	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		12.4	25.7	16.8	18.8	14.7	23.4	12.9	22.6			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		15.0	30.0	20.0	32.0	20.0	30.0	15.0	34.0			
Max Allow Headway (MAH), s		1.7	3.8	1.7	3.8	1.7	3.7	1.6	3.7			
Max Q Clear (g_c+I1), s		4.5	17.3	11.8	11.4	8.6	9.8	5.0	12.4			
Green Ext Time (g_e), s		0.0	2.7	0.1	1.4	0.0	1.6	0.0	2.1			
Prob of Phs Call (p_c)		0.74	1.00	0.99	1.00	0.97	1.00	0.79	1.00			
Prob of Max Out (p_x)		0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3154		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		418		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	66	0	243	0	167	0	77	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.5	0.0	9.8	0.0	6.6	0.0	3.0	0.0
Cycle Q Clear Time (g_c), s	2.5	0.0	9.8	0.0	6.6	0.0	3.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	179	0	284	0	234	0	192	0
V/C Ratio (X)	0.37	0.00	0.85	0.00	0.71	0.00	0.40	0.00
Avail Cap (c_a), veh/h	363	0	484	0	484	0	363	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	30.9	0.0	30.1	0.0	30.6	0.0	30.6	0.0
Incr Delay (d2), s/veh	0.5	0.0	3.0	0.0	1.5	0.0	0.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.4	0.0	33.1	0.0	32.2	0.0	31.1	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	3.8	0.0	2.6	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	4.0	0.0	2.7	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.13	0.00	0.64	0.00	0.38	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	790	0	236	0	436	0	547
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	15.3	0.0	9.3	0.0	7.8	0.0	10.4
Cycle Q Clear Time (g_c), s	0.0	15.3	0.0	9.3	0.0	7.8	0.0	10.4
Lane Grp Cap (c), veh/h	0	965	0	308	0	856	0	801
V/C Ratio (X)	0.00	0.82	0.00	0.76	0.00	0.51	0.00	0.68
Avail Cap (c_a), veh/h	0	1448	0	772	0	1448	0	1641
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.1	0.0	29.0	0.0	24.2	0.0	26.1
Incr Delay (d2), s/veh	0.0	1.4	0.0	1.5	0.0	0.2	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.5	0.0	30.5	0.0	24.4	0.0	26.5
1st-Term Q (Q1), veh/ln	0.0	5.6	0.0	3.5	0.0	2.9	0.0	3.9
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.8	0.0	3.6	0.0	2.9	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.11	0.00	0.01	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	20	0	240	0	63	0	59
Grp Sat Flow (s), veh/h/ln	0	1585	0	1795	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.7	0.0	9.4	0.0	2.3	0.0	2.2
Cycle Q Clear Time (g_c), s	0.0	0.7	0.0	9.4	0.0	2.3	0.0	2.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.23	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	430	0	311	0	382	0	357
V/C Ratio (X)	0.00	0.05	0.00	0.77	0.00	0.17	0.00	0.17
Avail Cap (c_a), veh/h	0	646	0	780	0	646	0	732
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.8	0.0	29.0	0.0	22.1	0.0	22.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.6	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.8	0.0	30.6	0.0	22.2	0.0	23.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	3.6	0.0	0.8	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	3.7	0.0	0.8	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.11	0.00	0.20	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	27.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 30: Monterey Ave & Hovley Ln W

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔		↔	↑	↔	↔	↑↑↑		↔	↑↑↑	
Traffic Volume (veh/h)	3	9	11	89	7	185	8	799	48	102	1302	3
Future Volume (veh/h)	3	9	11	89	7	185	8	799	48	102	1302	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	10	12	99	8	23	9	888	53	113	1447	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	191	77	92	181	185	157	27	3418	203	136	3972	8
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.02	0.69	0.69	0.15	1.00	1.00
Sat Flow, veh/h	1378	774	929	1390	1870	1585	1781	4928	293	1781	5262	11
Grp Volume(v), veh/h	3	0	22	99	8	23	9	613	328	113	936	514
Grp Sat Flow(s),veh/h/ln	1378	0	1703	1390	1870	1585	1781	1702	1818	1781	1702	1868
Q Serve(g_s), s	0.2	0.0	1.4	8.4	0.5	1.6	0.6	8.1	8.1	7.4	0.0	0.0
Cycle Q Clear(g_c), s	0.7	0.0	1.4	9.8	0.5	1.6	0.6	8.1	8.1	7.4	0.0	0.0
Prop In Lane	1.00		0.55	1.00		1.00	1.00		0.16	1.00		0.01
Lane Grp Cap(c), veh/h	191	0	169	181	185	157	27	2361	1260	136	2570	1410
V/C Ratio(X)	0.02	0.00	0.13	0.55	0.04	0.15	0.33	0.26	0.26	0.83	0.36	0.36
Avail Cap(c_a), veh/h	422	0	454	414	499	423	148	2361	1260	223	2570	1410
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90	0.77	0.77	0.77
Uniform Delay (d), s/veh	49.2	0.0	49.3	53.8	48.9	49.4	58.5	6.9	6.9	50.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	1.0	0.0	0.2	2.4	0.2	0.5	4.4	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.6	2.9	0.2	0.6	0.3	2.5	2.7	3.1	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.2	0.0	49.5	54.8	48.9	49.6	60.9	7.1	7.3	54.4	0.3	0.6
LnGrp LOS	D	A	D	D	D	D	E	A	A	D	A	A
Approach Vol, veh/h		25			130			950			1563	
Approach Delay, s/veh		49.4			53.5			7.7			4.3	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.2	88.9		16.9	6.8	96.3		16.9				
Change Period (Y+Rc), s	5.0	5.7		5.0	5.0	5.7		5.0				
Max Green Setting (Gmax), s	15.0	57.3		32.0	10.0	62.3		32.0				
Max Q Clear Time (g_c+1), s	19.4	10.1		3.4	2.6	2.0		11.8				
Green Ext Time (p_c), s	0.0	3.7		0.0	0.0	3.0		0.1				

Intersection Summary

HCM 6th Ctrl Delay	8.3
HCM 6th LOS	A

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	9	11	89	7	185	8	799	48	102	1302	3
Future Volume (veh/h)	3	9	11	89	7	185	8	799	48	102	1302	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	10	12	99	8	23	9	888	53	113	1447	3
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	191	77	92	181	185	157	27	3418	203	136	3972	8
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.02	0.69	0.69	0.15	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	49.2	0.0	49.5	54.8	48.9	49.6	60.9	7.1	7.3	54.4	0.3	0.6
Ln Grp LOS	D	A	D	D	D	D	E	A	A	D	A	A
Approach Vol, veh/h		25			130			950			1563	
Approach Delay, s/veh		49.4			53.5			7.7			4.3	
Approach LOS		D			D			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		6.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		14.2	88.9		16.9	6.8	96.3		16.9			
Change Period (Y+Rc), s		5.0	5.7		5.0	5.0	5.7		5.0			
Max Green (Gmax), s		15.0	57.3		32.0	10.0	62.3		32.0			
Max Allow Headway (MAH), s		1.7	3.8		3.2	1.7	2.8		2.8			
Max Q Clear (g_c+I1), s		9.4	10.1		3.4	2.6	2.0		11.8			
Green Ext Time (g_e), s		0.0	3.7		0.0	0.0	3.0		0.1			
Prob of Phs Call (p_c)		0.98	1.00		0.99	0.26	1.00		0.99			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1378	1781			1390			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			4928		774		5262		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			293		929		11		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	113	0	0	3	9	0	0	99
Grp Sat Flow (s), veh/h/ln	1781	0	0	1378	1781	0	0	1390
Q Serve Time (g_s), s	7.4	0.0	0.0	0.2	0.6	0.0	0.0	8.4
Cycle Q Clear Time (g_c), s	7.4	0.0	0.0	0.7	0.6	0.0	0.0	9.8
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1378	0	0	0	1390
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	11.9	0.0	0.0	0.0	11.9
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	11.4	0.0	0.0	0.0	10.5
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	8.4
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	136	0	0	191	27	0	0	181
V/C Ratio (X)	0.83	0.00	0.00	0.02	0.33	0.00	0.00	0.55
Avail Cap (c_a), veh/h	223	0	0	422	148	0	0	414
Upstream Filter (I)	0.77	0.00	0.00	1.00	0.90	0.00	0.00	1.00
Uniform Delay (d1), s/veh	50.1	0.0	0.0	49.2	58.5	0.0	0.0	53.8
Incr Delay (d2), s/veh	4.4	0.0	0.0	0.0	2.4	0.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	54.4	0.0	0.0	49.2	60.9	0.0	0.0	54.8
1st-Term Q (Q1), veh/ln	3.0	0.0	0.0	0.1	0.3	0.0	0.0	2.8
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	3.1	0.0	0.0	0.1	0.3	0.0	0.0	2.9
%ile Storage Ratio (RQ%)	0.40	0.00	0.00	0.00	0.08	0.00	0.00	0.67
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	2	0	0	0	2	0	1
Grp Vol (v), veh/h	0	613	0	0	0	936	0	8
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	8.1	0.0	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	8.1	0.0	0.0	0.0	0.0	0.0	0.5
Lane Grp Cap (c), veh/h	0	2361	0	0	0	2570	0	185
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.36	0.00	0.04
Avail Cap (c_a), veh/h	0	2361	0	0	0	2570	0	499
Upstream Filter (I)	0.00	0.90	0.00	0.00	0.00	0.77	0.00	1.00
Uniform Delay (d1), s/veh	0.0	6.9	0.0	0.0	0.0	0.0	0.0	48.9
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.1	0.0	0.0	0.0	0.3	0.0	48.9
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	0.0	0.0	0.1	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	328	0	22	0	514	0	23
Grp Sat Flow (s), veh/h/ln	0	1818	0	1703	0	1868	0	1585
Q Serve Time (g_s), s	0.0	8.1	0.0	1.4	0.0	0.0	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	8.1	0.0	1.4	0.0	0.0	0.0	1.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.16	0.00	0.55	0.00	0.01	0.00	1.00
Lane Grp Cap (c), veh/h	0	1260	0	169	0	1410	0	157
V/C Ratio (X)	0.00	0.26	0.00	0.13	0.00	0.36	0.00	0.15
Avail Cap (c_a), veh/h	0	1260	0	454	0	1410	0	423
Upstream Filter (I)	0.00	0.90	0.00	1.00	0.00	0.77	0.00	1.00
Uniform Delay (d1), s/veh	0.0	6.9	0.0	49.3	0.0	0.0	0.0	49.4
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.1	0.0	0.6	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.3	0.0	49.5	0.0	0.6	0.0	49.6
1st-Term Q (Q1), veh/ln	0.0	2.6	0.0	0.6	0.0	0.0	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	0.6	0.0	0.2	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.03	0.00	0.00	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.3
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary

31: Monterey Ave & Fred Waring Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↑↑↑		↔↔↔	↑↑↑	↔	↔↔↔	↑↑↑		↔↔↔	↑↑↑	↔
Traffic Volume (veh/h)	120	298	41	283	676	318	52	480	108	199	742	172
Future Volume (veh/h)	120	298	41	283	676	318	52	480	108	199	742	172
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	327	45	311	743	0	57	527	119	219	815	89
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	1347	181	366	1715		196	1404	310	274	1830	568
Arrive On Green	0.07	0.30	0.30	0.11	0.34	0.00	0.06	0.34	0.34	0.08	0.36	0.36
Sat Flow, veh/h	3456	4553	611	3456	5106	1585	3456	4184	924	3456	5106	1585
Grp Volume(v), veh/h	132	242	130	311	743	0	57	426	220	219	815	89
Grp Sat Flow(s),veh/h/ln	1728	1702	1760	1728	1702	1585	1728	1702	1704	1728	1702	1585
Q Serve(g_s), s	4.5	6.5	6.7	10.6	13.6	0.0	1.9	11.4	11.8	7.5	14.6	4.6
Cycle Q Clear(g_c), s	4.5	6.5	6.7	10.6	13.6	0.0	1.9	11.4	11.8	7.5	14.6	4.6
Prop In Lane	1.00		0.35	1.00		1.00	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h	228	1007	521	366	1715		196	1142	572	274	1830	568
V/C Ratio(X)	0.58	0.24	0.25	0.85	0.43		0.29	0.37	0.38	0.80	0.45	0.16
Avail Cap(c_a), veh/h	288	1007	521	461	1715		259	1142	572	403	1830	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	54.4	32.0	32.1	52.7	31.0	0.0	54.3	30.3	30.4	54.3	29.4	26.2
Incr Delay (d2), s/veh	0.9	0.6	1.1	9.8	0.8	0.0	0.3	0.9	1.9	3.7	0.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	2.7	3.0	5.0	5.5	0.0	0.8	4.7	5.0	3.3	5.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.3	32.6	33.3	62.5	31.8	0.0	54.6	31.2	32.3	58.0	30.1	26.7
LnGrp LOS	E	C	C	E	C		D	C	C	E	C	C
Approach Vol, veh/h		504			1054	A		703			1123	
Approach Delay, s/veh		38.7			40.9			33.5			35.3	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.9	46.3	11.8	49.0	17.7	41.5	14.5	46.3				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0				
Max Green Setting (Gmax), s	10.0	36.0	9.0	43.0	16.0	30.0	14.0	38.0				
Max Q Clear Time (g_c+1/5), s	10.5	15.6	3.9	16.6	12.6	8.7	9.5	13.8				
Green Ext Time (p_c), s	0.0	1.7	0.0	1.8	0.1	0.7	0.1	1.3				

Intersection Summary

HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 31: Monterey Ave & Fred Waring Dr

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	298	41	283	676	318	52	480	108	199	742	172
Future Volume (veh/h)	120	298	41	283	676	318	52	480	108	199	742	172
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	327	45	311	743	0	57	527	119	219	815	89
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	228	1347	181	366	1715		196	1404	310	274	1830	568
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.30	0.30	0.11	0.34	0.00	0.06	0.34	0.34	0.08	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.3	32.6	33.3	62.5	31.8	0.0	54.6	31.2	32.3	58.0	30.1	26.7
Ln Grp LOS	E	C	C	E	C		D	C	C	E	C	C
Approach Vol, veh/h		504			1054			703			1123	
Approach Delay, s/veh		38.7			40.9			33.5			35.3	
Approach LOS		D			D			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		12.9	46.3	11.8	49.0	17.7	41.5	14.5	46.3			
Change Period (Y+Rc), s		5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0			
Max Green (Gmax), s		10.0	36.0	9.0	43.0	16.0	30.0	14.0	38.0			
Max Allow Headway (MAH), s		1.7	2.9	1.7	2.7	1.7	2.9	1.7	3.0			
Max Q Clear (g_c+I1), s		6.5	15.6	3.9	16.6	12.6	8.7	9.5	13.8			
Green Ext Time (g_e), s		0.0	1.7	0.0	1.8	0.1	0.7	0.1	1.3			
Prob of Phs Call (p_c)		0.99	1.00	0.85	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		4553		4184			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		611		924			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 31: Monterey Ave & Fred Waring Dr

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	132	0	57	0	311	0	219	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	4.5	0.0	1.9	0.0	10.6	0.0	7.5	0.0
Cycle Q Clear Time (g_c), s	4.5	0.0	1.9	0.0	10.6	0.0	7.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	228	0	196	0	366	0	274	0
V/C Ratio (X)	0.58	0.00	0.29	0.00	0.85	0.00	0.80	0.00
Avail Cap (c_a), veh/h	288	0	259	0	461	0	403	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.93	0.00
Uniform Delay (d1), s/veh	54.4	0.0	54.3	0.0	52.7	0.0	54.3	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.3	0.0	9.8	0.0	3.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	55.3	0.0	54.6	0.0	62.5	0.0	58.0	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	0.8	0.0	4.5	0.0	3.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.5	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.9	0.0	0.8	0.0	5.0	0.0	3.3	0.0
%ile Storage Ratio (RQ%)	0.36	0.00	0.12	0.00	0.72	0.00	0.62	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	2	0	2
Grp Vol (v), veh/h	0	743	0	815	0	242	0	426
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	13.6	0.0	14.6	0.0	6.5	0.0	11.4
Cycle Q Clear Time (g_c), s	0.0	13.6	0.0	14.6	0.0	6.5	0.0	11.4
Lane Grp Cap (c), veh/h	0	1715	0	1830	0	1007	0	1142
V/C Ratio (X)	0.00	0.43	0.00	0.45	0.00	0.24	0.00	0.37
Avail Cap (c_a), veh/h	0	1715	0	1830	0	1007	0	1142
Upstream Filter (I)	0.00	1.00	0.00	0.93	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	31.0	0.0	29.4	0.0	32.0	0.0	30.3
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.7	0.0	0.6	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.8	0.0	30.1	0.0	32.6	0.0	31.2
1st-Term Q (Q1), veh/ln	0.0	5.4	0.0	5.7	0.0	2.6	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.5	0.0	5.8	0.0	2.7	0.0	4.7
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.02	0.00	0.02	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	89	0	130	0	220
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1760	0	1704
Q Serve Time (g_s), s	0.0	0.0	0.0	4.6	0.0	6.7	0.0	11.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.6	0.0	6.7	0.0	11.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.35	0.00	0.54
Lane Grp Cap (c), veh/h	0	532	0	568	0	521	0	572
V/C Ratio (X)	0.00	0.00	0.00	0.16	0.00	0.25	0.00	0.38
Avail Cap (c_a), veh/h	0	532	0	568	0	521	0	572
Upstream Filter (I)	0.00	0.00	0.00	0.93	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	26.2	0.0	32.1	0.0	30.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	1.1	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	26.7	0.0	33.3	0.0	32.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.7	0.0	2.8	0.0	4.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.8	0.0	3.0	0.0	5.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.60	0.00	0.03	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 32: Monterey Ave & SR-111

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




























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	80	644	83	222	559	150	166	411	160	239	485	86
Future Volume (veh/h)	80	644	83	222	559	150	166	411	160	239	485	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	692	43	239	601	106	178	442	28	257	522	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	209	2629	816	291	2751	854	231	515	230	309	595	265
Arrive On Green	0.06	0.51	0.51	0.08	0.54	0.54	0.07	0.14	0.14	0.09	0.17	0.17
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	86	692	43	239	601	106	178	442	28	257	522	16
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	3.0	9.6	1.7	8.6	7.8	4.2	6.4	15.3	1.9	9.2	18.1	1.1
Cycle Q Clear(g_c), s	3.0	9.6	1.7	8.6	7.8	4.2	6.4	15.3	1.9	9.2	18.1	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	2629	816	291	2751	854	231	515	230	309	595	265
V/C Ratio(X)	0.41	0.26	0.05	0.82	0.22	0.12	0.77	0.86	0.12	0.83	0.88	0.06
Avail Cap(c_a), veh/h	329	2629	816	357	2751	854	357	1128	503	357	1044	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.0	17.2	15.2	56.8	15.2	14.4	57.8	52.6	46.9	56.4	51.2	44.1
Incr Delay (d2), s/veh	0.5	0.2	0.1	9.9	0.2	0.3	2.1	1.6	0.1	12.1	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.6	0.6	4.1	2.9	1.5	2.8	6.8	0.8	4.4	8.0	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.5	17.4	15.4	66.7	15.4	14.7	59.9	54.3	47.0	68.6	52.9	44.1
LnGrp LOS	E	B	B	E	B	B	E	D	D	E	D	D
Approach Vol, veh/h		821			946			648			795	
Approach Delay, s/veh		21.5			28.3			55.5			57.8	
Approach LOS		C			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	70.9	13.4	26.1	12.6	73.9	16.3	23.3				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	13.0	39.0	13.0	37.0	12.0	35.0	13.0	40.0				
Max Q Clear Time (g_c+110), s	11.6	11.6	8.4	20.1	5.0	9.8	11.2	17.3				
Green Ext Time (p_c), s	0.0	1.6	0.0	1.0	0.0	1.4	0.0	0.9				

Intersection Summary

HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis
32: Monterey Ave & SR-111

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 	 		 		
Traffic Volume (veh/h)	80	644	83	222	559	150	166	411	160	239	485	86
Future Volume (veh/h)	80	644	83	222	559	150	166	411	160	239	485	86
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	692	43	239	601	106	178	442	28	257	522	16
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	209	2629	816	291	2751	854	231	515	230	309	595	265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.51	0.51	0.08	0.54	0.54	0.07	0.14	0.14	0.09	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	57.5	17.4	15.4	66.7	15.4	14.7	59.9	54.3	47.0	68.6	52.9	44.1
Ln Grp LOS	E	B	B	E	B	B	E	D	D	E	D	D
Approach Vol, veh/h		821			946			648			795	
Approach Delay, s/veh		21.5			28.3			55.5			57.8	
Approach LOS		C			C			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.6	70.9	13.4	26.1	12.6	73.9	16.3	23.3			
Change Period (Y+Rc), s		5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0			
Max Green (Gmax), s		13.0	39.0	13.0	37.0	12.0	35.0	13.0	40.0			
Max Allow Headway (MAH), s		1.7	2.8	1.7	2.9	1.7	2.8	1.7	2.8			
Max Q Clear (g_c+I1), s		10.6	11.6	8.4	20.1	5.0	9.8	11.2	17.3			
Green Ext Time (g_e), s		0.0	1.6	0.0	1.0	0.0	1.4	0.0	0.9			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.17	0.00	0.00	0.00	0.00	0.00	0.83	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	239	0	178	0	86	0	257	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	8.6	0.0	6.4	0.0	3.0	0.0	9.2	0.0
Cycle Q Clear Time (g_c), s	8.6	0.0	6.4	0.0	3.0	0.0	9.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	291	0	231	0	209	0	309	0
V/C Ratio (X)	0.82	0.00	0.77	0.00	0.41	0.00	0.83	0.00
Avail Cap (c_a), veh/h	357	0	357	0	329	0	357	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	56.8	0.0	57.8	0.0	57.0	0.0	56.4	0.0
Incr Delay (d2), s/veh	9.9	0.0	2.1	0.0	0.5	0.0	12.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	66.7	0.0	59.9	0.0	57.5	0.0	68.6	0.0
1st-Term Q (Q1), veh/ln	3.7	0.0	2.7	0.0	1.3	0.0	3.9	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.1	0.0	0.0	0.0	0.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.1	0.0	2.8	0.0	1.3	0.0	4.4	0.0
%ile Storage Ratio (RQ%)	0.56	0.00	0.79	0.00	0.13	0.00	0.59	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	692	0	522	0	601	0	442
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	9.6	0.0	18.1	0.0	7.8	0.0	15.3
Cycle Q Clear Time (g_c), s	0.0	9.6	0.0	18.1	0.0	7.8	0.0	15.3
Lane Grp Cap (c), veh/h	0	2629	0	595	0	2751	0	515
V/C Ratio (X)	0.00	0.26	0.00	0.88	0.00	0.22	0.00	0.86
Avail Cap (c_a), veh/h	0	2629	0	1044	0	2751	0	1128
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.2	0.0	51.2	0.0	15.2	0.0	52.6
Incr Delay (d2), s/veh	0.0	0.2	0.0	1.7	0.0	0.2	0.0	1.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.4	0.0	52.9	0.0	15.4	0.0	54.3
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	7.8	0.0	2.9	0.0	6.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
 32: Monterey Ave & SR-111

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.6	0.0	8.0	0.0	2.9	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.17	0.00	0.03	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	43	0	16	0	106	0	28
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.7	0.0	1.1	0.0	4.2	0.0	1.9
Cycle Q Clear Time (g_c), s	0.0	1.7	0.0	1.1	0.0	4.2	0.0	1.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	816	0	265	0	854	0	230
V/C Ratio (X)	0.00	0.05	0.00	0.06	0.00	0.12	0.00	0.12
Avail Cap (c_a), veh/h	0	816	0	465	0	854	0	503
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.2	0.0	44.1	0.0	14.4	0.0	46.9
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.4	0.0	44.1	0.0	14.7	0.0	47.0
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	0.4	0.0	1.4	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	0.4	0.0	1.5	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.01	0.00	0.59	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

33: Gerald Ford Dr & Oasis Way






















07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	555	24	23	600	56	78	0	66	27	0	36
Future Volume (veh/h)	26	555	24	23	600	56	78	0	66	27	0	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	624	27	26	674	21	88	0	74	30	0	40
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	388	1222	53	402	1251	558	464	0	262	66	0	556
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.17	0.00	0.17	0.04	0.00	0.35
Sat Flow, veh/h	750	3470	150	781	3554	1585	1367	0	1585	1781	0	1585
Grp Volume(v), veh/h	29	319	332	26	674	21	88	0	74	30	0	40
Grp Sat Flow(s),veh/h/ln	750	1777	1843	781	1777	1585	1367	0	1585	1781	0	1585
Q Serve(g_s), s	1.0	4.3	4.3	0.8	4.6	0.3	1.7	0.0	1.2	0.5	0.0	0.5
Cycle Q Clear(g_c), s	5.6	4.3	4.3	5.1	4.6	0.3	1.7	0.0	1.2	0.5	0.0	0.5
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	388	626	649	402	1251	558	464	0	262	66	0	556
V/C Ratio(X)	0.07	0.51	0.51	0.06	0.54	0.04	0.19	0.00	0.28	0.46	0.00	0.07
Avail Cap(c_a), veh/h	570	1057	1096	591	2113	942	1073	0	969	294	0	1466
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.1	7.7	7.7	9.8	7.8	6.4	11.3	0.0	11.1	14.3	0.0	6.5
Incr Delay (d2), s/veh	0.1	0.6	0.6	0.1	0.4	0.0	0.2	0.0	0.6	4.9	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.1	1.2	0.1	0.8	0.0	0.4	0.0	0.4	0.2	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.1	8.4	8.4	9.8	8.2	6.5	11.5	0.0	11.6	19.2	0.0	6.6
LnGrp LOS	B	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h		680			721			162				70
Approach Delay, s/veh		8.5			8.2			11.6				12.0
Approach LOS		A			A			B				B
Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	5.6	9.5		15.2		15.1		15.2				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	5.0	18.5		18.0		28.0		18.0				
Max Q Clear Time (g_c+1), s	12.5	3.7		7.6		2.5		7.1				
Green Ext Time (p_c), s	0.0	0.5		3.1		0.2		3.2				
Intersection Summary												
HCM 6th Ctrl Delay				8.8								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Capacity Analysis
 33: Gerald Ford Dr & Oasis Way

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	555	24	23	600	56	78	0	66	27	0	36
Future Volume (veh/h)	26	555	24	23	600	56	78	0	66	27	0	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	624	27	26	674	21	88	0	74	30	0	40
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	388	1222	53	402	1251	558	464	0	262	66	0	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.17	0.00	0.17	0.04	0.00	0.35
Unsig. Movement Delay												
Ln Grp Delay, s/veh	10.1	8.4	8.4	9.8	8.2	6.5	11.5	0.0	11.6	19.2	0.0	6.6
Ln Grp LOS	B	A	A	A	A	A	B	A	B	B	A	A
Approach Vol, veh/h	680			721			162			70		
Approach Delay, s/veh	8.5			8.2			11.6			12.0		
Approach LOS	A			A			B			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1		2		4		6		8			
Case No	2.0		6.3		6.0		4.0		5.0			
Phs Duration (G+Y+Rc), s	5.6		9.5		15.2		15.1		15.2			
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5		4.5			
Max Green (Gmax), s	5.0		18.5		18.0		28.0		18.0			
Max Allow Headway (MAH), s	3.8		4.6		5.3		5.6		4.8			
Max Q Clear (g_c+I1), s	2.5		3.7		7.6		2.5		7.1			
Green Ext Time (g_e), s	0.0		0.5		3.1		0.2		3.2			
Prob of Phs Call (p_c)	0.22		1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)	1.00		0.00		0.39		0.00		0.26			
Left-Turn Movement Data												
Assigned Mvmt	1		5		7		3					
Mvmt Sat Flow, veh/h	1781		1367		750		781					
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	0		3470		0		3554					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	1585		150		1585		1585					
Left Lane Group Data												
Assigned Mvmt	1		5		0		7		0		3	
Lane Assignment	L (Prot)		L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis
 33: Gerald Ford Dr & Oasis Way

07/11/2019

Lanes in Grp	1	1	0	1	0	0	0	1
Grp Vol (v), veh/h	30	88	0	29	0	0	0	26
Grp Sat Flow (s), veh/h/ln	1781	1367	0	750	0	0	0	781
Q Serve Time (g_s), s	0.5	1.7	0.0	1.0	0.0	0.0	0.0	0.8
Cycle Q Clear Time (g_c), s	0.5	1.7	0.0	5.6	0.0	0.0	0.0	5.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1367	0	750	0	0	0	781
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	5.0	0.0	10.7	0.0	0.0	0.0	10.7
Perm LT Serve Time (g_u), s	0.0	5.0	0.0	6.1	0.0	0.0	0.0	6.4
Perm LT Q Serve Time (g_ps), s	0.0	1.7	0.0	1.0	0.0	0.0	0.0	0.8
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	66	464	0	388	0	0	0	402
V/C Ratio (X)	0.46	0.19	0.00	0.07	0.00	0.00	0.00	0.06
Avail Cap (c_a), veh/h	294	1073	0	570	0	0	0	591
Upstream Filter (I)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	14.3	11.3	0.0	10.1	0.0	0.0	0.0	9.8
Incr Delay (d2), s/veh	4.9	0.2	0.0	0.1	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	19.2	11.5	0.0	10.1	0.0	0.0	0.0	9.8
1st-Term Q (Q1), veh/ln	0.2	0.4	0.0	0.1	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.2	0.4	0.0	0.1	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.01	0.21	0.00	0.02	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	319	0	0	0	674
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	4.3	0.0	0.0	0.0	4.6
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.3	0.0	0.0	0.0	4.6
Lane Grp Cap (c), veh/h	0	0	0	626	0	0	0	1251
V/C Ratio (X)	0.00	0.00	0.00	0.51	0.00	0.00	0.00	0.54
Avail Cap (c_a), veh/h	0	0	0	1057	0	0	0	2113
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	7.7	0.0	0.0	0.0	7.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	8.4	0.0	0.0	0.0	8.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	74	0	332	0	40	0	21
Grp Sat Flow (s), veh/h/ln	0	1585	0	1843	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.2	0.0	4.3	0.0	0.5	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	1.2	0.0	4.3	0.0	0.5	0.0	0.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.08	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	262	0	649	0	556	0	558
V/C Ratio (X)	0.00	0.28	0.00	0.51	0.00	0.07	0.00	0.04
Avail Cap (c_a), veh/h	0	969	0	1096	0	1466	0	942
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.1	0.0	7.7	0.0	6.5	0.0	6.4
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.6	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.6	0.0	8.4	0.0	6.6	0.0	6.5
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	1.0	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	1.2	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
 34: Monterey Ave & Shadow Ridge Rd

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↘		↖ ↗	↘		↖ ↗ ↘ ↙	↖ ↗ ↘ ↙	↘	↖ ↗ ↘ ↙	↘	↖ ↗ ↘ ↙
Traffic Volume (veh/h)	150	0	45	50	0	72	68	748	38	27	1393	125
Future Volume (veh/h)	150	0	45	50	0	72	68	748	38	27	1393	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	176	0	53	59	0	85	80	880	26	32	1639	147
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	241	0	162	77	0	113	102	3347	1039	58	3011	270
Arrive On Green	0.07	0.00	0.10	0.04	0.00	0.07	0.06	0.66	0.66	0.03	0.63	0.63
Sat Flow, veh/h	3456	0	1585	1781	0	1585	1781	5106	1585	1781	4770	427
Grp Volume(v), veh/h	176	0	53	59	0	85	80	880	26	32	1169	617
Grp Sat Flow(s),veh/h/ln	1728	0	1585	1781	0	1585	1781	1702	1585	1781	1702	1793
Q Serve(g_s), s	6.0	0.0	3.7	3.9	0.0	6.3	5.3	8.6	0.7	2.1	23.1	23.2
Cycle Q Clear(g_c), s	6.0	0.0	3.7	3.9	0.0	6.3	5.3	8.6	0.7	2.1	23.1	23.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	241	0	162	77	0	113	102	3347	1039	58	2148	1132
V/C Ratio(X)	0.73	0.00	0.33	0.77	0.00	0.75	0.79	0.26	0.03	0.55	0.54	0.55
Avail Cap(c_a), veh/h	562	0	391	134	0	239	162	3347	1039	96	2148	1132
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.68	0.68	0.68
Uniform Delay (d), s/veh	54.7	0.0	50.0	56.8	0.0	54.7	55.9	8.6	7.2	57.2	12.4	12.4
Incr Delay (d2), s/veh	4.2	0.0	0.4	6.0	0.0	9.7	12.5	0.2	0.0	2.0	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	1.5	1.9	0.0	2.8	2.7	2.7	0.2	1.0	7.6	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.9	0.0	50.5	62.8	0.0	64.4	68.3	8.8	7.3	59.2	13.1	13.7
LnGrp LOS	E	A	D	E	A	E	E	A	A	E	B	B
Approach Vol, veh/h		229			144			986			1818	
Approach Delay, s/veh		57.0			63.7			13.6			14.1	
Approach LOS		E			E			B			B	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.4	82.7	9.2	16.8	8.4	85.6	12.9	13.0				
Change Period (Y+Rc), s	4.5	7.0	4.0	* 4.5	4.5	7.0	4.5	4.5				
Max Green Setting (Gmax), s	10.0	51.0	9.0	* 30	6.5	55.4	19.5	18.1				
Max Q Clear Time (g_c+1), s	17.3	25.2	5.9	5.7	4.1	10.6	8.0	8.3				
Green Ext Time (p_c), s	0.0	3.8	0.0	0.1	0.0	1.9	0.4	0.2				

Intersection Summary
































HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	  	
Traffic Volume (veh/h)	150	0	45	50	0	72	68	748	38	27	1393	125
Future Volume (veh/h)	150	0	45	50	0	72	68	748	38	27	1393	125
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	176	0	53	59	0	85	80	880	26	32	1639	147
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	241	0	162	77	0	113	102	3347	1039	58	3011	270
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.00	0.10	0.04	0.00	0.07	0.06	0.66	0.66	0.03	0.63	0.63
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.9	0.0	50.5	62.8	0.0	64.4	68.3	8.8	7.3	59.2	13.1	13.7
Ln Grp LOS	E	A	D	E	A	E	E	A	A	E	B	B
Approach Vol, veh/h		229			144			986			1818	
Approach Delay, s/veh		57.0			63.7			13.6			14.1	
Approach LOS		E			E			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	4.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		11.4	82.7	9.2	16.8	8.4	85.6	12.9	13.0			
Change Period (Y+Rc), s		4.5	7.0	4.0	* 4.5	4.5	7.0	4.5	4.5			
Max Green (Gmax), s		10.9	51.0	9.0	* 30	6.5	55.4	19.5	18.1			
Max Allow Headway (MAH), s		3.6	2.8	1.8	3.6	1.6	2.7	3.8	5.6			
Max Q Clear (g_c+I1), s		7.3	25.2	5.9	5.7	4.1	10.6	8.0	8.3			
Green Ext Time (g_e), s		0.0	3.8	0.0	0.1	0.0	1.9	0.4	0.2			
Prob of Phs Call (p_c)		0.93	1.00	0.86	0.83	0.66	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.04	0.00	0.10	0.00	0.00	0.05			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			4770		0		5106		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			427		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

07/11/2019

Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	80	0	59	0	32	0	176	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	5.3	0.0	3.9	0.0	2.1	0.0	6.0	0.0
Cycle Q Clear Time (g_c), s	5.3	0.0	3.9	0.0	2.1	0.0	6.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	102	0	77	0	58	0	241	0
V/C Ratio (X)	0.79	0.00	0.77	0.00	0.55	0.00	0.73	0.00
Avail Cap (c_a), veh/h	162	0	134	0	96	0	562	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.68	0.00	1.00	0.00
Uniform Delay (d1), s/veh	55.9	0.0	56.8	0.0	57.2	0.0	54.7	0.0
Incr Delay (d2), s/veh	12.5	0.0	6.0	0.0	2.0	0.0	4.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	68.3	0.0	62.8	0.0	59.2	0.0	58.9	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	1.8	0.0	0.9	0.0	2.6	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.7	0.0	1.9	0.0	1.0	0.0	2.7	0.0
%ile Storage Ratio (RQ%)	0.45	0.00	0.05	0.00	0.16	0.00	0.47	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	3	0	0
Grp Vol (v), veh/h	0	1169	0	0	0	880	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	23.1	0.0	0.0	0.0	8.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	23.1	0.0	0.0	0.0	8.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	2148	0	0	0	3347	0	0
V/C Ratio (X)	0.00	0.54	0.00	0.00	0.00	0.26	0.00	0.00
Avail Cap (c_a), veh/h	0	2148	0	0	0	3347	0	0
Upstream Filter (I)	0.00	0.68	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.4	0.0	0.0	0.0	8.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.1	0.0	0.0	0.0	8.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.4	0.0	0.0	0.0	2.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.6	0.0	0.0	0.0	2.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.00	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	617	0	53	0	26	0	85
Grp Sat Flow (s), veh/h/ln	0	1793	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	23.2	0.0	3.7	0.0	0.7	0.0	6.3
Cycle Q Clear Time (g_c), s	0.0	23.2	0.0	3.7	0.0	0.7	0.0	6.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.24	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1132	0	162	0	1039	0	113
V/C Ratio (X)	0.00	0.55	0.00	0.33	0.00	0.03	0.00	0.75
Avail Cap (c_a), veh/h	0	1132	0	391	0	1039	0	239
Upstream Filter (I)	0.00	0.68	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.4	0.0	50.0	0.0	7.2	0.0	54.7
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.4	0.0	0.0	0.0	9.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.7	0.0	50.5	0.0	7.3	0.0	64.4
1st-Term Q (Q1), veh/ln	0.0	7.8	0.0	1.5	0.0	0.2	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.2	0.0	1.5	0.0	0.2	0.0	2.8
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.04	0.00	0.03	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 35: Bob Hope Dr & Sunny Lands Center





















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↙	↘		↙	↕		↙	↘	
Traffic Volume (veh/h)	0	0	8	28	0	84	7	503	10	29	942	7
Future Volume (veh/h)	0	0	8	28	0	84	7	503	10	29	942	7
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	9	31	0	94	8	565	11	33	1058	8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	0	194	462	0	194	457	1806	35	643	1831	14
Arrive On Green	0.00	0.00	0.12	0.12	0.00	0.12	0.51	0.51	0.51	0.51	0.51	0.51
Sat Flow, veh/h	0	0	1585	1406	0	1585	529	3565	69	837	3615	27
Grp Volume(v), veh/h	0	0	9	31	0	94	8	281	295	33	520	546
Grp Sat Flow(s),veh/h/ln	0	0	1585	1406	0	1585	529	1777	1858	837	1777	1865
Q Serve(g_s), s	0.0	0.0	0.1	0.5	0.0	1.3	0.3	2.3	2.3	0.6	5.0	5.0
Cycle Q Clear(g_c), s	0.0	0.0	0.1	0.6	0.0	1.3	5.2	2.3	2.3	2.8	5.0	5.0
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.04	1.00		0.01
Lane Grp Cap(c), veh/h	0	0	194	462	0	194	457	900	941	643	900	945
V/C Ratio(X)	0.00	0.00	0.05	0.07	0.00	0.48	0.02	0.31	0.31	0.05	0.58	0.58
Avail Cap(c_a), veh/h	0	0	1176	1333	0	1176	581	1318	1379	840	1318	1384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	9.4	9.7	0.0	9.9	6.0	3.5	3.5	4.3	4.2	4.2
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.1	0.0	1.9	0.0	0.2	0.2	0.0	0.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.0	0.5	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	9.5	9.7	0.0	11.8	6.0	3.7	3.7	4.4	4.8	4.7
LnGrp LOS	A	A	A	A	A	B	A	A	A	A	A	A
Approach Vol, veh/h		9			125			584			1099	
Approach Delay, s/veh		9.5			11.3			3.7			4.7	
Approach LOS		A			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.8		7.5		16.8		7.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		7.2		2.1		7.0		3.3				
Green Ext Time (p_c), s		2.2		0.0		5.3		0.5				
Intersection Summary												
HCM 6th Ctrl Delay				4.9								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	8	28	0	84	7	503	10	29	942	7
Future Volume (veh/h)	0	0	8	28	0	84	7	503	10	29	942	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	9	31	0	94	8	565	11	33	1058	8
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	0	0	194	462	0	194	457	1806	35	643	1831	14
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.00	0.12	0.12	0.00	0.12	0.51	0.51	0.51	0.51	0.51	0.51
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	0.0	9.5	9.7	0.0	11.8	6.0	3.7	3.7	4.4	4.8	4.7
Ln Grp LOS	A	A	A	A	A	B	A	A	A	A	A	A
Approach Vol, veh/h		9			125			584			1099	
Approach Delay, s/veh		9.5			11.3			3.7			4.7	
Approach LOS		A			B			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		8.0		6.0		6.0		6.0	
Phs Duration (G+Y+Rc), s			16.8		7.5		16.8		7.5		7.5	
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5		4.5	
Max Green (Gmax), s			18.0		18.0		18.0		18.0		18.0	
Max Allow Headway (MAH), s			4.8		5.6		5.3		5.1		5.1	
Max Q Clear (g_c+I1), s			7.2		2.1		7.0		3.3		3.3	
Green Ext Time (g_e), s			2.2		0.0		5.3		0.5		0.5	
Prob of Phs Call (p_c)			1.00		0.59		1.00		0.59		0.59	
Prob of Max Out (p_x)			0.21		0.00		0.58		0.00		0.00	
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			529		0		837		1406			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3565		0		3615		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			69		1585		27		1585			
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment		L				L		L				

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Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	8	0	0	0	33	0	31
Grp Sat Flow (s), veh/h/ln	0	529	0	0	0	837	0	1406
Q Serve Time (g_s), s	0.0	0.3	0.0	0.0	0.0	0.6	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	0.0	0.0	2.8	0.0	0.6
Perm LT Sat Flow (s_l), veh/h/ln	0	529	0	0	0	837	0	1406
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	12.3	0.0	0.0	0.0	12.3	0.0	3.0
Perm LT Serve Time (g_u), s	0.0	7.3	0.0	0.0	0.0	10.0	0.0	2.9
Perm LT Q Serve Time (g_ps), s	0.0	0.3	0.0	0.0	0.0	0.6	0.0	0.5
Time to First Blk (g_f), s	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	457	0	0	0	643	0	462
V/C Ratio (X)	0.00	0.02	0.00	0.00	0.00	0.05	0.00	0.07
Avail Cap (c_a), veh/h	0	581	0	0	0	840	0	1333
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	6.0	0.0	0.0	0.0	4.3	0.0	9.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.0	0.0	0.0	0.0	4.4	0.0	9.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	281	0	0	0	520	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	2.3	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.3	0.0	0.0	0.0	5.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	900	0	0	0	900	0	0
V/C Ratio (X)	0.00	0.31	0.00	0.00	0.00	0.58	0.00	0.00
Avail Cap (c_a), veh/h	0	1318	0	0	0	1318	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.5	0.0	0.0	0.0	4.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.7	0.0	0.0	0.0	4.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	295	0	9	0	546	0	94
Grp Sat Flow (s), veh/h/ln	0	1858	0	1585	0	1865	0	1585
Q Serve Time (g_s), s	0.0	2.3	0.0	0.1	0.0	5.0	0.0	1.3
Cycle Q Clear Time (g_c), s	0.0	2.3	0.0	0.1	0.0	5.0	0.0	1.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.04	0.00	1.00	0.00	0.01	0.00	1.00
Lane Grp Cap (c), veh/h	0	941	0	194	0	945	0	194
V/C Ratio (X)	0.00	0.31	0.00	0.05	0.00	0.58	0.00	0.48
Avail Cap (c_a), veh/h	0	1379	0	1176	0	1384	0	1176
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	3.5	0.0	9.4	0.0	4.2	0.0	9.9
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	0.0	0.6	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.7	0.0	9.5	0.0	4.7	0.0	11.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	4.9
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
 36: Monterey Ave & Project Access Intersection South

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	51	43	17	104	171	18
Future Volume (veh/h)	51	43	17	104	171	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	19	18	113	186	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	713	634	600	2042	1878	197
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1781	1585	1176	5274	4862	492
Grp Volume(v), veh/h	55	19	18	113	134	72
Grp Sat Flow(s),veh/h/ln	1781	1585	1176	1702	1702	1782
Q Serve(g_s), s	0.9	0.3	0.4	0.6	1.1	1.1
Cycle Q Clear(g_c), s	0.9	0.3	1.6	0.6	1.1	1.1
Prop In Lane	1.00	1.00	1.00			0.28
Lane Grp Cap(c), veh/h	713	634	600	2042	1362	713
V/C Ratio(X)	0.08	0.03	0.03	0.06	0.10	0.10
Avail Cap(c_a), veh/h	713	634	600	2042	1362	713
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.4	8.2	8.9	8.3	8.4	8.4
Incr Delay (d2), s/veh	0.2	0.1	0.1	0.1	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.1	0.1	0.1	0.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.6	8.3	9.0	8.3	8.6	8.7
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	74			131	206	
Approach Delay, s/veh	8.5			8.4	8.6	
Approach LOS	A			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		22.5		22.5		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		3.6		2.9		3.1
Green Ext Time (p_c), s		0.5		0.1		0.8
Intersection Summary						
HCM 6th Ctrl Delay			8.5			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Capacity Analysis
 36: Monterey Ave & Project Access Intersection South

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Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	↶	↷	↶	↑↑↑	↓↓↓	↷			
Traffic Volume (veh/h)	51	43	17	104	171	18			
Future Volume (veh/h)	51	43	17	104	171	18			
Number	7	14	5	2	6	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00	1.00			1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	55	19	18	113	186	20			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes		Yes						
Cap, veh/h	713	634	600	2042	1878	197			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	8.6	8.3	9.0	8.3	8.6	8.7			
Ln Grp LOS	A	A	A	A	A	A			
Approach Vol, veh/h	74			131	206				
Approach Delay, s/veh	8.5			8.4	8.6				
Approach LOS	A			A	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		8.0		
Phs Duration (G+Y+Rc), s			22.5		22.5		22.5		
Change Period (Y+Rc), s			4.5		4.5		4.5		
Max Green (Gmax), s			18.0		18.0		18.0		
Max Allow Headway (MAH), s			4.6		3.9		4.8		
Max Q Clear (g_c+I1), s			3.6		2.9		3.1		
Green Ext Time (g_e), s			0.5		0.1		0.8		
Prob of Phs Call (p_c)			1.00		1.00		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			1176		1781		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			5274		0		4862		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		492		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

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Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	18	0	55	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1176	0	1781	0	0	0	0
Q Serve Time (g_s), s	0.0	0.4	0.0	0.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	0.9	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1176	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	16.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	18.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	600	0	713	0	0	0	0
V/C Ratio (X)	0.00	0.03	0.00	0.08	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	600	0	713	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	8.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.0	0.0	8.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.15	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	113	0	0	0	134	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	0.6	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.6	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	2042	0	0	0	1362	0	0
V/C Ratio (X)	0.00	0.06	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	2042	0	0	0	1362	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.3	0.0	0.0	0.0	8.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.3	0.0	0.0	0.0	8.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		T+R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	19	0	72	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1782	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.3	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.3	0.0	1.1	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	0.28	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	634	0	713	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	634	0	713	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	8.2	0.0	8.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	8.3	0.0	8.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.5
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
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

















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	424	1	0	752	17	5	0	5	49	0	43
Future Volume (veh/h)	15	424	1	0	752	17	5	0	5	49	0	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	499	1	0	885	20	6	0	6	58	0	51
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	441	1560	3	294	1523	34	320	58	158	584	0	323
Arrive On Green	0.43	0.43	0.43	0.00	0.43	0.43	0.20	0.00	0.20	0.20	0.00	0.20
Sat Flow, veh/h	616	3639	7	898	3552	80	490	283	772	1410	0	1585
Grp Volume(v), veh/h	18	244	256	0	443	462	12	0	0	58	0	51
Grp Sat Flow(s),veh/h/ln	616	1777	1869	898	1777	1856	1544	0	0	1410	0	1585
Q Serve(g_s), s	0.6	2.2	2.2	0.0	4.6	4.6	0.0	0.0	0.0	0.7	0.0	0.6
Cycle Q Clear(g_c), s	5.2	2.2	2.2	0.0	4.6	4.6	0.1	0.0	0.0	0.8	0.0	0.6
Prop In Lane	1.00		0.00	1.00		0.04	0.50		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	441	762	801	294	762	796	535	0	0	584	0	323
V/C Ratio(X)	0.04	0.32	0.32	0.00	0.58	0.58	0.02	0.00	0.00	0.10	0.00	0.16
Avail Cap(c_a), veh/h	630	1305	1373	568	1305	1363	1310	0	0	1331	0	1164
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.3	4.6	4.6	0.0	5.3	5.3	7.8	0.0	0.0	8.1	0.0	8.0
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	0.7	0.7	0.0	0.0	0.0	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.3	0.3	0.0	0.2	0.2	0.0	0.0	0.0	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.3	4.9	4.9	0.0	6.0	6.0	7.8	0.0	0.0	8.1	0.0	8.2
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h	518			905			12			109		
Approach Delay, s/veh	5.0			6.0			7.8			8.2		
Approach LOS	A			A			A			A		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	9.5		15.0		9.5		15.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.0		18.0		18.0		18.0					
Max Q Clear Time (g_c+I1), s	2.1		7.2		2.8		6.6					
Green Ext Time (p_c), s	0.0		2.3		0.3		3.9					
Intersection Summary												
HCM 6th Ctrl Delay			5.8									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	424	1	0	752	17	5	0	5	49	0	43
Future Volume (veh/h)	15	424	1	0	752	17	5	0	5	49	0	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	499	1	0	885	20	6	0	6	58	0	51
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	441	1560	3	294	1523	34	320	58	158	584	0	323
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.43	0.43	0.43	0.00	0.43	0.43	0.20	0.00	0.20	0.20	0.00	0.20
Unsig. Movement Delay												
Ln Grp Delay, s/veh	7.3	4.9	4.9	0.0	6.0	6.0	7.8	0.0	0.0	8.1	0.0	8.2
Ln Grp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		518			905			12			109	
Approach Delay, s/veh		5.0			6.0			7.8			8.2	
Approach LOS		A			A			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			8.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			9.5		15.0		9.5		15.0			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			18.0		18.0		18.0		18.0			
Max Allow Headway (MAH), s			5.5		5.3		4.6		4.8			
Max Q Clear (g_c+I1), s			2.1		7.2		2.8		6.6			
Green Ext Time (g_e), s			0.0		2.3		0.3		3.9			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.26		0.00		0.37			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			490		616		1410		898			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			283		3639		0		3552			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			772		7		1585		80			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L+T+R		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	12	0	18	0	58	0	0
Grp Sat Flow (s), veh/h/ln	0	1544	0	616	0	1410	0	898
Q Serve Time (g_s), s	0.0	0.0	0.0	0.6	0.0	0.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	5.2	0.0	0.8	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1375	0	616	0	1410	0	898
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	1781	0	0
Perm LT Eff Green (g_p), s	0.0	5.0	0.0	10.5	0.0	5.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	4.4	0.0	5.9	0.0	4.9	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.6	0.0	0.7	0.0	0.0
Time to First Blk (g_f), s	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.50	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	535	0	441	0	584	0	294
V/C Ratio (X)	0.00	0.02	0.00	0.04	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	1310	0	630	0	1331	0	568
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.8	0.0	7.3	0.0	8.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.8	0.0	7.3	0.0	8.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	244	0	0	0	443
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	2.2	0.0	0.0	0.0	4.6
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.2	0.0	0.0	0.0	4.6
Lane Grp Cap (c), veh/h	0	0	0	762	0	0	0	762
V/C Ratio (X)	0.00	0.00	0.00	0.32	0.00	0.00	0.00	0.58
Avail Cap (c_a), veh/h	0	0	0	1305	0	0	0	1305
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	4.6	0.0	0.0	0.0	5.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	4.9	0.0	0.0	0.0	6.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
 37: Kavendish Way & Frank Sinatra Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				T+R		T+R		T+R
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	256	0	51	0	462
Grp Sat Flow (s), veh/h/ln	0	0	0	1869	0	1585	0	1856
Q Serve Time (g_s), s	0.0	0.0	0.0	2.2	0.0	0.6	0.0	4.6
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.2	0.0	0.6	0.0	4.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.50	0.00	0.00	0.00	1.00	0.00	0.04
Lane Grp Cap (c), veh/h	0	0	0	801	0	323	0	796
V/C Ratio (X)	0.00	0.00	0.00	0.32	0.00	0.16	0.00	0.58
Avail Cap (c_a), veh/h	0	0	0	1373	0	1164	0	1363
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	4.6	0.0	8.0	0.0	5.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	4.9	0.0	8.2	0.0	6.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.8
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↖	↗	↘↙	↘↖↗			↗↘↙	↗
Traffic Volume (veh/h)	0	0	0	523	2	115	602	277	0	2	279	266
Future Volume (veh/h)	0	0	0	523	2	115	602	277	0	2	279	266
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h				602	0	0	692	318	0	2	321	62
Peak Hour Factor				0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %				2	2	2	2	2	0	2	2	2
Cap, veh/h				880	0		913	2608	0	94	721	231
Arrive On Green				0.25	0.00	0.00	0.26	0.51	0.00	0.15	0.15	0.15
Sat Flow, veh/h				3563	0	1585	3456	5274	0	12	4947	1585
Grp Volume(v), veh/h				602	0	0	692	318	0	122	201	62
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	1861	1549	1585
Q Serve(g_s), s				6.1	0.0	0.0	7.3	1.3	0.0	0.0	2.4	1.4
Cycle Q Clear(g_c), s				6.1	0.0	0.0	7.3	1.3	0.0	2.4	2.4	1.4
Prop In Lane				1.00		1.00	1.00		0.00	0.02		1.00
Lane Grp Cap(c), veh/h				880	0		913	2608	0	363	451	231
V/C Ratio(X)				0.68	0.00		0.76	0.12	0.00	0.34	0.45	0.27
Avail Cap(c_a), veh/h				3597	0		2181	5801	0	2193	3519	1801
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh				13.5	0.0	0.0	13.4	5.1	0.0	15.5	15.5	15.0
Incr Delay (d2), s/veh				0.7	0.0	0.0	0.5	0.0	0.0	0.4	0.5	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.0	0.0	0.0	1.8	0.2	0.0	0.7	0.6	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				14.2	0.0	0.0	13.9	5.1	0.0	15.9	16.0	15.5
LnGrp LOS				B	A		B	A	A	B	B	B
Approach Vol, veh/h					602	A		1010			385	
Approach Delay, s/veh					14.2			11.1			15.9	
Approach LOS					B			B			B	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		25.0			14.5	10.6		14.6				
Change Period (Y+Rc), s		4.8			4.0	4.8		4.8				
Max Green Setting (Gmax), s		45.0			25.0	45.0		40.0				
Max Q Clear Time (g_c+I1), s		3.3			9.3	4.4		8.1				
Green Ext Time (p_c), s		1.5			1.2	1.5		1.7				

Intersection Summary





















HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	523	2	115	602	277	0	2	279	266
Future Volume (veh/h)	0	0	0	523	2	115	602	277	0	2	279	266
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	1870	1870	1870
Adj Flow Rate, veh/h				602	0	0	692	318	0	2	321	62
Peak Hour Factor				0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh, %				2	2	2	2	2	0	2	2	2
Opposing Right Turn Influence				Yes			Yes			Yes		
Cap, veh/h				880	0		913	2608	0	94	721	231
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.25	0.00	0.00	0.26	0.51	0.00	0.15	0.15	0.15
Unsig. Movement Delay												
Ln Grp Delay, s/veh				14.2	0.0	0.0	13.9	5.1	0.0	15.9	16.0	15.5
Ln Grp LOS				B	A		B	A	A	B	B	B
Approach Vol, veh/h					602			1010			385	
Approach Delay, s/veh					14.2			11.1			15.9	
Approach LOS					B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8		5	6					
Case No			4.0	9.0		2.0	7.3					
Phs Duration (G+Y+Rc), s			25.0	14.6		14.5	10.6					
Change Period (Y+Rc), s			4.8	4.8		4.0	4.8					
Max Green (Gmax), s			45.0	40.0		25.0	45.0					
Max Allow Headway (MAH), s			4.2	3.3		2.6	4.1					
Max Q Clear (g_c+I1), s			3.3	8.1		9.3	4.4					
Green Ext Time (g_e), s			1.5	1.7		1.2	1.5					
Prob of Phs Call (p_c)			0.97	1.00		1.00	0.99					
Prob of Max Out (p_x)			0.00	0.00		0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt				3		5	1					
Mvmt Sat Flow, veh/h				3563		3456	12					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			5274	0			4947					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			0	1585			1585					
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	0	0				
Lane Assignment			L		L (Prot)	L+T						

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

Lanes in Grp	0	0	2	0	2	1	0	0
Grp Vol (v), veh/h	0	0	602	0	692	122	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1728	1861	0	0
Q Serve Time (g_s), s	0.0	0.0	6.1	0.0	7.3	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	6.1	0.0	7.3	2.4	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	1078	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	5.8	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.02	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	880	0	913	363	0	0
V/C Ratio (X)	0.00	0.00	0.68	0.00	0.76	0.34	0.00	0.00
Avail Cap (c_a), veh/h	0	0	3597	0	2181	2193	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	13.5	0.0	13.4	15.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.0	0.5	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	14.2	0.0	13.9	15.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	2.0	0.0	1.8	0.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	2.0	0.0	1.8	0.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.06	0.00	0.22	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	318	0	0	0	201	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1549	0	0
Q Serve Time (g_s), s	0.0	1.3	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.3	0.0	0.0	0.0	2.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	2608	0	0	0	451	0	0
V/C Ratio (X)	0.00	0.12	0.00	0.00	0.00	0.45	0.00	0.00
Avail Cap (c_a), veh/h	0	5801	0	0	0	3519	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.1	0.0	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.1	0.0	0.0	0.0	16.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.0	0.0	0.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	62	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	391	0	0	231	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.27	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1601	0	0	1801	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	15.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	13.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	1	597	0	0	0	0	720	46	142	660	0
Future Volume (veh/h)	159	1	597	0	0	0	0	720	46	142	660	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No					No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	118	0	565				0	800	19	158	733	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	473	0	841				0	1574	445	363	2494	0
Arrive On Green	0.27	0.00	0.27				0.00	0.28	0.28	0.11	0.49	0.00
Sat Flow, veh/h	1781	0	3170				0	5611	1585	3456	5274	0
Grp Volume(v), veh/h	118	0	565				0	800	19	158	733	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1870	1585	1728	1702	0
Q Serve(g_s), s	2.0	0.0	6.2				0.0	4.7	0.3	1.7	3.3	0.0
Cycle Q Clear(g_c), s	2.0	0.0	6.2				0.0	4.7	0.3	1.7	3.3	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	473	0	841				0	1574	445	363	2494	0
V/C Ratio(X)	0.25	0.00	0.67				0.00	0.51	0.04	0.44	0.29	0.00
Avail Cap(c_a), veh/h	1828	0	3254				0	6479	1830	2217	5896	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.3	0.0	12.8				0.0	11.8	10.2	16.4	6.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.7				0.0	0.2	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	1.8				0.0	1.2	0.1	0.5	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.5	0.0	13.5				0.0	12.0	10.2	16.7	6.0	0.0
LnGrp LOS	B	A	B				A	B	B	B	A	A
Approach Vol, veh/h		683						819			891	
Approach Delay, s/veh		13.1						11.9			7.9	
Approach LOS		B						B			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	8.1	15.7	15.1	23.8								
Change Period (Y+Rc), s	4.0	4.8	4.8	4.8								
Max Green Setting (Gmax), s	25.0	45.0	40.0	45.0								
Max Q Clear Time (g_c+1), s	13.7	6.7	8.2	5.3								
Green Ext Time (p_c), s	0.2	4.3	2.1	3.8								

Intersection Summary

HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Ramp/I-10 EB On Ramp

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	1	597	0	0	0	0	720	46	142	660	0
Future Volume (veh/h)	159	1	597	0	0	0	0	720	46	142	660	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	118	0	565				0	800	19	158	733	0
Peak Hour Factor	0.90	0.90	0.90				0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	473	0	841				0	1574	445	363	2494	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.27	0.00	0.27				0.00	0.28	0.28	0.11	0.49	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	11.5	0.0	13.5				0.0	12.0	10.2	16.7	6.0	0.0
Ln Grp LOS	B	A	B				A	B	B	B	A	A
Approach Vol, veh/h		683						819			891	
Approach Delay, s/veh		13.1						11.9			7.9	
Approach LOS		B						B			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		8.1	15.7		15.1		23.8					
Change Period (Y+Rc), s		4.0	4.8		4.8		4.8					
Max Green (Gmax), s		25.0	45.0		40.0		45.0					
Max Allow Headway (MAH), s		2.6	4.2		3.5		4.2					
Max Q Clear (g_c+I1), s		3.7	6.7		8.2		5.3					
Green Ext Time (g_e), s		0.2	4.3		2.1		3.8					
Prob of Phs Call (p_c)		0.82	1.00		1.00		1.00					
Prob of Max Out (p_x)		0.00	0.00		0.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5611		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	158	0	0	118	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	1.7	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	1.7	0.0	0.0	2.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	10.9	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	363	0	0	473	0	0	0	0
V/C Ratio (X)	0.44	0.00	0.00	0.25	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	2217	0	0	1828	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	16.4	0.0	0.0	11.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	16.7	0.0	0.0	11.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	0.0	0.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.5	0.0	0.0	0.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.05	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	800	0	0	0	733	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	4.7	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.7	0.0	0.0	0.0	3.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	1574	0	0	0	2494	0	0
V/C Ratio (X)	0.00	0.51	0.00	0.00	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	6479	0	0	0	5896	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	0.0	0.0	6.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.0	0.0	0.0	0.0	6.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	0.0	0.0	0.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.2	0.0	0.0	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	19	0	565	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.3	0.0	6.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	6.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	445	0	841	0	0	0	0
V/C Ratio (X)	0.00	0.04	0.00	0.67	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1830	0	3254	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.2	0.0	12.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.2	0.0	13.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	1.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	1.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.36	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

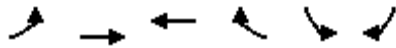
Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: Ramon Rd & Rattler Rd

07/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖↗	↑↑↑	↑↑↑	↖	↖↗	↖	
Traffic Volume (veh/h)	63	994	1125	102	114	53	
Future Volume (veh/h)	63	994	1125	102	114	53	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	68	1069	1210	77	123	12	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	196	3864	3145	1095	267	119	
Arrive On Green	0.06	0.76	0.62	0.62	0.08	0.08	
Sat Flow, veh/h	3456	5274	5274	1585	3563	1585	
Grp Volume(v), veh/h	68	1069	1210	77	123	12	
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1585	1781	1585	
Q Serve(g_s), s	1.1	3.8	7.1	0.9	2.0	0.4	
Cycle Q Clear(g_c), s	1.1	3.8	7.1	0.9	2.0	0.4	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	196	3864	3145	1095	267	119	
V/C Ratio(X)	0.35	0.28	0.38	0.07	0.46	0.10	
Avail Cap(c_a), veh/h	872	3864	3145	1095	2097	933	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	27.0	2.2	5.7	3.0	26.3	25.6	
Incr Delay (d2), s/veh	1.0	0.2	0.4	0.1	1.2	0.4	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.4	0.1	1.3	0.2	0.8	0.4	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	28.0	2.4	6.1	3.1	27.6	26.0	
LnGrp LOS	C	A	A	A	C	C	
Approach Vol, veh/h		1137	1287		135		
Approach Delay, s/veh		3.9	5.9		27.4		
Approach LOS		A	A		C		
Timer - Assigned Phs			4		6	7	8
Phs Duration (G+Y+Rc), s			50.0		9.5	8.4	41.6
Change Period (Y+Rc), s			5.0		5.0	5.0	5.0
Max Green Setting (Gmax), s			45.0		35.0	15.0	29.0
Max Q Clear Time (g_c+I1), s			5.8		4.0	3.1	9.1
Green Ext Time (p_c), s			7.8		0.4	0.1	7.8
Intersection Summary							
HCM 6th Ctrl Delay			6.2				
HCM 6th LOS			A				
Notes							
User approved volume balancing among the lanes for turning movement.							

HCM 6th Signalized Intersection Capacity Analysis
3: Ramon Rd & Rattler Rd

07/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↑↑	↑↑↑	↑↑↑	↗	↙↘	↘			
Traffic Volume (veh/h)	63	994	1125	102	114	53			
Future Volume (veh/h)	63	994	1125	102	114	53			
Number	7	4	8	18	1	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	68	1069	1210	77	123	12			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	196	3864	3145	1095	267	119			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.06	0.76	0.62	0.62	0.08	0.08			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	28.0	2.4	6.1	3.1	27.6	26.0			
Ln Grp LOS	C	A	A	A	C	C			
Approach Vol, veh/h		1137	1287		135				
Approach Delay, s/veh		3.9	5.9		27.4				
Approach LOS		A	A		C				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		6			4			7	8
Case No		9.0			4.0			2.0	7.0
Phs Duration (G+Y+Rc), s		9.5			50.0			8.4	41.6
Change Period (Y+Rc), s		5.0			5.0			5.0	5.0
Max Green (Gmax), s		35.0			45.0			15.0	29.0
Max Allow Headway (MAH), s		3.8			4.7			3.6	4.7
Max Q Clear (g_c+I1), s		4.0			5.8			3.1	9.1
Green Ext Time (g_e), s		0.4			7.8			0.1	7.8
Prob of Phs Call (p_c)		0.89			1.00			0.67	1.00
Prob of Max Out (p_x)		0.00			0.00			0.00	0.00
Left-Turn Movement Data									
Assigned Mvmt		1						7	3
Mvmt Sat Flow, veh/h		3563						3456	0
Through Movement Data									
Assigned Mvmt		6			4				8
Mvmt Sat Flow, veh/h		0			5274				5274
Right-Turn Movement Data									
Assigned Mvmt		16			14				18
Mvmt Sat Flow, veh/h		1585			0				1585
Left Lane Group Data									
Assigned Mvmt		1	0	0	0	0	0	7	3
Lane Assignment		L						L (Prot)	

HCM 6th Signalized Intersection Capacity Analysis
 3: Ramon Rd & Rattler Rd

07/11/2019

Lanes in Grp	2	0	0	0	0	0	2	0
Grp Vol (v), veh/h	123	0	0	0	0	0	68	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	0	0	0	1728	0
Q Serve Time (g_s), s	2.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Cycle Q Clear Time (g_c), s	2.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1781	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	36.6
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	267	0	0	0	0	0	196	0
V/C Ratio (X)	0.46	0.00	0.00	0.00	0.00	0.00	0.35	0.00
Avail Cap (c_a), veh/h	2097	0	0	0	0	0	872	0
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.3	0.0	0.0	0.0	0.0	0.0	27.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.0	0.0	0.0	1.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	27.6	0.0	0.0	0.0	0.0	0.0	28.0	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	0.0	0.0	0.0	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
%ile Back of Q (50%), veh/ln	0.8	0.0	0.0	0.0	0.0	0.0	0.4	0.0
%ile Storage Ratio (RQ%)	0.10	0.00	0.00	0.00	0.00	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	6	0	0	4	0	0	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1069	0	0	0	1210
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	3.8	0.0	0.0	0.0	7.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.8	0.0	0.0	0.0	7.1
Lane Grp Cap (c), veh/h	0	0	0	3864	0	0	0	3145
V/C Ratio (X)	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.38
Avail Cap (c_a), veh/h	0	0	0	3864	0	0	0	3145
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	2.2	0.0	0.0	0.0	5.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	2.4	0.0	0.0	0.0	6.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

3: Ramon Rd & Rattler Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	16	0	0	14	0	0	0	18
Lane Assignment	R							R
Lanes in Grp	1	0	0	0	0	0	0	1
Grp Vol (v), veh/h	12	0	0	0	0	0	0	77
Grp Sat Flow (s), veh/h/ln	1585	0	0	0	0	0	0	1585
Q Serve Time (g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Cycle Q Clear Time (g_c), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	119	0	0	0	0	0	0	1095
V/C Ratio (X)	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Avail Cap (c_a), veh/h	933	0	0	0	0	0	0	1095
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	25.6	0.0	0.0	0.0	0.0	0.0	0.0	3.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1
1st-Term Q (Q1), veh/ln	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.2
%ile Storage Ratio (RQ%)	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Bob Hope Dr & Ramon Rd

























07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	55	738	251	82	338	20	310	691	241	60	612	533
Future Volume (veh/h)	55	738	251	82	338	20	310	691	241	60	612	533
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	769	116	85	352	6	323	720	77	62	638	274
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	312	969	432	359	1017	454	402	1321	410	353	1248	387
Arrive On Green	0.09	0.27	0.27	0.10	0.29	0.29	0.12	0.26	0.26	0.10	0.24	0.24
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	57	769	116	85	352	6	323	720	77	62	638	274
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	1.4	19.0	5.4	2.1	7.4	0.3	8.6	11.5	3.6	1.5	10.2	14.9
Cycle Q Clear(g_c), s	1.4	19.0	5.4	2.1	7.4	0.3	8.6	11.5	3.6	1.5	10.2	14.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	312	969	432	359	1017	454	402	1321	410	353	1248	387
V/C Ratio(X)	0.18	0.79	0.27	0.24	0.35	0.01	0.80	0.54	0.19	0.18	0.51	0.71
Avail Cap(c_a), veh/h	732	1505	671	732	1505	671	549	2433	755	1281	2433	755
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	31.9	27.0	38.9	26.7	24.2	40.7	30.2	27.3	38.8	30.8	32.6
Incr Delay (d2), s/veh	0.1	1.6	0.3	0.1	0.2	0.0	4.2	0.4	0.3	0.1	0.4	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.6	1.9	0.9	2.9	0.1	3.6	4.4	1.3	0.6	3.9	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.8	33.5	27.3	39.0	26.9	24.2	44.9	30.6	27.5	38.8	31.2	35.5
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h		942			443			1120			974	
Approach Delay, s/veh		33.1			29.2			34.5			32.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	31.9	15.2	32.2	16.4	30.6	13.9	33.5				
Change Period (Y+Rc), s	5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5				
Max Green Setting (Gmax), s	35.0	45.0	20.0	40.0	15.0	45.0	20.0	40.0				
Max Q Clear Time (g_c+1), s	13.5	13.5	4.1	21.0	10.6	16.9	3.4	9.4				
Green Ext Time (p_c), s	0.1	6.0	0.1	4.8	0.2	6.2	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay											33.0	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
4: Bob Hope Dr & Ramon Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	738	251	82	338	20	310	691	241	60	612	533
Future Volume (veh/h)	55	738	251	82	338	20	310	691	241	60	612	533
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	769	116	85	352	6	323	720	77	62	638	274
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	312	969	432	359	1017	454	402	1321	410	353	1248	387
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.27	0.27	0.10	0.29	0.29	0.12	0.26	0.26	0.10	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	39.8	33.5	27.3	39.0	26.9	24.2	44.9	30.6	27.5	38.8	31.2	35.5
Ln Grp LOS	D	C	C	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h		942			443			1120			974	
Approach Delay, s/veh		33.1			29.2			34.5			32.9	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.0	31.9	15.2	32.2	16.4	30.6	13.9	33.5			
Change Period (Y+Rc), s		5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5			
Max Green (Gmax), s		35.0	45.0	20.0	40.0	15.0	45.0	20.0	40.0			
Max Allow Headway (MAH), s		2.1	5.1	2.1	4.6	2.1	5.0	2.1	4.7			
Max Q Clear (g_c+I1), s		3.5	13.5	4.1	21.0	10.6	16.9	3.4	9.4			
Green Ext Time (g_e), s		0.1	6.0	0.1	4.8	0.2	6.2	0.0	2.0			
Prob of Phs Call (p_c)		0.80	1.00	0.89	1.00	1.00	1.00	0.78	1.00			
Prob of Max Out (p_x)		0.00	0.01	0.00	0.07	0.03	0.03	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	62	0	85	0	323	0	57	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	1.5	0.0	2.1	0.0	8.6	0.0	1.4	0.0
Cycle Q Clear Time (g_c), s	1.5	0.0	2.1	0.0	8.6	0.0	1.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	353	0	359	0	402	0	312	0
V/C Ratio (X)	0.18	0.00	0.24	0.00	0.80	0.00	0.18	0.00
Avail Cap (c_a), veh/h	1281	0	732	0	549	0	732	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	38.8	0.0	38.9	0.0	40.7	0.0	39.7	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	4.2	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	38.8	0.0	39.0	0.0	44.9	0.0	39.8	0.0
1st-Term Q (Q1), veh/ln	0.6	0.0	0.8	0.0	3.4	0.0	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.6	0.0	0.9	0.0	3.6	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.07	0.00	0.45	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	720	0	769	0	638	0	352
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	11.5	0.0	19.0	0.0	10.2	0.0	7.4
Cycle Q Clear Time (g_c), s	0.0	11.5	0.0	19.0	0.0	10.2	0.0	7.4
Lane Grp Cap (c), veh/h	0	1321	0	969	0	1248	0	1017
V/C Ratio (X)	0.00	0.54	0.00	0.79	0.00	0.51	0.00	0.35
Avail Cap (c_a), veh/h	0	2433	0	1505	0	2433	0	1505
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.2	0.0	31.9	0.0	30.8	0.0	26.7
Incr Delay (d2), s/veh	0.0	0.4	0.0	1.6	0.0	0.4	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.6	0.0	33.5	0.0	31.2	0.0	26.9
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	7.4	0.0	3.8	0.0	2.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.4	0.0	7.6	0.0	3.9	0.0	2.9
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.16	0.00	0.09	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	77	0	116	0	274	0	6
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	3.6	0.0	5.4	0.0	14.9	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	5.4	0.0	14.9	0.0	0.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	410	0	432	0	387	0	454
V/C Ratio (X)	0.00	0.19	0.00	0.27	0.00	0.71	0.00	0.01
Avail Cap (c_a), veh/h	0	755	0	671	0	755	0	671
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.3	0.0	27.0	0.0	32.6	0.0	24.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.3	0.0	2.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.5	0.0	27.3	0.0	35.5	0.0	24.2
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	1.9	0.0	5.2	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	1.9	0.0	5.5	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.04	0.00	0.61	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.0
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

5: Bob Hope Dr & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	560	157	137	614	252	237	794	197	178	673	67
Future Volume (veh/h)	69	560	157	137	614	252	237	794	197	178	673	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	571	79	140	627	80	242	810	0	182	687	68
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	833	371	179	994	443	354	1313		285	1119	110
Arrive On Green	0.06	0.23	0.23	0.10	0.28	0.28	0.10	0.26	0.00	0.08	0.24	0.24
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	5106	1585	3456	4719	463
Grp Volume(v), veh/h	70	571	79	140	627	80	242	810	0	182	494	261
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1585	1728	1702	1778
Q Serve(g_s), s	2.5	9.5	2.6	5.0	10.0	2.5	4.4	9.0	0.0	3.3	8.4	8.5
Cycle Q Clear(g_c), s	2.5	9.5	2.6	5.0	10.0	2.5	4.4	9.0	0.0	3.3	8.4	8.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	99	833	371	179	994	443	354	1313		285	807	422
V/C Ratio(X)	0.71	0.69	0.21	0.78	0.63	0.18	0.68	0.62		0.64	0.61	0.62
Avail Cap(c_a), veh/h	552	1927	860	552	1927	860	1071	3560		1071	2374	1240
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	22.5	19.9	28.3	20.3	17.6	28.0	21.2	0.0	28.7	22.0	22.0
Incr Delay (d2), s/veh	3.5	1.0	0.3	2.8	0.7	0.2	0.9	0.5	0.0	0.9	0.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	3.5	0.9	2.0	3.6	0.8	1.6	3.1	0.0	1.2	2.9	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.5	23.6	20.2	31.1	21.0	17.8	28.8	21.6	0.0	29.6	22.7	23.5
LnGrp LOS	C	C	C	C	C	B	C	C		C	C	C
Approach Vol, veh/h		720			847			1052	A		937	
Approach Delay, s/veh		24.1			22.4			23.3			24.3	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	23.1	10.5	21.6	10.6	21.8	7.6	24.5				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0				
Max Q Clear Time (g_c+1/3), s	11.3	11.0	7.0	11.5	6.4	10.5	4.5	12.0				
Green Ext Time (p_c), s	0.2	5.6	0.1	3.7	0.3	4.6	0.1	4.0				

Intersection Summary

























HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
5: Bob Hope Dr & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	560	157	137	614	252	237	794	197	178	673	67
Future Volume (veh/h)	69	560	157	137	614	252	237	794	197	178	673	67
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	70	571	79	140	627	80	242	810	0	182	687	68
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	99	833	371	179	994	443	354	1313		285	1119	110
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.23	0.23	0.10	0.28	0.28	0.10	0.26	0.00	0.08	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	33.5	23.6	20.2	31.1	21.0	17.8	28.8	21.6	0.0	29.6	22.7	23.5
Ln Grp LOS	C	C	C	C	C	B	C	C		C	C	C
Approach Vol, veh/h		720			847			1052			937	
Approach Delay, s/veh		24.1			22.4			23.3			24.3	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.3	23.1	10.5	21.6	10.6	21.8	7.6	24.5			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.8	2.7	4.7			
Max Q Clear (g_c+I1), s		5.3	11.0	7.0	11.5	6.4	10.5	4.5	12.0			
Green Ext Time (g_e), s		0.2	5.6	0.1	3.7	0.3	4.6	0.1	4.0			
Prob of Phs Call (p_c)		0.96	1.00	0.92	1.00	0.99	1.00	0.71	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4719		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		463		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 5: Bob Hope Dr & Dinah Shore Dr

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Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	182	0	140	0	242	0	70	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	3.3	0.0	5.0	0.0	4.4	0.0	2.5	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	5.0	0.0	4.4	0.0	2.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	285	0	179	0	354	0	99	0
V/C Ratio (X)	0.64	0.00	0.78	0.00	0.68	0.00	0.71	0.00
Avail Cap (c_a), veh/h	1071	0	552	0	1071	0	552	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	28.7	0.0	28.3	0.0	28.0	0.0	30.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	2.8	0.0	0.9	0.0	3.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	29.6	0.0	31.1	0.0	28.8	0.0	33.5	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	1.9	0.0	1.6	0.0	1.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	2.0	0.0	1.6	0.0	1.1	0.0
%ile Storage Ratio (RQ%)	0.13	0.00	0.22	0.00	0.17	0.00	0.13	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	810	0	571	0	494	0	627
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	9.0	0.0	9.5	0.0	8.4	0.0	10.0
Cycle Q Clear Time (g_c), s	0.0	9.0	0.0	9.5	0.0	8.4	0.0	10.0
Lane Grp Cap (c), veh/h	0	1313	0	833	0	807	0	994
V/C Ratio (X)	0.00	0.62	0.00	0.69	0.00	0.61	0.00	0.63
Avail Cap (c_a), veh/h	0	3560	0	1927	0	2374	0	1927
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.2	0.0	22.5	0.0	22.0	0.0	20.3
Incr Delay (d2), s/veh	0.0	0.5	0.0	1.0	0.0	0.8	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.6	0.0	23.6	0.0	22.7	0.0	21.0
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	3.4	0.0	2.8	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

5: Bob Hope Dr & Dinah Shore Dr

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	3.5	0.0	2.9	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.02	0.00	0.03	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	79	0	261	0	80
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1778	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	2.6	0.0	8.5	0.0	2.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.6	0.0	8.5	0.0	2.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.26	0.00	1.00
Lane Grp Cap (c), veh/h	0	408	0	371	0	422	0	443
V/C Ratio (X)	0.00	0.00	0.00	0.21	0.00	0.62	0.00	0.18
Avail Cap (c_a), veh/h	0	1105	0	860	0	1240	0	860
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	19.9	0.0	22.0	0.0	17.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	1.5	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	20.2	0.0	23.5	0.0	17.8
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.8	0.0	3.0	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.9	0.0	3.1	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.17	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	23.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

6: Monterey Ave & Varner Rd

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	78	213	566	192	172	238	440	250	34	451	13
Future Volume (veh/h)	33	78	213	566	192	172	238	440	250	34	451	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	80	119	584	198	26	245	454	0	35	465	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	156	264	346	463	206	1089	1970		112	1042	
Arrive On Green	0.06	0.08	0.08	0.10	0.13	0.13	0.32	0.55	0.00	0.06	0.29	0.00
Sat Flow, veh/h	1781	1870	3170	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	34	80	119	584	198	26	245	454	0	35	465	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.2	4.9	4.3	12.0	6.2	1.7	6.3	7.8	0.0	2.3	12.8	0.0
Cycle Q Clear(g_c), s	2.2	4.9	4.3	12.0	6.2	1.7	6.3	7.8	0.0	2.3	12.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	156	264	346	463	206	1089	1970		112	1042	
V/C Ratio(X)	0.31	0.51	0.45	1.69	0.43	0.13	0.22	0.23		0.31	0.45	
Avail Cap(c_a), veh/h	193	577	977	346	1066	476	1089	1970		193	1042	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.8	52.7	52.4	54.0	48.1	46.1	30.3	13.7	0.0	53.7	34.5	0.0
Incr Delay (d2), s/veh	0.6	2.6	1.2	321.1	0.5	0.2	0.1	0.3	0.0	0.6	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	1.7	20.4	2.7	0.7	2.6	3.2	0.0	1.0	5.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.4	55.3	53.6	375.1	48.6	46.4	30.4	13.9	0.0	54.3	35.9	0.0
LnGrp LOS	D	E	D	F	D	D	C	B		D	D	
Approach Vol, veh/h		233			808			699	A		500	A
Approach Delay, s/veh		54.3			284.5			19.7			37.1	
Approach LOS		D			F			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	72.7	18.5	15.8	44.0	41.7	12.2	22.1				
Change Period (Y+Rc), s	5.4	6.2	6.5	* 5.8	6.2	* 6.5	* 4.7	6.5				
Max Green Setting (Gmax), s	13.0	35.2	12.0	* 37	13.0	* 35	* 13	36.0				
Max Q Clear Time (g_c+14), s	14.3	9.8	14.0	6.9	8.3	14.8	4.2	8.2				
Green Ext Time (p_c), s	0.0	3.1	0.0	0.8	0.3	3.0	0.0	1.1				

Intersection Summary

HCM 6th Ctrl Delay	122.7
HCM 6th LOS	F

Notes

























User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	78	213	566	192	172	238	440	250	34	451	13
Future Volume (veh/h)	33	78	213	566	192	172	238	440	250	34	451	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	80	119	584	198	26	245	454	0	35	465	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	111	156	264	346	463	206	1089	1970		112	1042	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.08	0.08	0.10	0.13	0.13	0.32	0.55	0.00	0.06	0.29	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	54.4	55.3	53.6	375.1	48.6	46.4	30.4	13.9	0.0	54.3	35.9	0.0
Ln Grp LOS	D	E	D	F	D	D	C	B		D	D	
Approach Vol, veh/h		233			808			699			500	
Approach Delay, s/veh		54.3			284.5			19.7			37.1	
Approach LOS		D			F			B			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	3.0	3.0	2.0	3.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		13.0	72.7	15.8	18.5	41.7	44.0	12.2	22.1			
Change Period (Y+Rc), s		5.4	6.2	* 5.8	6.5	* 6.5	6.2	* 4.7	6.5			
Max Green (Gmax), s		13.0	35.2	* 37	12.0	* 35	13.0	* 13	36.0			
Max Allow Headway (MAH), s		2.3	5.2	4.2	2.1	5.2	3.3	2.1	4.6			
Max Q Clear (g_c+I1), s		4.3	9.8	6.9	14.0	14.8	8.3	4.2	8.2			
Green Ext Time (g_e), s		0.0	3.1	0.8	0.0	3.0	0.3	0.0	1.1			
Prob of Phs Call (p_c)		0.69	1.00	1.00	1.00	1.00	1.00	0.68	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	1.00	0.00	0.26	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1781			3456		3456	1781				
Through Movement Data												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			3554	1870		3554			3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			1585	3170		1585			1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		L (Prot)			L (Prot)		L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

07/11/2019

Lanes in Grp	1	0	0	2	0	2	1	0
Grp Vol (v), veh/h	35	0	0	584	0	245	34	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1728	0	1728	1781	0
Q Serve Time (g_s), s	2.3	0.0	0.0	12.0	0.0	6.3	2.2	0.0
Cycle Q Clear Time (g_c), s	2.3	0.0	0.0	12.0	0.0	6.3	2.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	112	0	0	346	0	1089	111	0
V/C Ratio (X)	0.31	0.00	0.00	1.69	0.00	0.22	0.31	0.00
Avail Cap (c_a), veh/h	193	0	0	346	0	1089	193	0
Upstream Filter (I)	1.00	0.00	0.00	0.86	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	53.7	0.0	0.0	54.0	0.0	30.3	53.8	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	321.1	0.0	0.1	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	54.3	0.0	0.0	375.1	0.0	30.4	54.4	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	0.0	5.0	0.0	2.6	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	15.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	0.0	20.4	0.0	2.6	1.0	0.0
%ile Storage Ratio (RQ%)	0.15	0.00	0.00	1.73	0.00	0.33	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	59.6	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	1	0	2	0	0	2
Grp Vol (v), veh/h	0	454	80	0	465	0	0	198
Grp Sat Flow (s), veh/h/ln	0	1777	1870	0	1777	0	0	1777
Q Serve Time (g_s), s	0.0	7.8	4.9	0.0	12.8	0.0	0.0	6.2
Cycle Q Clear Time (g_c), s	0.0	7.8	4.9	0.0	12.8	0.0	0.0	6.2
Lane Grp Cap (c), veh/h	0	1970	156	0	1042	0	0	463
V/C Ratio (X)	0.00	0.23	0.51	0.00	0.45	0.00	0.00	0.43
Avail Cap (c_a), veh/h	0	1970	577	0	1042	0	0	1066
Upstream Filter (I)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	0.86
Uniform Delay (d1), s/veh	0.0	13.7	52.7	0.0	34.5	0.0	0.0	48.1
Incr Delay (d2), s/veh	0.0	0.3	2.6	0.0	1.4	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.9	55.3	0.0	35.9	0.0	0.0	48.6
1st-Term Q (Q1), veh/ln	0.0	3.1	2.2	0.0	5.5	0.0	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Monterey Ave & Varner Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.2	2.3	0.0	5.7	0.0	0.0	2.7
%ile Storage Ratio (RQ%)	0.00	0.40	0.04	0.00	0.18	0.00	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		R	R		R			R
Lanes in Grp	0	1	2	0	1	0	0	1
Grp Vol (v), veh/h	0	0	119	0	0	0	0	26
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	0	1585
Q Serve Time (g_s), s	0.0	0.0	4.3	0.0	0.0	0.0	0.0	1.7
Cycle Q Clear Time (g_c), s	0.0	0.0	4.3	0.0	0.0	0.0	0.0	1.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	879	264	0	465	0	0	206
V/C Ratio (X)	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.13
Avail Cap (c_a), veh/h	0	879	977	0	465	0	0	476
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.86
Uniform Delay (d1), s/veh	0.0	0.0	52.4	0.0	0.0	0.0	0.0	46.1
Incr Delay (d2), s/veh	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	53.6	0.0	0.0	0.0	0.0	46.4
1st-Term Q (Q1), veh/ln	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	122.7
HCM 6th LOS	F

Notes

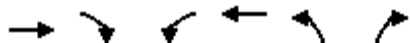
User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
7: I-10 WB Off Ramp & Varner Rd







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Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	↑
Traffic Volume (veh/h)	194	0	0	245	685	7
Future Volume (veh/h)	194	0	0	245	685	7
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	213	0	0	269	753	1
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	810	0	0	810	1207	554
Arrive On Green	0.23	0.00	0.00	0.23	0.35	0.35
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	213	0	0	269	753	1
Grp Sat Flow(s),veh/h/ln1777		0	0	1777	1728	1585
Q Serve(g_s), s	1.3	0.0	0.0	1.7	4.8	0.0
Cycle Q Clear(g_c), s	1.3	0.0	0.0	1.7	4.8	0.0
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	810	0	0	810	1207	554
V/C Ratio(X)	0.26	0.00	0.00	0.33	0.62	0.00
Avail Cap(c_a), veh/h	4697	0	0	4697	3915	1796
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.4	0.0	0.0	8.5	7.2	5.6
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.2	0.0	0.0	0.0	0.3	1.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	8.5	0.0	0.0	8.7	7.6	5.6
LnGrp LOS	A	A	A	A	A	A
Approach Vol, veh/h	213			269	754	
Approach Delay, s/veh	8.5			8.7	7.6	
Approach LOS	A			A	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		11.8			11.8	14.6
Change Period (Y+Rc), s		5.8			5.8	5.4
Max Green Setting (Gmax), s		35.0			35.0	30.0
Max Q Clear Time (g_c+I1), s		3.3			3.7	6.8
Green Ext Time (p_c), s		1.0			1.3	2.5
Intersection Summary						
HCM 6th Ctrl Delay			8.0			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

07/11/2019

									
Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations	↑↑			↑↑	↗↘	↗			
Traffic Volume (veh/h)	194	0	0	245	685	7			
Future Volume (veh/h)	194	0	0	245	685	7			
Number	2	12	1	6	3	18			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)		1.00	1.00		1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870			
Adj Flow Rate, veh/h	213	0	0	269	753	1			
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91			
Percent Heavy Veh, %	2	0	0	2	2	2			
Opposing Right Turn Influence			No		Yes				
Cap, veh/h	810	0	0	810	1207	554			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.23	0.00	0.00	0.23	0.35	0.35			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	8.5	0.0	0.0	8.7	7.6	5.6			
Ln Grp LOS	A	A	A	A	A	A			
Approach Vol, veh/h	213			269	754				
Approach Delay, s/veh	8.5			8.7	7.6				
Approach LOS	A			A	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2	8			6		
Case No			8.0	9.0			8.0		
Phs Duration (G+Y+Rc), s			11.8	14.6			11.8		
Change Period (Y+Rc), s			5.8	5.4			5.8		
Max Green (Gmax), s			35.0	30.0			35.0		
Max Allow Headway (MAH), s			4.4	3.5			4.4		
Max Q Clear (g_c+I1), s			3.3	6.8			3.7		
Green Ext Time (g_e), s			1.0	2.5			1.3		
Prob of Phs Call (p_c)			0.79	1.00			0.86		
Prob of Max Out (p_x)			0.00	0.00			0.00		
Left-Turn Movement Data									
Assigned Mvmt			5	3			1		
Mvmt Sat Flow, veh/h			0	3456			0		
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			3741	0			3741		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			0	1585			0		
Left Lane Group Data									
Assigned Mvmt		0	5	3	0	0	1	0	0
Lane Assignment				L					

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

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Lanes in Grp	0	0	2	0	0	0	0	0
Grp Vol (v), veh/h	0	0	753	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1728	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1728	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	6.0	0.0	0.0	0.0	6.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1207	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.62	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	3915	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	213	0	0	0	269	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	1.3	0.0	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.3	0.0	0.0	0.0	1.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	810	0	0	0	810	0	0
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.33	0.00	0.00
Avail Cap (c_a), veh/h	0	4697	0	0	0	4697	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	0.0	0.0	8.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.5	0.0	0.0	0.0	8.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 7: I-10 WB Off Ramp & Varner Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment	R							
Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	1	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	554	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1796	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.0
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary

8: Monterey Ave & I-10 EB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	4	943	0	0	0	0	1617	677	168	1012	0
Future Volume (veh/h)	44	4	943	0	0	0	0	1617	677	168	1012	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No					No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	33	0	970				0	1720	306	179	1077	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	585	0	1042				0	2377	738	242	2042	0
Arrive On Green	0.33	0.00	0.33				0.00	0.47	0.47	0.07	0.57	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	33	0	970				0	1720	306	179	1077	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	1.5	0.0	35.5				0.0	32.6	15.3	6.1	22.2	0.0
Cycle Q Clear(g_c), s	1.5	0.0	35.5				0.0	32.6	15.3	6.1	22.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	585	0	1042				0	2377	738	242	2042	0
V/C Ratio(X)	0.06	0.00	0.93				0.00	0.72	0.41	0.74	0.53	0.00
Avail Cap(c_a), veh/h	638	0	1136				0	2377	738	461	2042	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.71	0.71	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.6	0.0	39.0				0.0	25.8	21.2	54.7	15.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	12.5				0.0	1.4	1.2	4.4	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	15.4				0.0	13.2	5.9	2.8	9.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.6	0.0	51.5				0.0	27.2	22.5	59.1	16.6	0.0
LnGrp LOS	C	A	D				A	C	C	E	B	A
Approach Vol, veh/h		1003						2026			1256	
Approach Delay, s/veh		50.7						26.5			22.6	
Approach LOS		D						C			C	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	31.1	61.7	45.2	74.8								
Change Period (Y+Rc), s	4.7	5.8	5.8	5.8								
Max Green Setting (Gmax), s	65.0	44.0	43.0	65.0								
Max Q Clear Time (g_c+I), s	19.1	34.6	37.5	24.2								
Green Ext Time (p_c), s	0.3	7.6	1.9	10.2								

Intersection Summary





















HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
8: Monterey Ave & I-10 EB Ramps

07/11/2019

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	44	4	943	0	0	0	0	1617	677	168	1012	0	
Future Volume (veh/h)	44	4	943	0	0	0	0	1617	677	168	1012	0	
Number	7	4	14				5	2	12	1	6	16	
Initial Q, veh	0	0	0				0	0	0	0	0	0	
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00	
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No						No			No		
Lanes Open During Work Zone													
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0	
Adj Flow Rate, veh/h	33	0	970				0	1720	306	179	1077	0	
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94	
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0	
Opposing Right Turn Influence	Yes						No			Yes			
Cap, veh/h	585	0	1042				0	2377	738	242	2042	0	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00	
Prop Arrive On Green	0.33	0.00	0.33				0.00	0.47	0.47	0.07	0.57	0.00	
Unsig. Movement Delay													
Ln Grp Delay, s/veh	27.6	0.0	51.5				0.0	27.2	22.5	59.1	16.6	0.0	
Ln Grp LOS	C	A	D				A	C	C	E	B	A	
Approach Vol, veh/h		1003						2026			1256		
Approach Delay, s/veh		50.7						26.5			22.6		
Approach LOS		D						C			C		
Timer:		1	2	3	4	5	6	7	8				
Assigned Phs		1	2		4		6						
Case No		2.0	7.0		9.0		4.0						
Phs Duration (G+Y+Rc), s		13.1	61.7		45.2		74.8						
Change Period (Y+Rc), s		* 4.7	5.8		5.8		5.8						
Max Green (Gmax), s		* 16	44.0		43.0		65.0						
Max Allow Headway (MAH), s		3.8	5.1		3.5		5.2						
Max Q Clear (g_c+I1), s		8.1	34.6		37.5		24.2						
Green Ext Time (g_e), s		0.3	7.6		1.9		10.2						
Prob of Phs Call (p_c)		1.00	1.00		1.00		1.00						
Prob of Max Out (p_x)		0.02	0.00		0.58		0.00						
Left-Turn Movement Data													
Assigned Mvmt		1	5		7								
Mvmt Sat Flow, veh/h		3456	0		1781								
Through Movement Data													
Assigned Mvmt			2		4		6						
Mvmt Sat Flow, veh/h			5274		0		3647						
Right-Turn Movement Data													
Assigned Mvmt			12		14		16						
Mvmt Sat Flow, veh/h			1585		3170		0						
Left Lane Group Data													
Assigned Mvmt		1	5	0	7	0	0	0	0				
Lane Assignment		L (Prot)				L							

HCM 6th Signalized Intersection Capacity Analysis

8: Monterey Ave & I-10 EB Ramps

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Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	179	0	0	33	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	6.1	0.0	0.0	1.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	6.1	0.0	0.0	1.5	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	55.9	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	242	0	0	585	0	0	0	0
V/C Ratio (X)	0.74	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	461	0	0	638	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	54.7	0.0	0.0	27.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.1	0.0	0.0	27.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	2.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	2.8	0.0	0.0	0.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.20	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1720	0	0	0	1077	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	32.6	0.0	0.0	0.0	22.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	32.6	0.0	0.0	0.0	22.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	2377	0	0	0	2042	0	0
V/C Ratio (X)	0.00	0.72	0.00	0.00	0.00	0.53	0.00	0.00
Avail Cap (c_a), veh/h	0	2377	0	0	0	2042	0	0
Upstream Filter (I)	0.00	0.71	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	25.8	0.0	0.0	0.0	15.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.2	0.0	0.0	0.0	16.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	12.9	0.0	0.0	0.0	8.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

8: Monterey Ave & I-10 EB Ramps

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	13.2	0.0	0.0	0.0	9.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.00	0.00	0.57	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	306	0	970	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	15.3	0.0	35.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	15.3	0.0	35.5	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	738	0	1042	0	0	0	0
V/C Ratio (X)	0.00	0.41	0.00	0.93	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	738	0	1136	0	0	0	0
Upstream Filter (I)	0.00	0.71	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	21.2	0.0	39.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	12.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.5	0.0	51.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.7	0.0	13.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	1.8	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.9	0.0	15.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.44	0.00	3.92	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 9: Monterey Ave & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖	↑↑	↖	↖↗	↑↑↖		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	535	327	411	49	351	479	445	1265	23	322	1186	447
Future Volume (veh/h)	535	327	411	49	351	479	445	1265	23	322	1186	447
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	552	337	132	51	362	0	459	1304	24	332	1223	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	600	864	385	89	424		505	2270	42	380	2062	
Arrive On Green	0.17	0.24	0.24	0.05	0.12	0.00	0.15	0.44	0.44	0.11	0.40	0.00
Sat Flow, veh/h	3456	3554	1585	1781	3554	1585	3456	5161	95	3456	5106	1585
Grp Volume(v), veh/h	552	337	132	51	362	0	459	860	468	332	1223	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1585	1728	1702	1852	1728	1702	1585
Q Serve(g_s), s	21.7	10.9	9.5	3.9	13.8	0.0	18.0	26.1	26.1	13.1	25.9	0.0
Cycle Q Clear(g_c), s	21.7	10.9	9.5	3.9	13.8	0.0	18.0	26.1	26.1	13.1	25.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	600	864	385	89	424		505	1498	815	380	2062	
V/C Ratio(X)	0.92	0.39	0.34	0.58	0.85		0.91	0.57	0.57	0.87	0.59	
Avail Cap(c_a), veh/h	776	909	405	129	798		576	1498	815	526	2062	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	1.00	1.00	0.00	0.75	0.75	0.75	0.71	0.71	0.00
Uniform Delay (d), s/veh	56.1	43.7	43.1	64.1	59.6	0.0	58.0	29.0	29.0	60.5	32.3	0.0
Incr Delay (d2), s/veh	10.1	0.1	0.2	2.2	1.9	0.0	12.7	1.2	2.2	6.7	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.7	3.6	1.8	6.2	0.0	8.5	10.3	11.4	5.9	10.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	43.8	43.3	66.3	61.5	0.0	70.7	30.2	31.2	67.1	33.2	0.0
LnGrp LOS	E	D	D	E	E		E	C	C	E	C	
Approach Vol, veh/h		1021			413	A		1787			1555	A
Approach Delay, s/veh		55.8			62.1			40.8			40.4	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	1.9	39.2	25.2	61.7	29.0	22.1	20.2	66.7				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	10.0	35.3	23.0	31.0	31.0	31.0	21.0	32.0				
Max Q Clear Time (g_c+1/3), s	10.0	12.9	20.0	27.9	23.7	15.8	15.1	28.1				
Green Ext Time (p_c), s	0.0	0.7	0.1	1.1	0.3	0.7	0.1	1.3				

Intersection Summary

HCM 6th Ctrl Delay	45.7
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	535	327	411	49	351	479	445	1265	23	322	1186	447
Future Volume (veh/h)	535	327	411	49	351	479	445	1265	23	322	1186	447
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	552	337	132	51	362	0	459	1304	24	332	1223	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	600	864	385	89	424		505	2270	42	380	2062	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.17	0.24	0.24	0.05	0.12	0.00	0.15	0.44	0.44	0.11	0.40	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	66.2	43.8	43.3	66.3	61.5	0.0	70.7	30.2	31.2	67.1	33.2	0.0
Ln Grp LOS	E	D	D	E	E		E	C	C	E	C	
Approach Vol, veh/h		1021			413			1787			1555	
Approach Delay, s/veh		55.8			62.1			40.8			40.4	
Approach LOS		E			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		11.9	39.2	25.2	61.7	29.0	22.1	20.2	66.7			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		10.0	35.3	23.0	31.0	31.0	31.0	21.0	32.0			
Max Allow Headway (MAH), s		1.7	2.6	1.6	2.7	1.7	2.9	1.6	2.7			
Max Q Clear (g_c+I1), s		5.9	12.9	20.0	27.9	23.7	15.8	15.1	28.1			
Green Ext Time (g_e), s		0.0	0.7	0.1	1.1	0.3	0.7	0.1	1.3			
Prob of Phs Call (p_c)		0.86	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		5161			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		95			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	1	0	2	0	2	0	2	0
Grp Vol (v), veh/h	51	0	459	0	552	0	332	0
Grp Sat Flow (s), veh/h/ln	1781	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	3.9	0.0	18.0	0.0	21.7	0.0	13.1	0.0
Cycle Q Clear Time (g_c), s	3.9	0.0	18.0	0.0	21.7	0.0	13.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	89	0	505	0	600	0	380	0
V/C Ratio (X)	0.58	0.00	0.91	0.00	0.92	0.00	0.87	0.00
Avail Cap (c_a), veh/h	129	0	576	0	776	0	526	0
Upstream Filter (I)	1.00	0.00	0.75	0.00	0.80	0.00	0.71	0.00
Uniform Delay (d1), s/veh	64.1	0.0	58.0	0.0	56.1	0.0	60.5	0.0
Incr Delay (d2), s/veh	2.2	0.0	12.7	0.0	10.1	0.0	6.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	66.3	0.0	70.7	0.0	66.2	0.0	67.1	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	7.6	0.0	9.2	0.0	5.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.9	0.0	0.8	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	8.5	0.0	10.0	0.0	5.9	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.81	0.00	0.91	0.00	0.85	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	337	0	1223	0	362	0	860
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	10.9	0.0	25.9	0.0	13.8	0.0	26.1
Cycle Q Clear Time (g_c), s	0.0	10.9	0.0	25.9	0.0	13.8	0.0	26.1
Lane Grp Cap (c), veh/h	0	864	0	2062	0	424	0	1498
V/C Ratio (X)	0.00	0.39	0.00	0.59	0.00	0.85	0.00	0.57
Avail Cap (c_a), veh/h	0	909	0	2062	0	798	0	1498
Upstream Filter (I)	0.00	0.80	0.00	0.71	0.00	1.00	0.00	0.75
Uniform Delay (d1), s/veh	0.0	43.7	0.0	32.3	0.0	59.6	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.9	0.0	1.9	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	43.8	0.0	33.2	0.0	61.5	0.0	30.2
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	10.1	0.0	6.1	0.0	10.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.7	0.0	10.3	0.0	6.2	0.0	10.3
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.20	0.00	0.16	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	132	0	0	0	0	0	468
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1852
Q Serve Time (g_s), s	0.0	9.5	0.0	0.0	0.0	0.0	0.0	26.1
Cycle Q Clear Time (g_c), s	0.0	9.5	0.0	0.0	0.0	0.0	0.0	26.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.05
Lane Grp Cap (c), veh/h	0	385	0	640	0	189	0	815
V/C Ratio (X)	0.00	0.34	0.00	0.00	0.00	0.00	0.00	0.57
Avail Cap (c_a), veh/h	0	405	0	640	0	356	0	815
Upstream Filter (I)	0.00	0.80	0.00	0.00	0.00	0.00	0.00	0.75
Uniform Delay (d1), s/veh	0.0	43.1	0.0	0.0	0.0	0.0	0.0	29.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.0	0.0	2.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	43.3	0.0	0.0	0.0	0.0	0.0	31.2
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	0.0	0.0	0.0	0.0	10.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.6	0.0	0.0	0.0	0.0	0.0	11.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	45.7
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 12: Portola Rd & Dinah Shore Dr

07/11/2019



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	⬇	⬆	⬆	⬆	⬆	⬆	⬆
Traffic Volume (veh/h)	10	100	320	25	80	399	20
Future Volume (veh/h)	10	100	320	25	80	399	20
Initial Q (Qb), veh		0	0	0	0	0	0
Ped-Bike Adj(A_pbT)			1.00	1.00		1.00	1.00
Parking Bus, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No	No		
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		109	0	27	87	434	22
Peak Hour Factor		0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %		2	2	2	2	2	2
Cap, veh/h		628		93	1353	870	399
Arrive On Green		0.18	0.00	0.05	0.38	0.25	0.25
Sat Flow, veh/h		3647	1585	1781	3647	3456	1585
Grp Volume(v), veh/h		109	0	27	87	434	22
Grp Sat Flow(s),veh/h/ln		1777	1585	1781	1777	1728	1585
Q Serve(g_s), s		1.0	0.0	0.6	0.6	4.2	0.4
Cycle Q Clear(g_c), s		1.0	0.0	0.6	0.6	4.2	0.4
Prop In Lane			1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h		628		93	1353	870	399
V/C Ratio(X)		0.17		0.29	0.06	0.50	0.06
Avail Cap(c_a), veh/h		3513		903	3873	3241	1486
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		13.8	0.0	18.0	7.8	12.6	11.2
Incr Delay (d2), s/veh		0.0	0.0	0.6	0.0	0.2	0.0
Initial Q Delay(d3),s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.3	0.0	0.2	0.1	1.1	0.1
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh		13.8	0.0	18.6	7.8	12.8	11.2
LnGrp LOS		B		B	A	B	B
Approach Vol, veh/h		109	A		114	456	
Approach Delay, s/veh		13.8			10.3	12.7	
Approach LOS		B			B	B	
Timer - Assigned Phs		2			5	6	8
Phs Duration (G+Y+Rc), s		22.0			8.0	14.0	17.4
Change Period (Y+Rc), s		7.0			6.0	7.0	7.5
Max Green Setting (Gmax), s		43.0			20.0	39.0	37.0
Max Q Clear Time (g_c+I1), s		2.6			2.6	3.0	6.2
Green Ext Time (p_c), s		0.3			0.0	0.4	0.8

Intersection Summary

HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

07/11/2019



Movement	EBU	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↔	↑↑	↗	↖	↑↑	↖↗	↗		
Traffic Volume (veh/h)	10	100	320	25	80	399	20		
Future Volume (veh/h)	10	100	320	25	80	399	20		
Number		6	16	5	2	3	18		
Initial Q, veh		0	0	0	0	0	0		
Ped-Bike Adj (A_pbT)			1.00	1.00		1.00	1.00		
Parking Bus Adj		1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach		No			No	No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln		1870	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h		109	0	27	87	434	22		
Peak Hour Factor		0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %		2	2	2	2	2	2		
Opposing Right Turn Influence				Yes		Yes			
Cap, veh/h		628		93	1353	870	399		
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00		
Prop Arrive On Green		0.18	0.00	0.05	0.38	0.25	0.25		
Unsig. Movement Delay									
Ln Grp Delay, s/veh		13.8	0.0	18.6	7.8	12.8	11.2		
Ln Grp LOS		B		B	A	B	B		
Approach Vol, veh/h		109			114	456			
Approach Delay, s/veh		13.8			10.3	12.7			
Approach LOS		B			B	B			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2	8		5	6		
Case No			4.0	9.0		2.0	7.0		
Phs Duration (G+Y+Rc), s			22.0	17.4		8.0	14.0		
Change Period (Y+Rc), s			7.0	7.5		6.0	7.0		
Max Green (Gmax), s			43.0	37.0		20.0	39.0		
Max Allow Headway (MAH), s			3.9	2.7		2.7	3.9		
Max Q Clear (g_c+I1), s			2.6	6.2		2.6	3.0		
Green Ext Time (g_e), s			0.3	0.8		0.0	0.4		
Prob of Phs Call (p_c)			0.61	0.99		0.26	0.70		
Prob of Max Out (p_x)			0.00	0.00		0.00	0.00		
Left-Turn Movement Data									
Assigned Mvmt				3		5	1		
Mvmt Sat Flow, veh/h				3456		1781	0		
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			3647	0			3647		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			0	1585			1585		
Left Lane Group Data									
Assigned Mvmt		0	0	3	0	5	1	0	0
Lane Assignment				L		L (Prot)			

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	0	0	2	0	1	0	0	0
Grp Vol (v), veh/h	0	0	434	0	27	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1728	0	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	4.2	0.0	0.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	4.2	0.0	0.6	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1728	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	870	0	93	0	0	0
V/C Ratio (X)	0.00	0.00	0.50	0.00	0.29	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	3241	0	903	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	12.6	0.0	18.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.0	0.6	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	12.8	0.0	18.6	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.1	0.0	0.2	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.1	0.0	0.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	87	0	0	0	109	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.6	0.0	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.6	0.0	0.0	0.0	1.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1353	0	0	0	628	0	0
V/C Ratio (X)	0.00	0.06	0.00	0.00	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	3873	0	0	0	3513	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.8	0.0	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.8	0.0	0.0	0.0	13.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	22	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	399	0	0	280	0	0
V/C Ratio (X)	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1486	0	0	1567	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	11.2	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	11.2	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	12.5
HCM 6th LOS	B

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

13: Date Palm Dr & Gerald Ford Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	39	27	258	56	177	31	606	301	124	413	45
Future Volume (veh/h)	52	39	27	258	56	177	31	606	301	124	413	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	43	30	331	0	28	34	673	242	138	459	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	129	82	409	0	182	49	1938	865	164	1972	214
Arrive On Green	0.06	0.06	0.06	0.11	0.00	0.11	0.03	0.55	0.55	0.09	0.61	0.61
Sat Flow, veh/h	1781	2088	1322	3563	0	1585	1781	3554	1585	1781	3233	351
Grp Volume(v), veh/h	58	36	37	331	0	28	34	673	242	138	251	258
Grp Sat Flow(s),veh/h/ln	1781	1777	1632	1781	0	1585	1781	1777	1585	1781	1777	1807
Q Serve(g_s), s	4.0	2.5	2.8	11.6	0.0	2.0	2.4	13.6	10.5	9.8	8.2	8.3
Cycle Q Clear(g_c), s	4.0	2.5	2.8	11.6	0.0	2.0	2.4	13.6	10.5	9.8	8.2	8.3
Prop In Lane	1.00		0.81	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	110	110	101	409	0	182	49	1938	865	164	1084	1102
V/C Ratio(X)	0.53	0.33	0.37	0.81	0.00	0.15	0.70	0.35	0.28	0.84	0.23	0.23
Avail Cap(c_a), veh/h	161	161	148	863	0	384	93	1938	865	274	1084	1102
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.75	0.00	0.75	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.2	57.5	57.6	55.3	0.0	51.1	61.7	16.3	15.6	57.2	11.3	11.4
Incr Delay (d2), s/veh	3.8	1.7	2.2	2.9	0.0	0.3	6.5	0.5	0.8	4.8	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.2	1.2	5.2	0.0	0.8	1.2	5.4	3.9	4.5	3.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.1	59.2	59.8	58.2	0.0	51.4	68.2	16.8	16.4	62.0	11.8	11.8
LnGrp LOS	E	E	E	E	A	D	E	B	B	E	B	B
Approach Vol, veh/h		131			359			949			647	
Approach Delay, s/veh		60.6			57.7			18.5			22.5	
Approach LOS		E			E			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	84.5		21.0	17.8	76.2		13.0				
Change Period (Y+Rc), s	6.0	6.4		6.3	6.0	6.4		5.1				
Max Green Setting (Gmax), s	6.0	42.0		31.0	19.7	42.0		11.6				
Max Q Clear Time (g_c+1/4), s	14.4	10.3		13.6	11.8	15.6		6.0				
Green Ext Time (p_c), s	0.0	6.1		1.1	0.1	10.7		0.2				

Intersection Summary
























HCM 6th Ctrl Delay	29.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 13: Date Palm Dr & Gerald Ford Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	39	27	258	56	177	31	606	301	124	413	45
Future Volume (veh/h)	52	39	27	258	56	177	31	606	301	124	413	45
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	58	43	30	331	0	28	34	673	242	138	459	50
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	110	129	82	409	0	182	49	1938	865	164	1972	214
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.06	0.06	0.11	0.00	0.11	0.03	0.55	0.55	0.09	0.61	0.61
Unsig. Movement Delay												
Ln Grp Delay, s/veh	62.1	59.2	59.8	58.2	0.0	51.4	68.2	16.8	16.4	62.0	11.8	11.8
Ln Grp LOS	E	E	E	E	A	D	E	B	B	E	B	B
Approach Vol, veh/h		131			359			949			647	
Approach Delay, s/veh		60.6			57.7			18.5			22.5	
Approach LOS		E			E			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	4.0	10.0	9.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		9.5	84.5	13.0	21.0	17.8	76.2					
Change Period (Y+Rc), s		6.0	6.4	5.1	6.3	6.0	6.4					
Max Green (Gmax), s		6.7	42.0	11.6	31.0	19.7	42.0					
Max Allow Headway (MAH), s		2.7	7.0	4.8	3.7	2.7	6.7					
Max Q Clear (g_c+I1), s		4.4	10.3	6.0	13.6	11.8	15.6					
Green Ext Time (g_e), s		0.0	6.1	0.2	1.1	0.1	10.7					
Prob of Phs Call (p_c)		0.70	1.00	0.99	1.00	0.99	1.00					
Prob of Max Out (p_x)		1.00	0.00	0.58	0.00	0.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		1781		1781	3563	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3233	2088	0		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			351	1322	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

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Lanes in Grp	1	0	1	2	1	0	0	0
Grp Vol (v), veh/h	34	0	58	331	138	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	2.4	0.0	4.0	11.6	9.8	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	2.4	0.0	4.0	11.6	9.8	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	49	0	110	409	164	0	0	0
V/C Ratio (X)	0.70	0.00	0.53	0.81	0.84	0.00	0.00	0.00
Avail Cap (c_a), veh/h	93	0	161	863	274	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.75	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	61.7	0.0	58.2	55.3	57.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	6.5	0.0	3.8	2.9	4.8	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	68.2	0.0	62.1	58.2	62.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.1	0.0	1.8	5.1	4.3	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.2	0.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	2.0	5.2	4.5	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.35	0.00	0.50	1.33	0.70	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T			T		
Lanes in Grp	0	1	1	0	0	2	0	0
Grp Vol (v), veh/h	0	251	36	0	0	673	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	1777	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	8.2	2.5	0.0	0.0	13.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.2	2.5	0.0	0.0	13.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	1084	110	0	0	1938	0	0
V/C Ratio (X)	0.00	0.23	0.33	0.00	0.00	0.35	0.00	0.00
Avail Cap (c_a), veh/h	0	1084	161	0	0	1938	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.3	57.5	0.0	0.0	16.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.7	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	59.2	0.0	0.0	16.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.1	1.1	0.0	0.0	5.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.1	0.0	0.0	0.1	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.2	1.2	0.0	0.0	5.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.04	0.00	0.00	0.07	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	T+R	R		R		
Lanes in Grp	0	1	1	1	0	1	0	0
Grp Vol (v), veh/h	0	258	37	28	0	242	0	0
Grp Sat Flow (s), veh/h/ln	0	1807	1632	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	8.3	2.8	2.0	0.0	10.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.3	2.8	2.0	0.0	10.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.19	0.81	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1102	101	182	0	865	0	0
V/C Ratio (X)	0.00	0.23	0.37	0.15	0.00	0.28	0.00	0.00
Avail Cap (c_a), veh/h	0	1102	148	384	0	865	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.75	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.4	57.6	51.1	0.0	15.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	2.2	0.3	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	59.8	51.4	0.0	16.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	1.2	0.8	0.0	3.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.1	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.3	1.2	0.8	0.0	3.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.05	0.00	0.00	1.15	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	29.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
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

















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	55	424	63	42	447	129	150	421	52	105	267	46
Future Volume (veh/h)	55	424	63	42	447	129	150	421	52	105	267	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	442	66	44	466	134	156	439	13	109	278	48
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	830	123	81	706	202	202	722	322	142	515	88
Arrive On Green	0.05	0.27	0.27	0.05	0.26	0.26	0.11	0.20	0.20	0.08	0.17	0.17
Sat Flow, veh/h	1781	3104	461	1781	2728	779	1781	3554	1585	1781	3037	518
Grp Volume(v), veh/h	57	252	256	44	302	298	156	439	13	109	161	165
Grp Sat Flow(s),veh/h/ln	1781	1777	1787	1781	1777	1730	1781	1777	1585	1781	1777	1777
Q Serve(g_s), s	1.6	6.3	6.4	1.3	7.9	8.0	4.4	5.8	0.3	3.1	4.3	4.4
Cycle Q Clear(g_c), s	1.6	6.3	6.4	1.3	7.9	8.0	4.4	5.8	0.3	3.1	4.3	4.4
Prop In Lane	1.00		0.26	1.00		0.45	1.00		1.00	1.00		0.29
Lane Grp Cap(c), veh/h	96	475	478	81	460	448	202	722	322	142	301	301
V/C Ratio(X)	0.59	0.53	0.54	0.55	0.66	0.66	0.77	0.61	0.04	0.77	0.53	0.55
Avail Cap(c_a), veh/h	686	1540	1549	686	1540	1500	686	2396	1069	686	1198	1198
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	16.2	16.3	24.3	17.2	17.2	22.4	18.8	16.6	23.4	19.7	19.7
Incr Delay (d2), s/veh	2.2	0.9	0.9	2.1	1.6	1.7	2.4	0.8	0.1	3.3	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.1	2.1	0.5	2.7	2.7	1.7	2.1	0.1	1.3	1.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.2	17.1	17.2	26.4	18.8	18.9	24.8	19.6	16.7	26.7	21.2	21.3
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		565		644		608		435				
Approach Delay, s/veh		18.1		19.4		20.9		22.6				
Approach LOS		B		B		C		C				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.8	19.9	8.1	17.0	6.3	20.4	9.9	15.3				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0				
Max Q Clear Time (g_c+1), s	13.6	10.0	5.1	7.8	3.3	8.4	6.4	6.4				
Green Ext Time (p_c), s	0.0	3.4	0.1	2.7	0.0	2.8	0.2	1.7				
Intersection Summary												
HCM 6th Ctrl Delay				20.1								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	424	63	42	447	129	150	421	52	105	267	46
Future Volume (veh/h)	55	424	63	42	447	129	150	421	52	105	267	46
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	57	442	66	44	466	134	156	439	13	109	278	48
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	96	830	123	81	706	202	202	722	322	142	515	88
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.27	0.27	0.05	0.26	0.26	0.11	0.20	0.20	0.08	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.2	17.1	17.2	26.4	18.8	18.9	24.8	19.6	16.7	26.7	21.2	21.3
Ln Grp LOS	C	B	B	C	B	B	C	B	B	C	C	C
Approach Vol, veh/h		565			644			608			435	
Approach Delay, s/veh		18.1			19.4			20.9			22.6	
Approach LOS		B			B			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		6.8	19.9	8.1	17.0	6.3	20.4	9.9	15.3			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0			
Max Allow Headway (MAH), s		2.7	4.9	2.7	4.9	2.7	4.9	2.7	5.0			
Max Q Clear (g_c+I1), s		3.6	10.0	5.1	7.8	3.3	8.4	6.4	6.4			
Green Ext Time (g_e), s		0.0	3.4	0.1	2.7	0.0	2.8	0.2	1.7			
Prob of Phs Call (p_c)		0.56	1.00	0.79	1.00	0.47	1.00	0.89	0.99			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2728		3554		3104		3037			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			779		1585		461		518			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	57	0	109	0	44	0	156	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.6	0.0	3.1	0.0	1.3	0.0	4.4	0.0
Cycle Q Clear Time (g_c), s	1.6	0.0	3.1	0.0	1.3	0.0	4.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	96	0	142	0	81	0	202	0
V/C Ratio (X)	0.59	0.00	0.77	0.00	0.55	0.00	0.77	0.00
Avail Cap (c_a), veh/h	686	0	686	0	686	0	686	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	24.0	0.0	23.4	0.0	24.3	0.0	22.4	0.0
Incr Delay (d2), s/veh	2.2	0.0	3.3	0.0	2.1	0.0	2.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.2	0.0	26.7	0.0	26.4	0.0	24.8	0.0
1st-Term Q (Q1), veh/ln	0.6	0.0	1.1	0.0	0.4	0.0	1.6	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.6	0.0	1.3	0.0	0.5	0.0	1.7	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.23	0.00	0.12	0.00	0.22	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	302	0	439	0	252	0	161
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	7.9	0.0	5.8	0.0	6.3	0.0	4.3
Cycle Q Clear Time (g_c), s	0.0	7.9	0.0	5.8	0.0	6.3	0.0	4.3
Lane Grp Cap (c), veh/h	0	460	0	722	0	475	0	301
V/C Ratio (X)	0.00	0.66	0.00	0.61	0.00	0.53	0.00	0.53
Avail Cap (c_a), veh/h	0	1540	0	2396	0	1540	0	1198
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.2	0.0	18.8	0.0	16.2	0.0	19.7
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.8	0.0	0.9	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.8	0.0	19.6	0.0	17.1	0.0	21.2
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	2.0	0.0	2.0	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	2.1	0.0	2.1	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.04	0.00	0.01	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	298	0	13	0	256	0	165
Grp Sat Flow (s), veh/h/ln	0	1730	0	1585	0	1787	0	1777
Q Serve Time (g_s), s	0.0	8.0	0.0	0.3	0.0	6.4	0.0	4.4
Cycle Q Clear Time (g_c), s	0.0	8.0	0.0	0.3	0.0	6.4	0.0	4.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.45	0.00	1.00	0.00	0.26	0.00	0.29
Lane Grp Cap (c), veh/h	0	448	0	322	0	478	0	301
V/C Ratio (X)	0.00	0.66	0.00	0.04	0.00	0.54	0.00	0.55
Avail Cap (c_a), veh/h	0	1500	0	1069	0	1549	0	1198
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.2	0.0	16.6	0.0	16.3	0.0	19.7
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.1	0.0	0.9	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.9	0.0	16.7	0.0	17.2	0.0	21.3
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.1	0.0	2.0	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	0.1	0.0	2.1	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.1
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
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






















Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	171	489	125	96	472	157	145	791	93	272	633	96
Future Volume (veh/h)	171	489	125	96	472	157	145	791	93	272	633	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	537	47	105	519	24	159	869	34	299	696	41
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	751	335	164	658	293	224	1492	666	369	1640	732
Arrive On Green	0.07	0.21	0.21	0.05	0.19	0.19	0.06	0.42	0.42	0.11	0.46	0.46
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	188	537	47	105	519	24	159	869	34	299	696	41
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.7	15.0	2.6	3.2	14.9	1.3	4.8	20.1	1.4	9.1	14.1	1.5
Cycle Q Clear(g_c), s	5.7	15.0	2.6	3.2	14.9	1.3	4.8	20.1	1.4	9.1	14.1	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	751	335	164	658	293	224	1492	666	369	1640	732
V/C Ratio(X)	0.74	0.71	0.14	0.64	0.79	0.08	0.71	0.58	0.05	0.81	0.42	0.06
Avail Cap(c_a), veh/h	645	1161	518	645	1161	518	645	1492	666	645	1640	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	39.3	34.3	50.1	41.7	36.1	49.1	23.9	18.4	46.8	19.3	15.9
Incr Delay (d2), s/veh	1.6	1.3	0.2	1.6	2.2	0.1	1.5	1.7	0.1	1.7	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	6.4	1.0	1.4	6.4	0.5	2.0	8.0	0.5	3.8	5.3	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.2	40.5	34.5	51.7	43.8	36.3	50.7	25.5	18.6	48.5	19.5	16.0
LnGrp LOS	D	D	C	D	D	D	D	C	B	D	B	B
Approach Vol, veh/h		772			648			1062			1036	
Approach Delay, s/veh		42.5			44.8			29.1			27.7	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	56.0	10.1	29.2	16.4	51.5	12.9	26.3				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0				
Max Q Clear Time (g_c+1), s	10.8	16.1	5.2	17.0	11.1	22.1	7.7	16.9				
Green Ext Time (p_c), s	0.2	4.6	0.1	3.1	0.4	5.5	0.2	2.9				

Intersection Summary

HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	489	125	96	472	157	145	791	93	272	633	96
Future Volume (veh/h)	171	489	125	96	472	157	145	791	93	272	633	96
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	188	537	47	105	519	24	159	869	34	299	696	41
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	255	751	335	164	658	293	224	1492	666	369	1640	732
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.21	0.21	0.05	0.19	0.19	0.06	0.42	0.42	0.11	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	50.2	40.5	34.5	51.7	43.8	36.3	50.7	25.5	18.6	48.5	19.5	16.0
Ln Grp LOS	D	D	C	D	D	D	D	C	B	D	B	B
Approach Vol, veh/h		772			648			1062			1036	
Approach Delay, s/veh		42.5			44.8			29.1			27.7	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		12.0	56.0	10.1	29.2	16.4	51.5	12.9	26.3			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5			
Max Green (Gmax), s		20.0	45.0	20.0	35.0	20.0	45.0	20.0	35.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.7	2.7	4.8			
Max Q Clear (g_c+I1), s		6.8	16.1	5.2	17.0	11.1	22.1	7.7	16.9			
Green Ext Time (g_e), s		0.2	4.6	0.1	3.1	0.4	5.5	0.2	2.9			
Prob of Phs Call (p_c)		0.99	1.00	0.96	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	159	0	105	0	299	0	188	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	4.8	0.0	3.2	0.0	9.1	0.0	5.7	0.0
Cycle Q Clear Time (g_c), s	4.8	0.0	3.2	0.0	9.1	0.0	5.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	224	0	164	0	369	0	255	0
V/C Ratio (X)	0.71	0.00	0.64	0.00	0.81	0.00	0.74	0.00
Avail Cap (c_a), veh/h	645	0	645	0	645	0	645	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	49.1	0.0	50.1	0.0	46.8	0.0	48.6	0.0
Incr Delay (d2), s/veh	1.5	0.0	1.6	0.0	1.7	0.0	1.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.7	0.0	51.7	0.0	48.5	0.0	50.2	0.0
1st-Term Q (Q1), veh/ln	2.0	0.0	1.3	0.0	3.7	0.0	2.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.0	0.0	1.4	0.0	3.8	0.0	2.4	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.15	0.00	0.44	0.00	0.28	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	696	0	537	0	869	0	519
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	14.1	0.0	15.0	0.0	20.1	0.0	14.9
Cycle Q Clear Time (g_c), s	0.0	14.1	0.0	15.0	0.0	20.1	0.0	14.9
Lane Grp Cap (c), veh/h	0	1640	0	751	0	1492	0	658
V/C Ratio (X)	0.00	0.42	0.00	0.71	0.00	0.58	0.00	0.79
Avail Cap (c_a), veh/h	0	1640	0	1161	0	1492	0	1161
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.3	0.0	39.3	0.0	23.9	0.0	41.7
Incr Delay (d2), s/veh	0.0	0.2	0.0	1.3	0.0	1.7	0.0	2.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.5	0.0	40.5	0.0	25.5	0.0	43.8
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	6.2	0.0	7.6	0.0	6.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.2

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.3	0.0	6.4	0.0	8.0	0.0	6.4
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.02	0.00	0.09	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	41	0	47	0	34	0	24
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.5	0.0	2.6	0.0	1.4	0.0	1.3
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	2.6	0.0	1.4	0.0	1.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	732	0	335	0	666	0	293
V/C Ratio (X)	0.00	0.06	0.00	0.14	0.00	0.05	0.00	0.08
Avail Cap (c_a), veh/h	0	732	0	518	0	666	0	518
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.9	0.0	34.3	0.0	18.4	0.0	36.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.0	0.0	34.5	0.0	18.6	0.0	36.3
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	1.0	0.0	0.5	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	1.0	0.0	0.5	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.18	0.00	0.08	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary

16: Monterey Ave & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↔		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	253	320	332	156	314	85	306	1448	84	60	1373	160
Future Volume (veh/h)	253	320	332	156	314	85	306	1448	84	60	1373	160
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	264	333	153	162	327	13	319	1508	88	62	1430	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	321	538	240	219	433	193	346	2720	159	126	2490	
Arrive On Green	0.09	0.15	0.15	0.06	0.12	0.12	0.03	0.18	0.18	0.04	0.49	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4935	288	3456	5106	1585
Grp Volume(v), veh/h	264	333	153	162	327	13	319	1040	556	62	1430	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1819	1728	1702	1585
Q Serve(g_s), s	9.0	10.5	10.9	5.5	10.7	0.9	11.0	33.4	33.4	2.1	23.9	0.0
Cycle Q Clear(g_c), s	9.0	10.5	10.9	5.5	10.7	0.9	11.0	33.4	33.4	2.1	23.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.16	1.00		1.00
Lane Grp Cap(c), veh/h	321	538	240	219	433	193	346	1876	1002	126	2490	
V/C Ratio(X)	0.82	0.62	0.64	0.74	0.75	0.07	0.92	0.55	0.55	0.49	0.57	
Avail Cap(c_a), veh/h	403	927	413	374	897	400	346	1876	1002	346	2490	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	0.98	0.98	0.98	0.86	0.86	0.86	0.72	0.72	0.00
Uniform Delay (d), s/veh	53.5	47.7	47.8	55.2	50.9	46.6	57.6	35.7	35.7	56.7	21.9	0.0
Incr Delay (d2), s/veh	7.3	1.0	2.4	1.8	2.6	0.1	26.3	1.0	1.9	0.8	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	4.6	4.3	2.5	4.9	0.3	6.2	15.3	16.6	0.9	8.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	48.7	50.2	57.0	53.6	46.8	83.8	36.7	37.6	57.5	22.6	0.0
LnGrp LOS	E	D	D	E	D	D	F	D	D	E	C	
Approach Vol, veh/h		750		502		1915		1492		A		
Approach Delay, s/veh		53.2		54.5		44.8		24.0				
Approach LOS		D		D		D		C				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	65.5	16.1	21.3	9.4	73.1	12.6	24.9				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.7	5.0	7.0	5.0	6.7				
Max Green Setting (Gmax), s	12.0	40.0	14.0	30.3	12.0	40.0	13.0	31.3				
Max Q Clear Time (g_c+1/3), s	11.0	25.9	11.0	12.7	4.1	35.4	7.5	12.9				
Green Ext Time (p_c), s	0.0	8.5	0.1	2.0	0.0	3.6	0.1	2.2				

Intersection Summary


































HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	253	320	332	156	314	85	306	1448	84	60	1373	160
Future Volume (veh/h)	253	320	332	156	314	85	306	1448	84	60	1373	160
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	264	333	153	162	327	13	319	1508	88	62	1430	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	321	538	240	219	433	193	346	2720	159	126	2490	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.15	0.15	0.06	0.12	0.12	0.03	0.18	0.18	0.04	0.49	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	60.7	48.7	50.2	57.0	53.6	46.8	83.8	36.7	37.6	57.5	22.6	0.0
Ln Grp LOS	E	D	D	E	D	D	F	D	D	E	C	
Approach Vol, veh/h		750			502			1915			1492	
Approach Delay, s/veh		53.2			54.5			44.8			24.0	
Approach LOS		D			D			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		17.0	65.5	16.1	21.3	9.4	73.1	12.6	24.9			
Change Period (Y+Rc), s		5.0	7.0	5.0	6.7	5.0	7.0	5.0	6.7			
Max Green (Gmax), s		12.0	40.0	14.0	30.3	12.0	40.0	13.0	31.3			
Max Allow Headway (MAH), s		2.6	5.2	2.7	5.2	2.6	5.2	2.8	4.5			
Max Q Clear (g_c+I1), s		13.0	25.9	11.0	12.7	4.1	35.4	7.5	12.9			
Green Ext Time (g_e), s		0.0	8.5	0.1	2.0	0.0	3.6	0.1	2.2			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	0.87	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.67	0.01	0.00	0.00	0.02	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4935		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		288		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	319	0	264	0	62	0	162	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	11.0	0.0	9.0	0.0	2.1	0.0	5.5	0.0
Cycle Q Clear Time (g_c), s	11.0	0.0	9.0	0.0	2.1	0.0	5.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	346	0	321	0	126	0	219	0
V/C Ratio (X)	0.92	0.00	0.82	0.00	0.49	0.00	0.74	0.00
Avail Cap (c_a), veh/h	346	0	403	0	346	0	374	0
Upstream Filter (I)	0.86	0.00	0.84	0.00	0.72	0.00	0.98	0.00
Uniform Delay (d1), s/veh	57.6	0.0	53.5	0.0	56.7	0.0	55.2	0.0
Incr Delay (d2), s/veh	26.3	0.0	7.3	0.0	0.8	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	83.8	0.0	60.7	0.0	57.5	0.0	57.0	0.0
1st-Term Q (Q1), veh/ln	4.9	0.0	3.8	0.0	0.9	0.0	2.4	0.0
2nd-Term Q (Q2), veh/ln	1.3	0.0	0.3	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	6.2	0.0	4.1	0.0	0.9	0.0	2.5	0.0
%ile Storage Ratio (RQ%)	0.79	0.00	0.63	0.00	0.11	0.00	0.34	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1430	0	327	0	1040	0	333
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	23.9	0.0	10.7	0.0	33.4	0.0	10.5
Cycle Q Clear Time (g_c), s	0.0	23.9	0.0	10.7	0.0	33.4	0.0	10.5
Lane Grp Cap (c), veh/h	0	2490	0	433	0	1876	0	538
V/C Ratio (X)	0.00	0.57	0.00	0.75	0.00	0.55	0.00	0.62
Avail Cap (c_a), veh/h	0	2490	0	897	0	1876	0	927
Upstream Filter (I)	0.00	0.72	0.00	0.98	0.00	0.86	0.00	0.84
Uniform Delay (d1), s/veh	0.0	21.9	0.0	50.9	0.0	35.7	0.0	47.7
Incr Delay (d2), s/veh	0.0	0.7	0.0	2.6	0.0	1.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.6	0.0	53.6	0.0	36.7	0.0	48.7
1st-Term Q (Q1), veh/ln	0.0	8.7	0.0	4.8	0.0	15.0	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	0.3	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.8	0.0	4.9	0.0	15.3	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.02	0.00	0.26	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	13	0	556	0	153
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1819	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	0.9	0.0	33.4	0.0	10.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.9	0.0	33.4	0.0	10.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.16	0.00	1.00
Lane Grp Cap (c), veh/h	0	773	0	193	0	1002	0	240
V/C Ratio (X)	0.00	0.00	0.00	0.07	0.00	0.55	0.00	0.64
Avail Cap (c_a), veh/h	0	773	0	400	0	1002	0	413
Upstream Filter (I)	0.00	0.00	0.00	0.98	0.00	0.86	0.00	0.84
Uniform Delay (d1), s/veh	0.0	0.0	0.0	46.6	0.0	35.7	0.0	47.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	1.9	0.0	2.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	46.8	0.0	37.6	0.0	50.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.3	0.0	16.1	0.0	4.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.3	0.0	16.6	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.28	0.00	0.66
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	40.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 17: Portola Rd & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖↗↘	↖	↖↗	↖↗↘	↖	↖↗	↖↗↘	↖
Traffic Volume (veh/h)	9	409	129	43	384	115	128	325	36	128	214	3
Future Volume (veh/h)	9	409	129	43	384	115	128	325	36	128	214	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	417	132	44	392	0	131	332	5	131	218	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	33	549	172	244	1228		426	898	279	426	898	
Arrive On Green	0.02	0.21	0.21	0.07	0.24	0.00	0.12	0.18	0.18	0.12	0.18	0.00
Sat Flow, veh/h	1781	2663	834	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	9	277	272	44	392	0	131	332	5	131	218	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1720	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	0.3	8.3	8.4	0.7	3.6	0.0	2.0	3.2	0.1	2.0	2.1	0.0
Cycle Q Clear(g_c), s	0.3	8.3	8.4	0.7	3.6	0.0	2.0	3.2	0.1	2.0	2.1	0.0
Prop In Lane	1.00		0.49	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	33	366	355	244	1228		426	898	279	426	898	
V/C Ratio(X)	0.27	0.76	0.77	0.18	0.32		0.31	0.37	0.02	0.31	0.24	
Avail Cap(c_a), veh/h	504	1319	1277	916	3338		1221	3429	1064	916	3248	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	27.4	21.1	21.2	24.8	17.7	0.0	22.6	20.6	19.3	22.6	20.1	0.0
Incr Delay (d2), s/veh	1.6	1.2	1.3	0.1	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.3	3.2	0.2	1.2	0.0	0.8	1.2	0.0	0.7	0.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	22.3	22.5	24.9	17.7	0.0	22.8	20.7	19.3	22.8	20.1	0.0
LnGrp LOS	C	C	C	C	B		C	C	B	C	C	
Approach Vol, veh/h		558		436		A	468			349		A
Approach Delay, s/veh		22.5		18.5			21.2			21.1		
Approach LOS		C		B			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.0	16.9	9.0	18.7	12.0	16.9	7.1	20.6				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7				
Max Green Setting (Gmax), s	15.0	38.0	15.0	42.0	20.0	36.0	16.0	* 37				
Max Q Clear Time (g_c+1/4), s	14.0	5.2	2.7	10.4	4.0	4.1	2.3	5.6				
Green Ext Time (p_c), s	0.1	0.9	0.0	1.2	0.1	0.4	0.0	0.8				

Intersection Summary
























HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	409	129	43	384	115	128	325	36	128	214	3
Future Volume (veh/h)	9	409	129	43	384	115	128	325	36	128	214	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	417	132	44	392	0	131	332	5	131	218	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	33	549	172	244	1228		426	898	279	426	898	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.21	0.21	0.07	0.24	0.00	0.12	0.18	0.18	0.12	0.18	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	29.0	22.3	22.5	24.9	17.7	0.0	22.8	20.7	19.3	22.8	20.1	0.0
Ln Grp LOS	C	C	C	C	B		C	C	B	C	C	
Approach Vol, veh/h		558			436			468			349	
Approach Delay, s/veh		22.5			18.5			21.2			21.1	
Approach LOS		C			B			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		12.0	16.9	9.0	18.7	12.0	16.9	7.1	20.6			
Change Period (Y+Rc), s		5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7			
Max Green (Gmax), s		15.0	38.0	15.0	42.0	20.0	36.0	16.0	* 37			
Max Allow Headway (MAH), s		1.7	3.2	1.7	3.3	1.8	2.8	1.8	2.8			
Max Q Clear (g_c+I1), s		4.0	5.2	2.7	10.4	4.0	4.1	2.3	5.6			
Green Ext Time (g_e), s		0.1	0.9	0.0	1.2	0.1	0.4	0.0	0.8			
Prob of Phs Call (p_c)		0.87	0.99	0.50	1.00	0.87	0.97	0.13	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		2663		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		834		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	1	0
Grp Vol (v), veh/h	131	0	44	0	131	0	9	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1781	0
Q Serve Time (g_s), s	2.0	0.0	0.7	0.0	2.0	0.0	0.3	0.0
Cycle Q Clear Time (g_c), s	2.0	0.0	0.7	0.0	2.0	0.0	0.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	426	0	244	0	426	0	33	0
V/C Ratio (X)	0.31	0.00	0.18	0.00	0.31	0.00	0.27	0.00
Avail Cap (c_a), veh/h	916	0	916	0	1221	0	504	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	22.6	0.0	24.8	0.0	22.6	0.0	27.4	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.1	0.0	1.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	22.8	0.0	24.9	0.0	22.8	0.0	29.0	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.2	0.0	0.7	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	0.2	0.0	0.8	0.0	0.1	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.02	0.00	0.08	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	3	0	3
Grp Vol (v), veh/h	0	332	0	277	0	218	0	392
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1702
Q Serve Time (g_s), s	0.0	3.2	0.0	8.3	0.0	2.1	0.0	3.6
Cycle Q Clear Time (g_c), s	0.0	3.2	0.0	8.3	0.0	2.1	0.0	3.6
Lane Grp Cap (c), veh/h	0	898	0	366	0	898	0	1228
V/C Ratio (X)	0.00	0.37	0.00	0.76	0.00	0.24	0.00	0.32
Avail Cap (c_a), veh/h	0	3429	0	1319	0	3248	0	3338
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.6	0.0	21.1	0.0	20.1	0.0	17.7
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.2	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.7	0.0	22.3	0.0	20.1	0.0	17.7
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	3.1	0.0	0.7	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.2	0.0	3.3	0.0	0.7	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	5	0	272	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1720	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.1	0.0	8.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.1	0.0	8.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.49	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	279	0	355	0	279	0	381
V/C Ratio (X)	0.00	0.02	0.00	0.77	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1064	0	1277	0	1008	0	1036
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	19.3	0.0	21.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.3	0.0	22.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 18: Cook St & I-10 WB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕	↗		↕	↗		↕	↗
Traffic Volume (veh/h)	0	0	0	562	2	41	0	298	648	0	223	33
Future Volume (veh/h)	0	0	0	562	2	41	0	298	648	0	223	33
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				579	2	14	0	307	0	0	230	34
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				614	2	548	0	1970		0	2501	358
Arrive On Green				0.35	0.35	0.35	0.00	0.18	0.00	0.00	0.55	0.55
Sat Flow, veh/h				1775	6	1585	0	3647	1585	0	4680	646
Grp Volume(v), veh/h				581	0	14	0	307	0	0	172	92
Grp Sat Flow(s),veh/h/ln				1782	0	1585	0	1777	1585	0	1702	1754
Q Serve(g_s), s				34.8	0.0	0.6	0.0	8.0	0.0	0.0	2.6	2.7
Cycle Q Clear(g_c), s				34.8	0.0	0.6	0.0	8.0	0.0	0.0	2.6	2.7
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.37
Lane Grp Cap(c), veh/h				616	0	548	0	1970		0	1887	972
V/C Ratio(X)				0.94	0.00	0.03	0.00	0.16		0.00	0.09	0.09
Avail Cap(c_a), veh/h				648	0	576	0	1970		0	1887	972
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.84	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				34.9	0.0	23.8	0.0	23.3	0.0	0.0	11.5	11.5
Incr Delay (d2), s/veh				21.9	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				18.5	0.0	0.2	0.0	3.3	0.0	0.0	0.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				56.9	0.0	23.8	0.0	23.4	0.0	0.0	11.6	11.7
LnGrp LOS				E	A	C	A	C		A	B	B
Approach Vol, veh/h					595			307	A		264	
Approach Delay, s/veh					56.1			23.4			11.6	
Approach LOS					E			C			B	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		67.0				67.0		43.0				
Change Period (Y+Rc), s		6.0				6.0		5.0				
Max Green Setting (Gmax), s		59.0				59.0		40.0				
Max Q Clear Time (g_c+I1), s		10.0				4.7		36.8				
Green Ext Time (p_c), s		1.8				1.5		1.2				

Intersection Summary



















HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	562	2	41	0	298	648	0	223	33
Future Volume (veh/h)	0	0	0	562	2	41	0	298	648	0	223	33
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No				No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				579	2	14	0	307	0	0	230	34
Peak Hour Factor				0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Opposing Right Turn Influence				Yes			No			No		
Cap, veh/h				614	2	548	0	1970		0	2501	358
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green				0.35	0.35	0.35	0.00	0.18	0.00	0.00	0.55	0.55
Unsig. Movement Delay												
Ln Grp Delay, s/veh				56.9	0.0	23.8	0.0	23.4	0.0	0.0	11.6	11.7
Ln Grp LOS				E	A	C	A	C		A	B	B
Approach Vol, veh/h					595			307			264	
Approach Delay, s/veh					56.1			23.4			11.6	
Approach LOS					E			C			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8			6					
Case No			7.0	11.0			8.0					
Phs Duration (G+Y+Rc), s			67.0	43.0			67.0					
Change Period (Y+Rc), s			6.0	5.0			6.0					
Max Green (Gmax), s			59.0	40.0			59.0					
Max Allow Headway (MAH), s			4.7	5.3			4.8					
Max Q Clear (g_c+I1), s			10.0	36.8			4.7					
Green Ext Time (g_e), s			1.8	1.2			1.5					
Prob of Phs Call (p_c)			1.00	1.00			1.00					
Prob of Max Out (p_x)			0.00	1.00			0.00					
Left-Turn Movement Data												
Assigned Mvmt			5	3			1					
Mvmt Sat Flow, veh/h			0	1775			0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			3647	6			4680					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			1585	1585			646					
Left Lane Group Data												
Assigned Mvmt	0	5	3	0	0	1	0	0				
Lane Assignment			L+T									

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

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Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	581	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1782	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	34.8	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	61.0	0.0	0.0	0.0	61.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	616	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	648	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	34.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	21.9	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	56.9	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	14.8	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	18.5	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.53	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	307	0	0	0	172	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	8.0	0.0	0.0	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.0	0.0	0.0	0.0	2.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	1970	0	0	0	1887	0	0
V/C Ratio (X)	0.00	0.16	0.00	0.00	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	1970	0	0	0	1887	0	0
Upstream Filter (I)	0.00	0.84	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	23.3	0.0	0.0	0.0	11.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.4	0.0	0.0	0.0	11.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	0.0	0.0	0.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.3	0.0	0.0	0.0	0.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.17	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	14	0	0	92	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1754	0	0
Q Serve Time (g_s), s	0.0	0.0	0.6	0.0	0.0	2.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.6	0.0	0.0	2.7	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.37	0.00	0.00
Lane Grp Cap (c), veh/h	0	879	548	0	0	972	0	0
V/C Ratio (X)	0.00	0.00	0.03	0.00	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	879	576	0	0	972	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	23.8	0.0	0.0	11.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	23.8	0.0	0.0	11.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.2	0.0	0.0	0.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.2	0.0	0.0	1.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.00	0.07	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 19: Cook St & I-10 EB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	51	1	602	0	0	0	0	895	791	38	747	0	
Future Volume (veh/h)	51	1	602	0	0	0	0	895	791	38	747	0	
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0	
Adj Flow Rate, veh/h	53	0	442				0	932	824	40	778	0	
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96	
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0	
Cap, veh/h	299	0	533				0	2243	1044	57	3737	0	
Arrive On Green	0.17	0.00	0.17				0.00	0.66	0.66	0.06	1.00	0.00	
Sat Flow, veh/h	1781	0	3170				0	3572	1585	1781	5274	0	
Grp Volume(v), veh/h	53	0	442				0	932	824	40	778	0	
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1781	1702	0	
Q Serve(g_s), s	2.8	0.0	14.8				0.0	14.1	40.6	2.4	0.0	0.0	
Cycle Q Clear(g_c), s	2.8	0.0	14.8				0.0	14.1	40.6	2.4	0.0	0.0	
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00	
Lane Grp Cap(c), veh/h	299	0	533				0	2243	1044	57	3737	0	
V/C Ratio(X)	0.18	0.00	0.83				0.00	0.42	0.79	0.70	0.21	0.00	
Avail Cap(c_a), veh/h	486	0	865				0	2243	1044	405	3737	0	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00	
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.61	0.61	1.00	1.00	0.00	
Uniform Delay (d), s/veh	39.2	0.0	44.2				0.0	8.8	13.3	51.0	0.0	0.0	
Incr Delay (d2), s/veh	0.3	0.0	3.7				0.0	0.3	3.8	5.7	0.1	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.3	0.0	6.1				0.0	4.2	12.1	1.1	0.0	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	39.5	0.0	47.9				0.0	9.2	17.1	56.6	0.1	0.0	
LnGrp LOS	D	A	D				A	A	B	E	A	A	
Approach Vol, veh/h		495						1756			818		
Approach Delay, s/veh		47.0						12.9			2.9		
Approach LOS		D						B			A		
Timer - Assigned Phs	1	2	4	6									
Phs Duration (G+Y+Rc), s	8.0	78.5	23.5	86.5									
Change Period (Y+Rc), s	4.5	6.0	5.0	6.0									
Max Green Setting (Gmax), s	25.0	37.0	30.0	69.0									
Max Q Clear Time (g_c+I), s	14.4	42.6	16.8	2.0									
Green Ext Time (p_c), s	0.0	0.0	1.7	5.3									

Intersection Summary

HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	1	602	0	0	0	0	895	791	38	747	0
Future Volume (veh/h)	51	1	602	0	0	0	0	895	791	38	747	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	53	0	442				0	932	824	40	778	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	299	0	533				0	2243	1044	57	3737	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Prop Arrive On Green	0.17	0.00	0.17				0.00	0.66	0.66	0.06	1.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	39.5	0.0	47.9				0.0	9.2	17.1	56.6	0.1	0.0
Ln Grp LOS	D	A	D				A	A	B	E	A	A
Approach Vol, veh/h		495						1756			818	
Approach Delay, s/veh		47.0						12.9			2.9	
Approach LOS		D						B			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	8.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		8.0	78.5		23.5		86.5					
Change Period (Y+Rc), s		4.5	6.0		5.0		6.0					
Max Green (Gmax), s		25.0	37.0		30.0		69.0					
Max Allow Headway (MAH), s		2.6	4.9		4.0		4.7					
Max Q Clear (g_c+I1), s		4.4	42.6		16.8		2.0					
Green Ext Time (g_e), s		0.0	0.0		1.7		5.3					
Prob of Phs Call (p_c)		0.71	1.00		1.00		1.00					
Prob of Max Out (p_x)		0.00	0.00		0.02		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		1781	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			3572		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

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Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	40	0	0	53	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	2.4	0.0	0.0	2.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	2.4	0.0	0.0	2.8	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	72.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	57	0	0	299	0	0	0	0
V/C Ratio (X)	0.70	0.00	0.00	0.18	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	405	0	0	486	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	51.0	0.0	0.0	39.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.7	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	56.6	0.0	0.0	39.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.1	0.0	0.0	1.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.10	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	3	0	0
Grp Vol (v), veh/h	0	932	0	0	0	778	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	14.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2243	0	0	0	3737	0	0
V/C Ratio (X)	0.00	0.42	0.00	0.00	0.00	0.21	0.00	0.00
Avail Cap (c_a), veh/h	0	2243	0	0	0	3737	0	0
Upstream Filter (I)	0.00	0.61	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.2	0.0	0.0	0.0	0.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	824	0	442	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	40.6	0.0	14.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	40.6	0.0	14.8	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1044	0	533	0	0	0	0
V/C Ratio (X)	0.00	0.79	0.00	0.83	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1044	0	865	0	0	0	0
Upstream Filter (I)	0.00	0.61	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	44.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.8	0.0	3.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.1	0.0	47.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	11.0	0.0	5.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.1	0.0	0.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	12.1	0.0	6.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.37	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 20: Cook St & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	436	201	144	88	195	152	196	1001	28	223	910	216
Future Volume (veh/h)	436	201	144	88	195	152	196	1001	28	223	910	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	474	218	0	96	212	10	213	1088	6	242	989	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	573	747		257	422	188	309	1348	418	340	1394	433
Arrive On Green	0.17	0.21	0.00	0.07	0.12	0.12	0.09	0.26	0.26	0.10	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	474	218	0	96	212	10	213	1088	6	242	989	71
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	8.9	3.5	0.0	1.8	3.8	0.4	4.0	13.4	0.2	4.6	11.8	2.3
Cycle Q Clear(g_c), s	8.9	3.5	0.0	1.8	3.8	0.4	4.0	13.4	0.2	4.6	11.8	2.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	573	747		257	422	188	309	1348	418	340	1394	433
V/C Ratio(X)	0.83	0.29		0.37	0.50	0.05	0.69	0.81	0.01	0.71	0.71	0.16
Avail Cap(c_a), veh/h	1025	1318		769	1318	588	1025	3409	1058	1025	3409	1058
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.2	22.4	0.0	29.7	27.8	26.3	29.8	23.2	18.3	29.5	22.1	18.6
Incr Delay (d2), s/veh	1.2	0.1	0.0	0.3	0.3	0.0	1.0	0.4	0.0	1.0	0.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	1.3	0.0	0.7	1.5	0.1	1.5	4.6	0.1	1.7	4.0	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	22.5	0.0	30.0	28.2	26.4	30.8	23.6	18.3	30.5	22.3	18.7
LnGrp LOS	C	C		C	C	C	C	C	B	C	C	B
Approach Vol, veh/h		692	A		318			1307			1302	
Approach Delay, s/veh		26.5			28.7			24.8			23.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	24.6	10.5	19.7	12.0	25.2	16.7	13.5				
Change Period (Y+Rc), s	6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5				
Max Green Setting (Gmax), s	20.0	45.0	15.0	25.0	20.0	45.0	20.0	25.0				
Max Q Clear Time (g_c+1), s	10.6	15.4	3.8	5.5	6.0	13.8	10.9	5.8				
Green Ext Time (p_c), s	0.1	2.4	0.0	0.4	0.1	2.1	0.2	0.4				

Intersection Summary

























HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 20: Cook St & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	436	201	144	88	195	152	196	1001	28	223	910	216
Future Volume (veh/h)	436	201	144	88	195	152	196	1001	28	223	910	216
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	474	218	0	96	212	10	213	1088	6	242	989	71
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	573	747		257	422	188	309	1348	418	340	1394	433
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.17	0.21	0.00	0.07	0.12	0.12	0.09	0.26	0.26	0.10	0.27	0.27
Unsig. Movement Delay												
Ln Grp Delay, s/veh	28.4	22.5	0.0	30.0	28.2	26.4	30.8	23.6	18.3	30.5	22.3	18.7
Ln Grp LOS	C	C		C	C	C	C	C	B	C	C	B
Approach Vol, veh/h	692			318			1307			1302		
Approach Delay, s/veh	26.5			28.7			24.8			23.7		
Approach LOS	C			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	12.6	24.6	10.5	19.7	12.0	25.2	16.7	13.5				
Change Period (Y+Rc), s	6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5				
Max Green (Gmax), s	20.0	45.0	15.0	25.0	20.0	45.0	20.0	25.0				
Max Allow Headway (MAH), s	1.6	2.7	1.7	2.8	1.6	2.7	1.7	2.8				
Max Q Clear (g_c+I1), s	6.6	15.4	3.8	5.5	6.0	13.8	10.9	5.8				
Green Ext Time (g_e), s	0.1	2.4	0.0	0.4	0.1	2.1	0.2	0.4				
Prob of Phs Call (p_c)	0.99	1.00	0.83	1.00	0.98	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	3456		3456		3456		3456					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		5106		3554		5106		3554				
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	242	0	96	0	213	0	474	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	4.6	0.0	1.8	0.0	4.0	0.0	8.9	0.0
Cycle Q Clear Time (g_c), s	4.6	0.0	1.8	0.0	4.0	0.0	8.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	340	0	257	0	309	0	573	0
V/C Ratio (X)	0.71	0.00	0.37	0.00	0.69	0.00	0.83	0.00
Avail Cap (c_a), veh/h	1025	0	769	0	1025	0	1025	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	29.5	0.0	29.7	0.0	29.8	0.0	27.2	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.3	0.0	1.0	0.0	1.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	30.5	0.0	30.0	0.0	30.8	0.0	28.4	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	0.7	0.0	1.5	0.0	3.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.7	0.0	0.7	0.0	1.5	0.0	3.3	0.0
%ile Storage Ratio (RQ%)	0.15	0.00	0.11	0.00	0.18	0.00	0.38	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	1088	0	218	0	989	0	212
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	13.4	0.0	3.5	0.0	11.8	0.0	3.8
Cycle Q Clear Time (g_c), s	0.0	13.4	0.0	3.5	0.0	11.8	0.0	3.8
Lane Grp Cap (c), veh/h	0	1348	0	747	0	1394	0	422
V/C Ratio (X)	0.00	0.81	0.00	0.29	0.00	0.71	0.00	0.50
Avail Cap (c_a), veh/h	0	3409	0	1318	0	3409	0	1318
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.2	0.0	22.4	0.0	22.1	0.0	27.8
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.1	0.0	0.3	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.6	0.0	22.5	0.0	22.3	0.0	28.2
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	1.3	0.0	3.9	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.6	0.0	1.3	0.0	4.0	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.04	0.00	0.07	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	6	0	0	0	71	0	10
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.2	0.0	0.0	0.0	2.3	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	0.0	0.0	2.3	0.0	0.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	418	0	333	0	433	0	188
V/C Ratio (X)	0.00	0.01	0.00	0.00	0.00	0.16	0.00	0.05
Avail Cap (c_a), veh/h	0	1058	0	588	0	1058	0	588
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.3	0.0	0.0	0.0	18.6	0.0	26.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.3	0.0	0.0	0.0	18.7	0.0	26.4
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	0.7	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.7	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.11	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

21: SR-111 & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	46	65	34	150	39	357	33	1444	209	336	1248	41
Future Volume (veh/h)	46	65	34	150	39	357	33	1444	209	336	1248	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	72	38	167	43	0	37	1604	0	373	1387	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	118	62	260	264		53	1970		480	2528	785
Arrive On Green	0.04	0.10	0.10	0.08	0.14	0.00	0.03	0.39	0.00	0.14	0.50	0.50
Sat Flow, veh/h	1781	1153	608	3456	1870	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	51	0	110	167	43	0	37	1604	0	373	1387	20
Grp Sat Flow(s),veh/h/ln	1781	0	1761	1728	1870	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	2.0	0.0	4.1	3.2	1.4	0.0	1.4	19.3	0.0	7.2	12.9	0.4
Cycle Q Clear(g_c), s	2.0	0.0	4.1	3.2	1.4	0.0	1.4	19.3	0.0	7.2	12.9	0.4
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	64	0	180	260	264		53	1970		480	2528	785
V/C Ratio(X)	0.79	0.00	0.61	0.64	0.16		0.70	0.81		0.78	0.55	0.03
Avail Cap(c_a), veh/h	518	0	1152	1005	1224		518	2376		1005	2528	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.9	0.0	29.6	30.9	26.0	0.0	33.1	18.9	0.0	28.6	12.0	8.9
Incr Delay (d2), s/veh	7.8	0.0	3.3	1.0	0.3	0.0	6.2	1.6	0.0	1.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.8	1.3	0.6	0.0	0.7	7.2	0.0	2.9	4.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.7	0.0	32.9	31.9	26.3	0.0	39.3	20.5	0.0	29.6	12.2	8.9
LnGrp LOS	D	A	C	C	C		D	C		C	B	A
Approach Vol, veh/h	161			210			A	1641			A	1780
Approach Delay, s/veh	35.4			30.7				20.9				15.8
Approach LOS	D			C				C				B
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.2	14.0	6.0	39.6	6.5	16.7	13.5	32.0				
Change Period (Y+Rc), s	4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5				
Max Green Setting (Gmax), s	20.0	45.0	20.0	25.0	20.0	45.0	20.0	32.0				
Max Q Clear Time (g_c+1), s	15.2	6.1	3.4	14.9	4.0	3.4	9.2	21.3				
Green Ext Time (p_c), s	0.2	0.6	0.0	4.3	0.0	0.2	0.4	5.2				

Intersection Summary






























HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 21: SR-111 & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  		 	  	
Traffic Volume (veh/h)	46	65	34	150	39	357	33	1444	209	336	1248	41
Future Volume (veh/h)	46	65	34	150	39	357	33	1444	209	336	1248	41
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	72	38	167	43	0	37	1604	0	373	1387	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	64	118	62	260	264		53	1970		480	2528	785
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.10	0.10	0.08	0.14	0.00	0.03	0.39	0.00	0.14	0.50	0.50
Unsig. Movement Delay												
Ln Grp Delay, s/veh	40.7	0.0	32.9	31.9	26.3	0.0	39.3	20.5	0.0	29.6	12.2	8.9
Ln Grp LOS	D	A	C	C	C		D	C		C	B	A
Approach Vol, veh/h		161			210			1641			1780	
Approach Delay, s/veh		35.4			30.7			20.9			15.8	
Approach LOS		D			C			C			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.2	14.0	6.0	39.6	6.5	16.7	13.5	32.0			
Change Period (Y+Rc), s		4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5			
Max Green (Gmax), s		20.0	45.0	20.0	25.0	20.0	45.0	20.0	32.0			
Max Allow Headway (MAH), s		2.3	5.0	2.3	3.7	2.2	5.2	2.3	3.7			
Max Q Clear (g_c+I1), s		5.2	6.1	3.4	14.9	4.0	3.4	9.2	21.3			
Green Ext Time (g_e), s		0.2	0.6	0.0	4.3	0.0	0.2	0.4	5.2			
Prob of Phs Call (p_c)		0.96	0.88	0.51	1.00	0.62	0.56	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.40			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		1781		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1153		5106		1870		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			608		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	1	0	1	0	2	0
Grp Vol (v), veh/h	167	0	37	0	51	0	373	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	3.2	0.0	1.4	0.0	2.0	0.0	7.2	0.0
Cycle Q Clear Time (g_c), s	3.2	0.0	1.4	0.0	2.0	0.0	7.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	260	0	53	0	64	0	480	0
V/C Ratio (X)	0.64	0.00	0.70	0.00	0.79	0.00	0.78	0.00
Avail Cap (c_a), veh/h	1005	0	518	0	518	0	1005	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	30.9	0.0	33.1	0.0	32.9	0.0	28.6	0.0
Incr Delay (d2), s/veh	1.0	0.0	6.2	0.0	7.8	0.0	1.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.9	0.0	39.3	0.0	40.7	0.0	29.6	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	0.6	0.0	0.8	0.0	2.8	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.3	0.0	0.7	0.0	0.9	0.0	2.9	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.11	0.00	0.05	0.00	0.23	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	3	0	1	0	3
Grp Vol (v), veh/h	0	0	0	1387	0	43	0	1604
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	12.9	0.0	1.4	0.0	19.3
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	12.9	0.0	1.4	0.0	19.3
Lane Grp Cap (c), veh/h	0	0	0	2528	0	264	0	1970
V/C Ratio (X)	0.00	0.00	0.00	0.55	0.00	0.16	0.00	0.81
Avail Cap (c_a), veh/h	0	0	0	2528	0	1224	0	2376
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	12.0	0.0	26.0	0.0	18.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.3	0.0	1.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	12.2	0.0	26.3	0.0	20.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.3	0.0	0.6	0.0	6.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	4.3	0.0	0.6	0.0	7.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.17
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	110	0	20	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1761	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	4.1	0.0	0.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.1	0.0	0.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.35	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	180	0	785	0	224	0	612
V/C Ratio (X)	0.00	0.61	0.00	0.03	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	1152	0	785	0	1037	0	738
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	29.6	0.0	8.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.9	0.0	8.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.6	0.0	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.8	0.0	0.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

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




















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↑	↖↗	↖	↖↗	
Traffic Volume (veh/h)	18	506	126	49	624	36	174	39	38	17	27	10
Future Volume (veh/h)	18	506	126	49	624	36	174	39	38	17	27	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	522	130	51	643	37	179	40	20	18	28	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	838	208	214	1015	58	817	979	830	796	1365	461
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	760	2822	700	780	3415	196	1370	1870	1585	1343	2607	881
Grp Volume(v), veh/h	19	328	324	51	334	346	179	40	20	18	19	19
Grp Sat Flow(s),veh/h/ln	760	1777	1744	780	1777	1835	1370	1870	1585	1343	1777	1712
Q Serve(g_s), s	1.5	10.6	10.7	4.0	10.9	10.9	4.8	0.7	0.4	0.4	0.3	0.4
Cycle Q Clear(g_c), s	12.4	10.6	10.7	14.8	10.9	10.9	5.2	0.7	0.4	1.1	0.3	0.4
Prop In Lane	1.00		0.40	1.00		0.11	1.00		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	210	528	518	214	528	545	817	979	830	796	930	896
V/C Ratio(X)	0.09	0.62	0.63	0.24	0.63	0.63	0.22	0.04	0.02	0.02	0.02	0.02
Avail Cap(c_a), veh/h	279	691	678	286	691	713	817	979	830	796	930	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	20.3	20.3	26.7	20.3	20.4	8.9	7.8	7.7	8.0	7.7	7.7
Incr Delay (d2), s/veh	0.2	1.2	1.2	0.6	1.3	1.2	0.6	0.1	0.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	4.0	4.0	0.8	4.4	4.5	1.3	0.2	0.1	0.1	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	21.5	21.5	27.2	21.6	21.6	9.6	7.8	7.7	8.1	7.7	7.7
LnGrp LOS	C	C	C	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		671			731			239			56	
Approach Delay, s/veh		21.6			22.0			9.1			7.8	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.5		25.4		41.5		25.4				
Change Period (Y+Rc), s		6.5		5.5		6.5		5.5				
Max Green Setting (Gmax), s		35.0		26.0		35.0		26.0				
Max Q Clear Time (g_c+1), s		7.2		14.4		3.1		16.8				
Green Ext Time (p_c), s		0.7		2.9		0.2		3.1				
Intersection Summary												
HCM 6th Ctrl Delay											19.6	
HCM 6th LOS											B	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	506	126	49	624	36	174	39	38	17	27	10
Future Volume (veh/h)	18	506	126	49	624	36	174	39	38	17	27	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	522	130	51	643	37	179	40	20	18	28	10
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	210	838	208	214	1015	58	817	979	830	796	1365	461
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.52	0.52	0.52	0.52	0.52	0.52
Unsig. Movement Delay												
Ln Grp Delay, s/veh	25.9	21.5	21.5	27.2	21.6	21.6	9.6	7.8	7.7	8.1	7.7	7.7
Ln Grp LOS	C	C	C	C	C	C	A	A	A	A	A	A
Approach Vol, veh/h		671			731			239			56	
Approach Delay, s/veh		21.6			22.0			9.1			7.8	
Approach LOS		C			C			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			5.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			41.5		25.4		41.5		25.4			
Change Period (Y+Rc), s			6.5		5.5		6.5		5.5			
Max Green (Gmax), s			35.0		26.0		35.0		26.0			
Max Allow Headway (MAH), s			3.9		5.0		4.9		5.3			
Max Q Clear (g_c+I1), s			7.2		14.4		3.1		16.8			
Green Ext Time (g_e), s			0.7		2.9		0.2		3.1			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.25		0.00		0.52			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1370		760		1343		780			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1870		2822		2607		3415			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		700		881		196			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	179	0	19	0	18	0	51
Grp Sat Flow (s), veh/h/ln	0	1370	0	760	0	1343	0	780
Q Serve Time (g_s), s	0.0	4.8	0.0	1.5	0.0	0.4	0.0	4.0
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	12.4	0.0	1.1	0.0	14.8
Perm LT Sat Flow (s_l), veh/h/ln	0	1370	0	760	0	1343	0	780
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	35.0	0.0	19.9	0.0	35.0	0.0	19.9
Perm LT Serve Time (g_u), s	0.0	34.6	0.0	9.0	0.0	34.3	0.0	9.1
Perm LT Q Serve Time (g_ps), s	0.0	4.8	0.0	1.5	0.0	0.4	0.0	4.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	817	0	210	0	796	0	214
V/C Ratio (X)	0.00	0.22	0.00	0.09	0.00	0.02	0.00	0.24
Avail Cap (c_a), veh/h	0	817	0	279	0	796	0	286
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.9	0.0	25.7	0.0	8.0	0.0	26.7
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.2	0.0	0.1	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.6	0.0	25.9	0.0	8.1	0.0	27.2
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.2	0.0	0.1	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	0.3	0.0	0.1	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.06	0.00	0.03	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	40	0	328	0	19	0	334
Grp Sat Flow (s), veh/h/ln	0	1870	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.7	0.0	10.6	0.0	0.3	0.0	10.9
Cycle Q Clear Time (g_c), s	0.0	0.7	0.0	10.6	0.0	0.3	0.0	10.9
Lane Grp Cap (c), veh/h	0	979	0	528	0	930	0	528
V/C Ratio (X)	0.00	0.04	0.00	0.62	0.00	0.02	0.00	0.63
Avail Cap (c_a), veh/h	0	979	0	691	0	930	0	691
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	7.8	0.0	20.3	0.0	7.7	0.0	20.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.2	0.0	0.0	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.8	0.0	21.5	0.0	7.7	0.0	21.6
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	3.8	0.0	0.1	0.0	4.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	4.0	0.0	0.1	0.0	4.4
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	20	0	324	0	19	0	346
Grp Sat Flow (s), veh/h/ln	0	1585	0	1744	0	1712	0	1835
Q Serve Time (g_s), s	0.0	0.4	0.0	10.7	0.0	0.4	0.0	10.9
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	10.7	0.0	0.4	0.0	10.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.40	0.00	0.51	0.00	0.11
Lane Grp Cap (c), veh/h	0	830	0	518	0	896	0	545
V/C Ratio (X)	0.00	0.02	0.00	0.63	0.00	0.02	0.00	0.63
Avail Cap (c_a), veh/h	0	830	0	678	0	896	0	713
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	7.7	0.0	20.3	0.0	7.7	0.0	20.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.2	0.0	0.0	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.7	0.0	21.5	0.0	7.7	0.0	21.6
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	3.8	0.0	0.1	0.0	4.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	4.0	0.0	0.1	0.0	4.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
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





















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↘		↖↗	↑↑	↖	↖↗	↑↑↑		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	72	412	85	82	443	102	187	870	203	130	637	98
Future Volume (veh/h)	72	412	85	82	443	102	187	870	203	130	637	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	434	89	86	466	22	197	916	214	137	671	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	569	116	169	696	310	280	1909	444	212	2263	702
Arrive On Green	0.05	0.19	0.19	0.05	0.20	0.20	0.08	0.46	0.46	0.06	0.44	0.44
Sat Flow, veh/h	3456	2931	596	3456	3554	1585	3456	4125	960	3456	5106	1585
Grp Volume(v), veh/h	76	262	261	86	466	22	197	755	375	137	671	41
Grp Sat Flow(s),veh/h/ln	1728	1777	1750	1728	1777	1585	1728	1702	1681	1728	1702	1585
Q Serve(g_s), s	1.9	12.6	12.8	2.2	11.0	1.0	5.0	13.8	13.9	3.5	7.6	1.3
Cycle Q Clear(g_c), s	1.9	12.6	12.8	2.2	11.0	1.0	5.0	13.8	13.9	3.5	7.6	1.3
Prop In Lane	1.00		0.34	1.00		1.00	1.00		0.57	1.00		1.00
Lane Grp Cap(c), veh/h	163	345	340	169	696	310	280	1576	778	212	2263	702
V/C Ratio(X)	0.47	0.76	0.77	0.51	0.67	0.07	0.70	0.48	0.48	0.65	0.30	0.06
Avail Cap(c_a), veh/h	766	689	679	766	1378	615	766	1576	778	766	2263	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.9	34.4	34.5	41.9	33.6	29.6	40.4	16.7	16.8	41.4	16.1	14.4
Incr Delay (d2), s/veh	1.5	3.4	3.7	1.7	1.1	0.1	2.4	1.0	2.1	2.4	0.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.4	5.5	0.9	4.5	0.4	2.1	5.0	5.2	1.5	2.7	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	37.8	38.2	43.6	34.7	29.7	42.8	17.8	18.9	43.8	16.4	14.5
LnGrp LOS	D	D	D	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		599		574		1327		849				
Approach Delay, s/veh		38.7		35.9		21.8		20.8				
Approach LOS		D		D		C		C				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	1.3	46.5	8.4	24.0	9.5	48.3	8.3	24.2				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	40.0	20.0	35.0	20.0	40.0	20.0	35.0				
Max Q Clear Time (g_c+1), s	17.0	9.6	4.2	14.8	5.5	15.9	3.9	13.0				
Green Ext Time (p_c), s	0.4	4.5	0.1	2.7	0.2	7.6	0.1	2.7				
Intersection Summary												
HCM 6th Ctrl Delay				27.0								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	412	85	82	443	102	187	870	203	130	637	98
Future Volume (veh/h)	72	412	85	82	443	102	187	870	203	130	637	98
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	76	434	89	86	466	22	197	916	214	137	671	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	163	569	116	169	696	310	280	1909	444	212	2263	702
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.19	0.19	0.05	0.20	0.20	0.08	0.46	0.46	0.06	0.44	0.44
Unsig. Movement Delay												
Ln Grp Delay, s/veh	43.4	37.8	38.2	43.6	34.7	29.7	42.8	17.8	18.9	43.8	16.4	14.5
Ln Grp LOS	D	D	D	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		599			574			1327			849	
Approach Delay, s/veh		38.7			35.9			21.8			20.8	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		11.3	46.5	8.4	24.0	9.5	48.3	8.3	24.2			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	40.0	20.0	35.0	20.0	40.0	20.0	35.0			
Max Allow Headway (MAH), s		3.2	4.8	3.2	5.0	3.2	5.0	3.2	4.8			
Max Q Clear (g_c+I1), s		7.0	9.6	4.2	14.8	5.5	15.9	3.9	13.0			
Green Ext Time (g_e), s		0.4	4.5	0.1	2.7	0.2	7.6	0.1	2.7			
Prob of Phs Call (p_c)		0.99	1.00	0.88	1.00	0.97	1.00	0.85	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		2931		4125		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		596		960		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	197	0	86	0	137	0	76	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	5.0	0.0	2.2	0.0	3.5	0.0	1.9	0.0
Cycle Q Clear Time (g_c), s	5.0	0.0	2.2	0.0	3.5	0.0	1.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	280	0	169	0	212	0	163	0
V/C Ratio (X)	0.70	0.00	0.51	0.00	0.65	0.00	0.47	0.00
Avail Cap (c_a), veh/h	766	0	766	0	766	0	766	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	40.4	0.0	41.9	0.0	41.4	0.0	41.9	0.0
Incr Delay (d2), s/veh	2.4	0.0	1.7	0.0	2.4	0.0	1.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	42.8	0.0	43.6	0.0	43.8	0.0	43.4	0.0
1st-Term Q (Q1), veh/ln	2.0	0.0	0.9	0.0	1.4	0.0	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	0.9	0.0	1.5	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.17	0.00	0.19	0.00	0.12	0.00	0.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	2	0	2
Grp Vol (v), veh/h	0	671	0	262	0	755	0	466
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	7.6	0.0	12.6	0.0	13.8	0.0	11.0
Cycle Q Clear Time (g_c), s	0.0	7.6	0.0	12.6	0.0	13.8	0.0	11.0
Lane Grp Cap (c), veh/h	0	2263	0	345	0	1576	0	696
V/C Ratio (X)	0.00	0.30	0.00	0.76	0.00	0.48	0.00	0.67
Avail Cap (c_a), veh/h	0	2263	0	689	0	1576	0	1378
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.1	0.0	34.4	0.0	16.7	0.0	33.6
Incr Delay (d2), s/veh	0.0	0.3	0.0	3.4	0.0	1.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.4	0.0	37.8	0.0	17.8	0.0	34.7
1st-Term Q (Q1), veh/ln	0.0	2.6	0.0	5.1	0.0	4.8	0.0	4.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	0.2	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	5.4	0.0	5.0	0.0	4.5
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.03	0.00	0.08	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	41	0	261	0	375	0	22
Grp Sat Flow (s), veh/h/ln	0	1585	0	1750	0	1681	0	1585
Q Serve Time (g_s), s	0.0	1.3	0.0	12.8	0.0	13.9	0.0	1.0
Cycle Q Clear Time (g_c), s	0.0	1.3	0.0	12.8	0.0	13.9	0.0	1.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.34	0.00	0.57	0.00	1.00
Lane Grp Cap (c), veh/h	0	702	0	340	0	778	0	310
V/C Ratio (X)	0.00	0.06	0.00	0.77	0.00	0.48	0.00	0.07
Avail Cap (c_a), veh/h	0	702	0	679	0	778	0	615
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.4	0.0	34.5	0.0	16.8	0.0	29.6
Incr Delay (d2), s/veh	0.0	0.2	0.0	3.7	0.0	2.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.5	0.0	38.2	0.0	18.9	0.0	29.7
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	5.1	0.0	4.8	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	5.5	0.0	5.2	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.03	0.00	0.08	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	27.0
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 24: Monterey Ave & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↔		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	178	489	127	96	335	120	116	1433	111	161	1313	175
Future Volume (veh/h)	178	489	127	96	335	120	116	1433	111	161	1313	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	504	24	99	345	124	120	1477	114	166	1354	116
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	236	594	265	148	503	224	171	2727	210	218	2950	916
Arrive On Green	0.07	0.17	0.17	0.04	0.14	0.14	0.05	0.56	0.56	0.06	0.58	0.58
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4834	373	3456	5106	1585
Grp Volume(v), veh/h	184	504	24	99	345	124	120	1040	551	166	1354	116
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1803	1728	1702	1585
Q Serve(g_s), s	6.6	17.3	1.6	3.6	11.6	9.2	4.3	24.2	24.2	6.0	19.2	4.2
Cycle Q Clear(g_c), s	6.6	17.3	1.6	3.6	11.6	9.2	4.3	24.2	24.2	6.0	19.2	4.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	236	594	265	148	503	224	171	1920	1017	218	2950	916
V/C Ratio(X)	0.78	0.85	0.09	0.67	0.69	0.55	0.70	0.54	0.54	0.76	0.46	0.13
Avail Cap(c_a), veh/h	302	987	440	302	987	440	302	1920	1017	302	2950	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.94	0.94	0.94	0.75	0.75	0.75	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	50.9	44.4	59.4	51.4	50.4	59.0	17.2	17.2	58.1	15.3	12.1
Incr Delay (d2), s/veh	6.3	1.5	0.0	1.8	0.6	0.7	1.5	0.8	1.6	4.3	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	7.6	0.6	1.5	5.0	3.6	1.9	8.6	9.4	2.6	6.8	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.0	52.4	44.4	61.2	52.0	51.1	60.4	18.1	18.8	62.4	15.8	12.4
LnGrp LOS	E	D	D	E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		712			568			1711			1636	
Approach Delay, s/veh		55.1			53.4			21.3			20.3	
Approach LOS		E			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.2	79.3	12.6	23.8	12.0	77.6	9.4	27.1				
Change Period (Y+Rc), s	4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0				
Max Green Setting (Gmax), s	48.5	48.5	11.0	* 35	11.0	48.5	11.0	35.0				
Max Q Clear Time (g_c+1/3), s	21.2	21.2	8.6	13.6	8.0	26.2	5.6	19.3				
Green Ext Time (p_c), s	0.0	6.3	0.0	1.3	0.0	6.5	0.0	1.7				

Intersection Summary

HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 24: Monterey Ave & Frank Sinatra Dr

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	489	127	96	335	120	116	1433	111	161	1313	175
Future Volume (veh/h)	178	489	127	96	335	120	116	1433	111	161	1313	175
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	184	504	24	99	345	124	120	1477	114	166	1354	116
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	236	594	265	148	503	224	171	2727	210	218	2950	916
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.17	0.17	0.04	0.14	0.14	0.05	0.56	0.56	0.06	0.58	0.58
Unsig. Movement Delay												
Ln Grp Delay, s/veh	64.0	52.4	44.4	61.2	52.0	51.1	60.4	18.1	18.8	62.4	15.8	12.4
Ln Grp LOS	E	D	D	E	D	D	E	B	B	E	B	B
Approach Vol, veh/h		712			568			1711			1636	
Approach Delay, s/veh		55.1			53.4			21.3			20.3	
Approach LOS		E			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.2	79.3	12.6	23.8	12.0	77.6	9.4	27.1			
Change Period (Y+Rc), s		4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0			
Max Green (Gmax), s		11.0	48.5	11.0	* 35	11.0	48.5	11.0	35.0			
Max Allow Headway (MAH), s		1.8	3.7	1.7	3.5	1.6	3.8	1.6	3.8			
Max Q Clear (g_c+I1), s		6.3	21.2	8.6	13.6	8.0	26.2	5.6	19.3			
Green Ext Time (g_e), s		0.0	6.3	0.0	1.3	0.0	6.5	0.0	1.7			
Prob of Phs Call (p_c)		0.99	1.00	1.00	1.00	1.00	1.00	0.97	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.14	0.00	0.02	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4834		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		373		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 24: Monterey Ave & Frank Sinatra Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	120	0	184	0	166	0	99	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	4.3	0.0	6.6	0.0	6.0	0.0	3.6	0.0
Cycle Q Clear Time (g_c), s	4.3	0.0	6.6	0.0	6.0	0.0	3.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	171	0	236	0	218	0	148	0
V/C Ratio (X)	0.70	0.00	0.78	0.00	0.76	0.00	0.67	0.00
Avail Cap (c_a), veh/h	302	0	302	0	302	0	302	0
Upstream Filter (I)	0.75	0.00	0.88	0.00	1.00	0.00	0.94	0.00
Uniform Delay (d1), s/veh	59.0	0.0	57.8	0.0	58.1	0.0	59.4	0.0
Incr Delay (d2), s/veh	1.5	0.0	6.3	0.0	4.3	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.4	0.0	64.0	0.0	62.4	0.0	61.2	0.0
1st-Term Q (Q1), veh/ln	1.8	0.0	2.8	0.0	2.5	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.9	0.0	3.0	0.0	2.6	0.0	1.5	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.48	0.00	0.34	0.00	0.28	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1354	0	345	0	1040	0	504
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	19.2	0.0	11.6	0.0	24.2	0.0	17.3
Cycle Q Clear Time (g_c), s	0.0	19.2	0.0	11.6	0.0	24.2	0.0	17.3
Lane Grp Cap (c), veh/h	0	2950	0	503	0	1920	0	594
V/C Ratio (X)	0.00	0.46	0.00	0.69	0.00	0.54	0.00	0.85
Avail Cap (c_a), veh/h	0	2950	0	987	0	1920	0	987
Upstream Filter (I)	0.00	1.00	0.00	0.94	0.00	0.75	0.00	0.88
Uniform Delay (d1), s/veh	0.0	15.3	0.0	51.4	0.0	17.2	0.0	50.9
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.6	0.0	0.8	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.8	0.0	52.0	0.0	18.1	0.0	52.4
1st-Term Q (Q1), veh/ln	0.0	6.6	0.0	5.0	0.0	8.4	0.0	7.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

24: Monterey Ave & Frank Sinatra Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.8	0.0	5.0	0.0	8.6	0.0	7.6
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.02	0.00	0.04	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	116	0	124	0	551	0	24
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1803	0	1585
Q Serve Time (g_s), s	0.0	4.2	0.0	9.2	0.0	24.2	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	4.2	0.0	9.2	0.0	24.2	0.0	1.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.21	0.00	1.00
Lane Grp Cap (c), veh/h	0	916	0	224	0	1017	0	265
V/C Ratio (X)	0.00	0.13	0.00	0.55	0.00	0.54	0.00	0.09
Avail Cap (c_a), veh/h	0	916	0	440	0	1017	0	440
Upstream Filter (I)	0.00	1.00	0.00	0.94	0.00	0.75	0.00	0.88
Uniform Delay (d1), s/veh	0.0	12.1	0.0	50.4	0.0	17.2	0.0	44.4
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.7	0.0	1.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.4	0.0	51.1	0.0	18.8	0.0	44.4
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	3.5	0.0	8.9	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	3.6	0.0	9.4	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.65	0.00	0.05	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.1
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 25: Portola Ave/Portola Rd & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	590	85	78	381	31	151	411	106	62	289	12
Future Volume (veh/h)	8	590	85	78	381	31	151	411	106	62	289	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	602	23	80	389	11	154	419	108	63	295	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	30	784	350	177	1079	481	224	846	211	156	855	34
Arrive On Green	0.02	0.22	0.22	0.10	0.30	0.30	0.13	0.21	0.21	0.09	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	4076	1016	1781	5035	203
Grp Volume(v), veh/h	8	602	23	80	389	11	154	348	179	63	199	108
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1702	1688	1781	1702	1834
Q Serve(g_s), s	0.3	9.3	0.7	2.5	5.0	0.3	4.8	5.3	5.5	2.0	3.0	3.1
Cycle Q Clear(g_c), s	0.3	9.3	0.7	2.5	5.0	0.3	4.8	5.3	5.5	2.0	3.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		0.11
Lane Grp Cap(c), veh/h	30	784	350	177	1079	481	224	707	350	156	578	311
V/C Ratio(X)	0.27	0.77	0.07	0.45	0.36	0.02	0.69	0.49	0.51	0.40	0.34	0.35
Avail Cap(c_a), veh/h	457	2126	948	457	2126	948	457	2036	1009	457	2036	1097
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.4	21.4	18.0	24.8	15.9	14.3	24.5	20.5	20.6	25.2	21.4	21.4
Incr Delay (d2), s/veh	1.8	0.6	0.0	0.7	0.1	0.0	1.4	0.2	0.4	0.6	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.6	0.2	1.0	1.9	0.1	2.0	2.0	2.0	0.8	1.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.2	22.0	18.1	25.5	16.0	14.3	25.9	20.7	21.0	25.9	21.5	21.7
LnGrp LOS	C	C	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		633			480			681			370	
Approach Delay, s/veh		22.0			17.6			21.9			22.3	
Approach LOS		C			B			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.1	18.7	10.8	18.9	12.3	16.4	6.0	23.8				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0				
Max Green Setting (Gmax), s	15.0	35.0	15.0	35.0	15.0	35.0	15.0	35.0				
Max Q Clear Time (g_c+14), s	14.0	7.5	4.5	11.3	6.8	5.1	2.3	7.0				
Green Ext Time (p_c), s	0.0	1.3	0.0	1.6	0.0	0.7	0.0	1.0				
Intersection Summary												
HCM 6th Ctrl Delay											21.0	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
 25: Portola Ave/Portola Rd & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗	↙	↑↑↗		↙	↑↑↗	
Traffic Volume (veh/h)	8	590	85	78	381	31	151	411	106	62	289	12
Future Volume (veh/h)	8	590	85	78	381	31	151	411	106	62	289	12
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	602	23	80	389	11	154	419	108	63	295	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	30	784	350	177	1079	481	224	846	211	156	855	34
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.22	0.22	0.10	0.30	0.30	0.13	0.21	0.21	0.09	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	30.2	22.0	18.1	25.5	16.0	14.3	25.9	20.7	21.0	25.9	21.5	21.7
Ln Grp LOS	C	C	B	C	B	B	C	C	C	C	C	C
Approach Vol, veh/h		633			480			681			370	
Approach Delay, s/veh		22.0			17.6			21.9			22.3	
Approach LOS		C			B			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.1	18.7	10.8	18.9	12.3	16.4	6.0	23.8			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0			
Max Green (Gmax), s		15.0	35.0	15.0	35.0	15.0	35.0	15.0	35.0			
Max Allow Headway (MAH), s		1.8	3.3	1.8	3.2	1.8	3.3	1.8	3.2			
Max Q Clear (g_c+I1), s		4.0	7.5	4.5	11.3	6.8	5.1	2.3	7.0			
Green Ext Time (g_e), s		0.0	1.3	0.0	1.6	0.0	0.7	0.0	1.0			
Prob of Phs Call (p_c)		0.64	1.00	0.73	1.00	0.92	0.99	0.12	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			4076		3554		5035		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1016		1585		203		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	63	0	80	0	154	0	8	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.0	0.0	2.5	0.0	4.8	0.0	0.3	0.0
Cycle Q Clear Time (g_c), s	2.0	0.0	2.5	0.0	4.8	0.0	0.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	156	0	177	0	224	0	30	0
V/C Ratio (X)	0.40	0.00	0.45	0.00	0.69	0.00	0.27	0.00
Avail Cap (c_a), veh/h	457	0	457	0	457	0	457	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	25.2	0.0	24.8	0.0	24.5	0.0	28.4	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.7	0.0	1.4	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.9	0.0	25.5	0.0	25.9	0.0	30.2	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	1.0	0.0	1.9	0.0	0.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.8	0.0	1.0	0.0	2.0	0.0	0.1	0.0
%ile Storage Ratio (RQ%)	0.11	0.00	0.18	0.00	0.20	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	348	0	602	0	199	0	389
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	5.3	0.0	9.3	0.0	3.0	0.0	5.0
Cycle Q Clear Time (g_c), s	0.0	5.3	0.0	9.3	0.0	3.0	0.0	5.0
Lane Grp Cap (c), veh/h	0	707	0	784	0	578	0	1079
V/C Ratio (X)	0.00	0.49	0.00	0.77	0.00	0.34	0.00	0.36
Avail Cap (c_a), veh/h	0	2036	0	2126	0	2036	0	2126
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.5	0.0	21.4	0.0	21.4	0.0	15.9
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.6	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.7	0.0	22.0	0.0	21.5	0.0	16.0
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	3.5	0.0	1.1	0.0	1.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	3.6	0.0	1.1	0.0	1.9
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	179	0	23	0	108	0	11
Grp Sat Flow (s), veh/h/ln	0	1688	0	1585	0	1834	0	1585
Q Serve Time (g_s), s	0.0	5.5	0.0	0.7	0.0	3.1	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	5.5	0.0	0.7	0.0	3.1	0.0	0.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.60	0.00	1.00	0.00	0.11	0.00	1.00
Lane Grp Cap (c), veh/h	0	350	0	350	0	311	0	481
V/C Ratio (X)	0.00	0.51	0.00	0.07	0.00	0.35	0.00	0.02
Avail Cap (c_a), veh/h	0	1009	0	948	0	1097	0	948
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.6	0.0	18.0	0.0	21.4	0.0	14.3
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.0	0.0	18.1	0.0	21.7	0.0	14.3
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	0.2	0.0	1.2	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.0	0.0	0.2	0.0	1.2	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.03	0.00	0.01	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	21.0
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 26: Cook St & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	273	289	164	52	171	56	195	934	70	71	833	196
Future Volume (veh/h)	273	289	164	52	171	56	195	934	70	71	833	196
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	290	307	35	55	182	7	207	994	74	76	886	69
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	388	622	277	258	488	218	382	1115	83	302	1579	490
Arrive On Green	0.11	0.17	0.17	0.07	0.14	0.14	0.11	0.33	0.33	0.09	0.31	0.31
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3353	250	3456	5106	1585
Grp Volume(v), veh/h	290	307	35	55	182	7	207	527	541	76	886	69
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1825	1728	1702	1585
Q Serve(g_s), s	5.8	5.5	1.3	1.1	3.3	0.3	4.0	20.0	20.0	1.5	10.3	2.2
Cycle Q Clear(g_c), s	5.8	5.5	1.3	1.1	3.3	0.3	4.0	20.0	20.0	1.5	10.3	2.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	388	622	277	258	488	218	382	591	607	302	1579	490
V/C Ratio(X)	0.75	0.49	0.13	0.21	0.37	0.03	0.54	0.89	0.89	0.25	0.56	0.14
Avail Cap(c_a), veh/h	729	1600	714	729	1850	825	729	1125	1156	729	3233	1003
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	26.5	24.7	30.9	27.9	26.6	29.9	22.5	22.5	30.3	20.5	17.7
Incr Delay (d2), s/veh	1.1	0.2	0.1	0.2	0.2	0.0	0.4	1.9	1.9	0.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	2.3	0.4	0.4	1.4	0.1	1.5	7.2	7.4	0.6	3.5	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	26.7	24.8	31.1	28.1	26.6	30.3	24.4	24.4	30.4	20.6	17.8
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	C	B
Approach Vol, veh/h		632			244			1275			1031	
Approach Delay, s/veh		28.9			28.7			25.4			21.2	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.3	19.4	12.9	28.5	13.0	16.8	11.2	30.1				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5				
Max Green Setting (Gmax), s	15.0	32.0	15.0	45.0	15.0	37.0	15.0	45.0				
Max Q Clear Time (g_c+1), s	13.5	7.5	6.0	12.3	7.8	5.3	3.5	22.0				
Green Ext Time (p_c), s	0.0	0.8	0.1	1.9	0.1	0.4	0.0	1.6				

Intersection Summary

























HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
26: Cook St & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	273	289	164	52	171	56	195	934	70	71	833	196
Future Volume (veh/h)	273	289	164	52	171	56	195	934	70	71	833	196
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	290	307	35	55	182	7	207	994	74	76	886	69
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	388	622	277	258	488	218	382	1115	83	302	1579	490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.17	0.17	0.07	0.14	0.14	0.11	0.33	0.33	0.09	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	31.7	26.7	24.8	31.1	28.1	26.6	30.3	24.4	24.4	30.4	20.6	17.8
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	B
Approach Vol, veh/h		632			244			1275			1031	
Approach Delay, s/veh		28.9			28.7			25.4			21.2	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		10.3	19.4	12.9	28.5	13.0	16.8	11.2	30.1			
Change Period (Y+Rc), s		5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5			
Max Green (Gmax), s		15.0	32.0	15.0	45.0	15.0	37.0	15.0	45.0			
Max Allow Headway (MAH), s		1.8	3.1	1.6	2.7	1.8	3.2	1.6	2.8			
Max Q Clear (g_c+I1), s		3.1	7.5	6.0	12.3	7.8	5.3	3.5	22.0			
Green Ext Time (g_e), s		0.0	0.8	0.1	1.9	0.1	0.4	0.0	1.6			
Prob of Phs Call (p_c)		0.66	1.00	0.98	1.00	1.00	0.98	0.78	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		3353			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		250			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 26: Cook St & Frank Sinatra Dr

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	55	0	207	0	290	0	76	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	1.1	0.0	4.0	0.0	5.8	0.0	1.5	0.0
Cycle Q Clear Time (g_c), s	1.1	0.0	4.0	0.0	5.8	0.0	1.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	258	0	382	0	388	0	302	0
V/C Ratio (X)	0.21	0.00	0.54	0.00	0.75	0.00	0.25	0.00
Avail Cap (c_a), veh/h	729	0	729	0	729	0	729	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	30.9	0.0	29.9	0.0	30.6	0.0	30.3	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.0	1.1	0.0	0.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.1	0.0	30.3	0.0	31.7	0.0	30.4	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	1.5	0.0	2.3	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.4	0.0	1.5	0.0	2.4	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.27	0.00	0.43	0.00	0.07	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	1
Grp Vol (v), veh/h	0	307	0	886	0	182	0	527
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1777
Q Serve Time (g_s), s	0.0	5.5	0.0	10.3	0.0	3.3	0.0	20.0
Cycle Q Clear Time (g_c), s	0.0	5.5	0.0	10.3	0.0	3.3	0.0	20.0
Lane Grp Cap (c), veh/h	0	622	0	1579	0	488	0	591
V/C Ratio (X)	0.00	0.49	0.00	0.56	0.00	0.37	0.00	0.89
Avail Cap (c_a), veh/h	0	1600	0	3233	0	1850	0	1125
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.5	0.0	20.5	0.0	27.9	0.0	22.5
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	0.0	0.2	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.7	0.0	20.6	0.0	28.1	0.0	24.4
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	3.4	0.0	1.4	0.0	6.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	3.5	0.0	1.4	0.0	7.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.03	0.00	0.02	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	35	0	69	0	7	0	541
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1825
Q Serve Time (g_s), s	0.0	1.3	0.0	2.2	0.0	0.3	0.0	20.0
Cycle Q Clear Time (g_c), s	0.0	1.3	0.0	2.2	0.0	0.3	0.0	20.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.14
Lane Grp Cap (c), veh/h	0	277	0	490	0	218	0	607
V/C Ratio (X)	0.00	0.13	0.00	0.14	0.00	0.03	0.00	0.89
Avail Cap (c_a), veh/h	0	714	0	1003	0	825	0	1156
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.7	0.0	17.7	0.0	26.6	0.0	22.5
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.8	0.0	17.8	0.0	26.6	0.0	24.4
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.7	0.0	0.1	0.0	7.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	0.7	0.0	0.1	0.0	7.4
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.08	0.00	0.01	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary

27: Bob Hope Dr & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	253	101	213	331	191	115	596	197	169	583	45
Future Volume (veh/h)	58	253	101	213	331	191	115	596	197	169	583	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	261	17	220	341	64	119	614	73	174	601	46
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	489	218	273	842	376	256	870	388	284	845	65
Arrive On Green	0.05	0.14	0.14	0.15	0.24	0.24	0.07	0.24	0.24	0.08	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3341	255
Grp Volume(v), veh/h	60	261	17	220	341	64	119	614	73	174	319	328
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1819
Q Serve(g_s), s	1.9	3.9	0.5	6.9	4.7	1.8	1.9	9.1	2.1	2.8	9.4	9.4
Cycle Q Clear(g_c), s	1.9	3.9	0.5	6.9	4.7	1.8	1.9	9.1	2.1	2.8	9.4	9.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.14
Lane Grp Cap(c), veh/h	95	489	218	273	842	376	256	870	388	284	449	460
V/C Ratio(X)	0.63	0.53	0.08	0.81	0.40	0.17	0.47	0.71	0.19	0.61	0.71	0.71
Avail Cap(c_a), veh/h	774	1854	827	620	1854	827	1202	1730	772	1202	865	886
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.7	23.1	21.6	23.5	18.5	17.4	25.5	19.8	17.2	25.5	19.6	19.6
Incr Delay (d2), s/veh	2.5	0.7	0.1	2.2	0.2	0.2	0.5	0.8	0.2	0.8	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.5	0.2	2.6	1.6	0.6	0.7	3.3	0.7	1.0	3.4	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	23.8	21.7	25.7	18.8	17.6	26.0	20.6	17.4	26.3	21.1	21.1
LnGrp LOS	C	C	C	C	B	B	C	C	B	C	C	C
Approach Vol, veh/h		338			625			806			821	
Approach Delay, s/veh		24.6			21.1			21.1			22.2	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	21.0	7.6	20.1	9.2	20.6	13.3	14.4				
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5				
Max Green Setting (Gmax), s	20.0	28.0	25.0	30.0	20.0	28.0	20.0	30.0				
Max Q Clear Time (g_c+1), s	13.5	11.4	3.9	6.7	4.8	11.1	8.9	5.9				
Green Ext Time (p_c), s	0.1	2.5	0.1	1.7	0.2	3.0	0.2	1.2				

Intersection Summary

HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↗	↘	↘	↗	↘	↘	↗	↘	↘	↗	↘
Traffic Volume (veh/h)	58	253	101	213	331	191	115	596	197	169	583	45
Future Volume (veh/h)	58	253	101	213	331	191	115	596	197	169	583	45
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No				No
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	261	17	220	341	64	119	614	73	174	601	46
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	95	489	218	273	842	376	256	870	388	284	845	65
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.14	0.14	0.15	0.24	0.24	0.07	0.24	0.24	0.08	0.25	0.25
Unsig. Movement Delay												
Ln Grp Delay, s/veh	29.2	23.8	21.7	25.7	18.8	17.6	26.0	20.6	17.4	26.3	21.1	21.1
Ln Grp LOS	C	C	C	C	B	B	C	C	B	C	C	C
Approach Vol, veh/h		338			625			806			821	
Approach Delay, s/veh		24.6			21.1			21.1			22.2	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		8.8	21.0	7.6	20.1	9.2	20.6	13.3	14.4			
Change Period (Y+Rc), s		4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5			
Max Green (Gmax), s		20.0	28.0	25.0	30.0	20.0	28.0	20.0	30.0			
Max Allow Headway (MAH), s		2.7	4.3	2.7	4.2	2.7	4.3	2.7	4.3			
Max Q Clear (g_c+I1), s		3.9	11.4	3.9	6.7	4.8	11.1	8.9	5.9			
Green Ext Time (g_e), s		0.1	2.5	0.1	1.7	0.2	3.0	0.2	1.2			
Prob of Phs Call (p_c)		0.85	1.00	0.62	1.00	0.94	1.00	0.97	0.99			
Prob of Max Out (p_x)		0.00	0.03	0.00	0.00	0.00	0.03	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3341		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			255		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	119	0	60	0	174	0	220	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	1.9	0.0	1.9	0.0	2.8	0.0	6.9	0.0
Cycle Q Clear Time (g_c), s	1.9	0.0	1.9	0.0	2.8	0.0	6.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	256	0	95	0	284	0	273	0
V/C Ratio (X)	0.47	0.00	0.63	0.00	0.61	0.00	0.81	0.00
Avail Cap (c_a), veh/h	1202	0	774	0	1202	0	620	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	25.5	0.0	26.7	0.0	25.5	0.0	23.5	0.0
Incr Delay (d2), s/veh	0.5	0.0	2.5	0.0	0.8	0.0	2.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	26.0	0.0	29.2	0.0	26.3	0.0	25.7	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.7	0.0	1.0	0.0	2.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	0.8	0.0	1.0	0.0	2.6	0.0
%ile Storage Ratio (RQ%)	0.20	0.00	0.13	0.00	0.11	0.00	0.22	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	2	0	2
Grp Vol (v), veh/h	0	319	0	341	0	614	0	261
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	9.4	0.0	4.7	0.0	9.1	0.0	3.9
Cycle Q Clear Time (g_c), s	0.0	9.4	0.0	4.7	0.0	9.1	0.0	3.9
Lane Grp Cap (c), veh/h	0	449	0	842	0	870	0	489
V/C Ratio (X)	0.00	0.71	0.00	0.40	0.00	0.71	0.00	0.53
Avail Cap (c_a), veh/h	0	865	0	1854	0	1730	0	1854
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.6	0.0	18.5	0.0	19.8	0.0	23.1
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.2	0.0	0.8	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.1	0.0	18.8	0.0	20.6	0.0	23.8
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	1.6	0.0	3.2	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.4	0.0	1.6	0.0	3.3	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	328	0	64	0	73	0	17
Grp Sat Flow (s), veh/h/ln	0	1819	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	9.4	0.0	1.8	0.0	2.1	0.0	0.5
Cycle Q Clear Time (g_c), s	0.0	9.4	0.0	1.8	0.0	2.1	0.0	0.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.14	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	460	0	376	0	388	0	218
V/C Ratio (X)	0.00	0.71	0.00	0.17	0.00	0.19	0.00	0.08
Avail Cap (c_a), veh/h	0	886	0	827	0	772	0	827
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.6	0.0	17.4	0.0	17.2	0.0	21.6
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.2	0.0	0.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.1	0.0	17.6	0.0	17.4	0.0	21.7
1st-Term Q (Q1), veh/ln	0.0	3.3	0.0	0.6	0.0	0.6	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.4	0.0	0.6	0.0	0.7	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.18	0.00	0.11	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	21.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 28: Monterey Ave & Country Club Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	180	664	274	219	371	191	212	1259	204	257	1177	104
Future Volume (veh/h)	180	664	274	219	371	191	212	1259	204	257	1177	104
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	699	0	231	391	0	223	1325	117	271	1239	45
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	823		287	885		275	2269	704	325	2343	727
Arrive On Green	0.07	0.16	0.00	0.08	0.17	0.00	0.16	0.89	0.89	0.09	0.46	0.46
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	189	699	0	231	391	0	223	1325	117	271	1239	45
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	6.5	16.0	0.0	7.9	8.2	0.0	7.5	7.2	1.2	9.3	20.8	1.9
Cycle Q Clear(g_c), s	6.5	16.0	0.0	7.9	8.2	0.0	7.5	7.2	1.2	9.3	20.8	1.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	244	823		287	885		275	2269	704	325	2343	727
V/C Ratio(X)	0.77	0.85		0.81	0.44		0.81	0.58	0.17	0.83	0.53	0.06
Avail Cap(c_a), veh/h	346	1332		432	1459		432	2269	704	374	2343	727
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.00	0.89	0.89	0.00	0.88	0.88	0.88	0.87	0.87	0.87
Uniform Delay (d), s/veh	54.8	48.9	0.0	54.1	44.4	0.0	49.6	4.1	3.8	53.4	23.2	18.1
Incr Delay (d2), s/veh	3.6	1.4	0.0	3.2	0.1	0.0	2.6	1.0	0.4	10.4	0.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	6.6	0.0	3.4	3.4	0.0	3.0	1.6	0.4	4.3	7.8	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.4	50.3	0.0	57.3	44.5	0.0	52.2	5.1	4.2	63.9	23.9	18.2
LnGrp LOS	E	D		E	D		D	A	A	E	C	B
Approach Vol, veh/h		888	A		622	A		1665			1555	
Approach Delay, s/veh		52.0			49.3			11.3			30.7	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	60.7	16.0	26.0	15.5	62.5	14.5	27.5				
Change Period (Y+Rc), s	6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7				
Max Green Setting (Gmax), s	13.0	34.6	15.0	31.3	15.0	32.6	12.0	34.3				
Max Q Clear Time (g_c+I1), s	11.3	9.2	9.9	18.0	9.5	22.8	8.5	10.2				
Green Ext Time (p_c), s	0.0	3.2	0.1	1.4	0.1	2.3	0.0	0.8				

Intersection Summary

HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 28: Monterey Ave & Country Club Dr

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	664	274	219	371	191	212	1259	204	257	1177	104
Future Volume (veh/h)	180	664	274	219	371	191	212	1259	204	257	1177	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	699	0	231	391	0	223	1325	117	271	1239	45
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	244	823		287	885		275	2269	704	325	2343	727
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.16	0.00	0.08	0.17	0.00	0.16	0.89	0.89	0.09	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.4	50.3	0.0	57.3	44.5	0.0	52.2	5.1	4.2	63.9	23.9	18.2
Ln Grp LOS	E	D		E	D		D	A	A	E	C	B
Approach Vol, veh/h		888			622			1665			1555	
Approach Delay, s/veh		52.0			49.3			11.3			30.7	
Approach LOS		D			D			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		17.3	60.7	16.0	26.0	15.5	62.5	14.5	27.5			
Change Period (Y+Rc), s		6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7			
Max Green (Gmax), s		13.0	34.6	15.0	31.3	15.0	32.6	12.0	34.3			
Max Allow Headway (MAH), s		1.6	2.7	1.7	2.8	1.7	2.7	1.7	2.8			
Max Q Clear (g_c+I1), s		11.3	9.2	9.9	18.0	9.5	22.8	8.5	10.2			
Green Ext Time (g_e), s		0.0	3.2	0.1	1.4	0.1	2.3	0.0	0.8			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.78	0.00	0.00	0.00	0.00	0.00	0.01	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	271	0	231	0	223	0	189	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	9.3	0.0	7.9	0.0	7.5	0.0	6.5	0.0
Cycle Q Clear Time (g_c), s	9.3	0.0	7.9	0.0	7.5	0.0	6.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	325	0	287	0	275	0	244	0
V/C Ratio (X)	0.83	0.00	0.81	0.00	0.81	0.00	0.77	0.00
Avail Cap (c_a), veh/h	374	0	432	0	432	0	346	0
Upstream Filter (I)	0.87	0.00	0.89	0.00	0.88	0.00	0.89	0.00
Uniform Delay (d1), s/veh	53.4	0.0	54.1	0.0	49.6	0.0	54.8	0.0
Incr Delay (d2), s/veh	10.4	0.0	3.2	0.0	2.6	0.0	3.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.9	0.0	57.3	0.0	52.2	0.0	58.4	0.0
1st-Term Q (Q1), veh/ln	3.9	0.0	3.3	0.0	2.9	0.0	2.7	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.1	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.3	0.0	3.4	0.0	3.0	0.0	2.8	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.40	0.00	0.30	0.00	0.52	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	3	0	3
Grp Vol (v), veh/h	0	1325	0	699	0	1239	0	391
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	7.2	0.0	16.0	0.0	20.8	0.0	8.2
Cycle Q Clear Time (g_c), s	0.0	7.2	0.0	16.0	0.0	20.8	0.0	8.2
Lane Grp Cap (c), veh/h	0	2269	0	823	0	2343	0	885
V/C Ratio (X)	0.00	0.58	0.00	0.85	0.00	0.53	0.00	0.44
Avail Cap (c_a), veh/h	0	2269	0	1332	0	2343	0	1459
Upstream Filter (I)	0.00	0.88	0.00	0.89	0.00	0.87	0.00	0.89
Uniform Delay (d1), s/veh	0.0	4.1	0.0	48.9	0.0	23.2	0.0	44.4
Incr Delay (d2), s/veh	0.0	1.0	0.0	1.4	0.0	0.7	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.1	0.0	50.3	0.0	23.9	0.0	44.5
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	6.5	0.0	7.7	0.0	3.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

28: Monterey Ave & Country Club Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	6.6	0.0	7.8	0.0	3.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.03	0.00	0.04	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	117	0	0	0	45	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.2	0.0	0.0	0.0	1.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.2	0.0	0.0	0.0	1.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	704	0	255	0	727	0	275
V/C Ratio (X)	0.00	0.17	0.00	0.00	0.00	0.06	0.00	0.00
Avail Cap (c_a), veh/h	0	704	0	413	0	727	0	453
Upstream Filter (I)	0.00	0.88	0.00	0.00	0.00	0.87	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.8	0.0	0.0	0.0	18.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.2	0.0	0.0	0.0	18.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.0	0.0	0.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	0.0	0.0	0.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 29: Portola Ave & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	755	180	158	559	136	151	460	142	68	404	42
Future Volume (veh/h)	37	755	180	158	559	136	151	460	142	68	404	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	786	108	165	582	70	157	479	37	71	421	44
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	984	439	231	1180	526	230	709	316	184	565	59
Arrive On Green	0.07	0.28	0.28	0.13	0.33	0.33	0.13	0.20	0.20	0.10	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3249	338
Grp Volume(v), veh/h	39	786	108	165	582	70	157	479	37	71	229	236
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1810
Q Serve(g_s), s	1.5	15.3	3.9	6.6	9.8	2.3	6.3	9.3	1.4	2.8	9.1	9.2
Cycle Q Clear(g_c), s	1.5	15.3	3.9	6.6	9.8	2.3	6.3	9.3	1.4	2.8	9.1	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	132	984	439	231	1180	526	230	709	316	184	309	315
V/C Ratio(X)	0.29	0.80	0.25	0.71	0.49	0.13	0.68	0.68	0.12	0.39	0.74	0.75
Avail Cap(c_a), veh/h	358	1429	637	477	1429	637	477	1619	722	358	762	776
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	25.1	20.9	31.1	19.9	17.4	31.1	27.6	24.5	31.2	29.2	29.3
Incr Delay (d2), s/veh	0.5	1.2	0.1	1.5	0.1	0.0	1.3	0.4	0.1	0.5	1.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	6.3	1.4	2.9	3.8	0.8	2.7	3.8	0.5	1.2	3.9	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	26.3	21.0	32.7	20.0	17.5	32.4	28.1	24.5	31.7	30.6	30.6
LnGrp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		933			817			673			536	
Approach Delay, s/veh		26.0			22.4			28.9			30.7	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.5	30.5	14.6	19.0	14.7	26.4	12.7	20.9				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	15.0	30.0	20.0	32.0	20.0	30.0	15.0	34.0				
Max Q Clear Time (g_c+1), s	13.5	11.8	8.3	11.2	8.6	17.3	4.8	11.3				
Green Ext Time (p_c), s	0.0	2.7	0.1	1.8	0.1	3.3	0.0	2.2				

Intersection Summary

























HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	755	180	158	559	136	151	460	142	68	404	42
Future Volume (veh/h)	37	755	180	158	559	136	151	460	142	68	404	42
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	39	786	108	165	582	70	157	479	37	71	421	44
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	132	984	439	231	1180	526	230	709	316	184	565	59
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.28	0.28	0.13	0.33	0.33	0.13	0.20	0.20	0.10	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	33.1	26.3	21.0	32.7	20.0	17.5	32.4	28.1	24.5	31.7	30.6	30.6
Ln Grp LOS	C	C	C	C	C	B	C	C	C	C	C	C
Approach Vol, veh/h		933			817			673			536	
Approach Delay, s/veh		26.0			22.4			28.9			30.7	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.5	30.5	14.6	19.0	14.7	26.4	12.7	20.9			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		15.0	30.0	20.0	32.0	20.0	30.0	15.0	34.0			
Max Allow Headway (MAH), s		1.8	4.1	1.8	4.3	1.8	4.1	1.8	4.2			
Max Q Clear (g_c+I1), s		3.5	11.8	8.3	11.2	8.6	17.3	4.8	11.3			
Green Ext Time (g_e), s		0.0	2.7	0.1	1.8	0.1	3.3	0.0	2.2			
Prob of Phs Call (p_c)		0.55	1.00	0.96	1.00	0.97	1.00	0.77	1.00			
Prob of Max Out (p_x)		0.00	0.01	0.00	0.00	0.00	0.13	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3249		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		338		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	39	0	157	0	165	0	71	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.5	0.0	6.3	0.0	6.6	0.0	2.8	0.0
Cycle Q Clear Time (g_c), s	1.5	0.0	6.3	0.0	6.6	0.0	2.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	132	0	230	0	231	0	184	0
V/C Ratio (X)	0.29	0.00	0.68	0.00	0.71	0.00	0.39	0.00
Avail Cap (c_a), veh/h	358	0	477	0	477	0	358	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	32.7	0.0	31.1	0.0	31.1	0.0	31.2	0.0
Incr Delay (d2), s/veh	0.5	0.0	1.3	0.0	1.5	0.0	0.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	33.1	0.0	32.4	0.0	32.7	0.0	31.7	0.0
1st-Term Q (Q1), veh/ln	0.6	0.0	2.6	0.0	2.8	0.0	1.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	2.7	0.0	2.9	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.43	0.00	0.40	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	582	0	229	0	786	0	479
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	9.8	0.0	9.1	0.0	15.3	0.0	9.3
Cycle Q Clear Time (g_c), s	0.0	9.8	0.0	9.1	0.0	15.3	0.0	9.3
Lane Grp Cap (c), veh/h	0	1180	0	309	0	984	0	709
V/C Ratio (X)	0.00	0.49	0.00	0.74	0.00	0.80	0.00	0.68
Avail Cap (c_a), veh/h	0	1429	0	762	0	1429	0	1619
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.9	0.0	29.2	0.0	25.1	0.0	27.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.3	0.0	1.2	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	30.6	0.0	26.3	0.0	28.1
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	3.8	0.0	6.1	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

29: Portola Ave & Country Club Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.8	0.0	3.9	0.0	6.3	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.12	0.00	0.03	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	70	0	236	0	108	0	37
Grp Sat Flow (s), veh/h/ln	0	1585	0	1810	0	1585	0	1585
Q Serve Time (g_s), s	0.0	2.3	0.0	9.2	0.0	3.9	0.0	1.4
Cycle Q Clear Time (g_c), s	0.0	2.3	0.0	9.2	0.0	3.9	0.0	1.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.19	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	526	0	315	0	439	0	316
V/C Ratio (X)	0.00	0.13	0.00	0.75	0.00	0.25	0.00	0.12
Avail Cap (c_a), veh/h	0	637	0	776	0	637	0	722
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.4	0.0	29.3	0.0	20.9	0.0	24.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.4	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.5	0.0	30.6	0.0	21.0	0.0	24.5
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	3.9	0.0	1.4	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	4.0	0.0	1.4	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.27	0.00	0.12	0.00	0.36	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 30: Monterey Ave & Hovley Ln W

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↑	↗	↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (veh/h)	2	1	8	46	6	107	12	1531	61	92	1338	4
Future Volume (veh/h)	2	1	8	46	6	107	12	1531	61	92	1338	4
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	1	8	48	6	10	13	1612	64	97	1408	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	14	110	160	143	121	37	3656	145	119	4059	12
Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.02	0.73	0.73	0.13	1.00	1.00
Sat Flow, veh/h	1397	179	1433	1406	1870	1585	1781	5038	200	1781	5257	15
Grp Volume(v), veh/h	2	0	9	48	6	10	13	1089	587	97	912	500
Grp Sat Flow(s),veh/h/ln	1397	0	1612	1406	1870	1585	1781	1702	1834	1781	1702	1868
Q Serve(g_s), s	0.2	0.0	0.6	3.9	0.4	0.7	0.9	15.5	15.5	6.4	0.0	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.6	4.6	0.4	0.7	0.9	15.5	15.5	6.4	0.0	0.0
Prop In Lane	1.00		0.89	1.00		1.00	1.00		0.11	1.00		0.01
Lane Grp Cap(c), veh/h	163	0	123	160	143	121	37	2470	1331	119	2628	1442
V/C Ratio(X)	0.01	0.00	0.07	0.30	0.04	0.08	0.36	0.44	0.44	0.81	0.35	0.35
Avail Cap(c_a), veh/h	428	0	430	428	499	423	148	2470	1331	282	2628	1442
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.48	0.48	0.48	0.77	0.77	0.77
Uniform Delay (d), s/veh	51.6	0.0	51.5	53.6	51.3	51.5	58.0	6.6	6.6	51.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.4	0.0	0.1	1.0	0.3	0.5	3.8	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.3	1.4	0.2	0.3	0.4	4.4	4.8	2.8	0.1	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.6	0.0	51.6	54.0	51.4	51.6	59.0	6.9	7.2	55.1	0.3	0.5
LnGrp LOS	D	A	D	D	D	D	E	A	A	E	A	A
Approach Vol, veh/h		11			64			1689			1509	
Approach Delay, s/veh		51.6			53.4			7.4			3.9	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.0	92.8		14.2	7.5	98.4		14.2				
Change Period (Y+Rc), s	5.0	5.7		5.0	5.0	5.7		5.0				
Max Green Setting (Gmax), s	19.0	53.3		32.0	10.0	62.3		32.0				
Max Q Clear Time (g_c+I), s	19.4	17.5		2.6	2.9	2.0		6.6				
Green Ext Time (p_c), s	0.0	8.1		0.0	0.0	4.2		0.1				

Intersection Summary

HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷		↶	↷	↷	↶	↶↷↶		↶	↶↷↶	
Traffic Volume (veh/h)	2	1	8	46	6	107	12	1531	61	92	1338	4
Future Volume (veh/h)	2	1	8	46	6	107	12	1531	61	92	1338	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	1	8	48	6	10	13	1612	64	97	1408	4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	163	14	110	160	143	121	37	3656	145	119	4059	12
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.08	0.08	0.08	0.08	0.08	0.08	0.02	0.73	0.73	0.13	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	51.6	0.0	51.6	54.0	51.4	51.6	59.0	6.9	7.2	55.1	0.3	0.5
Ln Grp LOS	D	A	D	D	D	D	E	A	A	E	A	A
Approach Vol, veh/h		11			64			1689			1509	
Approach Delay, s/veh		51.6			53.4			7.4			3.9	
Approach LOS		D			D			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4	5	6		8			
Case No		2.0	4.0		6.0	2.0	4.0		5.0			
Phs Duration (G+Y+Rc), s		13.0	92.8		14.2	7.5	98.4		14.2			
Change Period (Y+Rc), s		5.0	5.7		5.0	5.0	5.7		5.0			
Max Green (Gmax), s		19.0	53.3		32.0	10.0	62.3		32.0			
Max Allow Headway (MAH), s		1.8	3.8		3.2	1.7	3.2		2.8			
Max Q Clear (g_c+I1), s		8.4	17.5		2.6	2.9	2.0		6.6			
Green Ext Time (g_e), s		0.0	8.1		0.0	0.0	4.2		0.1			
Prob of Phs Call (p_c)		0.96	1.00		0.92	0.35	1.00		0.92			
Prob of Max Out (p_x)		0.00	0.00		0.00	0.00	0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			7	5			3			
Mvmt Sat Flow, veh/h		1781			1397	1781			1406			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5038		179		5257		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			200		1433		15		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	7	5	0	0	3			
Lane Assignment		L (Prot)			L	L (Prot)			L			

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

07/11/2019

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	97	0	0	2	13	0	0	48
Grp Sat Flow (s), veh/h/ln	1781	0	0	1397	1781	0	0	1406
Q Serve Time (g_s), s	6.4	0.0	0.0	0.2	0.9	0.0	0.0	3.9
Cycle Q Clear Time (g_c), s	6.4	0.0	0.0	0.5	0.9	0.0	0.0	4.6
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1397	0	0	0	1406
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	9.2	0.0	0.0	0.0	9.2
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	8.8	0.0	0.0	0.0	8.6
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.2	0.0	0.0	0.0	3.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	119	0	0	163	37	0	0	160
V/C Ratio (X)	0.81	0.00	0.00	0.01	0.36	0.00	0.00	0.30
Avail Cap (c_a), veh/h	282	0	0	428	148	0	0	428
Upstream Filter (I)	0.77	0.00	0.00	1.00	0.48	0.00	0.00	1.00
Uniform Delay (d1), s/veh	51.2	0.0	0.0	51.6	58.0	0.0	0.0	53.6
Incr Delay (d2), s/veh	3.8	0.0	0.0	0.0	1.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	55.1	0.0	0.0	51.6	59.0	0.0	0.0	54.0
1st-Term Q (Q1), veh/ln	2.7	0.0	0.0	0.1	0.4	0.0	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	2.8	0.0	0.0	0.1	0.4	0.0	0.0	1.4
%ile Storage Ratio (RQ%)	0.36	0.00	0.00	0.00	0.10	0.00	0.00	0.32
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	2	0	0	0	2	0	1
Grp Vol (v), veh/h	0	1089	0	0	0	912	0	6
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	15.5	0.0	0.0	0.0	0.0	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	15.5	0.0	0.0	0.0	0.0	0.0	0.4
Lane Grp Cap (c), veh/h	0	2470	0	0	0	2628	0	143
V/C Ratio (X)	0.00	0.44	0.00	0.00	0.00	0.35	0.00	0.04
Avail Cap (c_a), veh/h	0	2470	0	0	0	2628	0	499
Upstream Filter (I)	0.00	0.48	0.00	0.00	0.00	0.77	0.00	1.00
Uniform Delay (d1), s/veh	0.0	6.6	0.0	0.0	0.0	0.0	0.0	51.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.9	0.0	0.0	0.0	0.3	0.0	51.4
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	0.0	0.0	0.0	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.4	0.0	0.0	0.0	0.1	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	587	0	9	0	500	0	10
Grp Sat Flow (s), veh/h/ln	0	1834	0	1612	0	1868	0	1585
Q Serve Time (g_s), s	0.0	15.5	0.0	0.6	0.0	0.0	0.0	0.7
Cycle Q Clear Time (g_c), s	0.0	15.5	0.0	0.6	0.0	0.0	0.0	0.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.11	0.00	0.89	0.00	0.01	0.00	1.00
Lane Grp Cap (c), veh/h	0	1331	0	123	0	1442	0	121
V/C Ratio (X)	0.00	0.44	0.00	0.07	0.00	0.35	0.00	0.08
Avail Cap (c_a), veh/h	0	1331	0	430	0	1442	0	423
Upstream Filter (I)	0.00	0.48	0.00	1.00	0.00	0.77	0.00	1.00
Uniform Delay (d1), s/veh	0.0	6.6	0.0	51.5	0.0	0.0	0.0	51.5
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.1	0.0	0.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.2	0.0	51.6	0.0	0.5	0.0	51.6
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	0.3	0.0	0.0	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	0.3	0.0	0.2	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
 31: Monterey Ave & Fred Waring Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑	↔	↔↔	↑↑↑		↔↔	↑↑↑	↔
Traffic Volume (veh/h)	333	805	87	331	687	264	84	855	277	318	870	231
Future Volume (veh/h)	333	805	87	331	687	264	84	855	277	318	870	231
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	358	866	94	356	739	0	90	919	298	342	935	162
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	412	1524	165	412	1663		219	981	317	396	1574	489
Arrive On Green	0.12	0.33	0.33	0.12	0.33	0.00	0.06	0.26	0.26	0.11	0.31	0.31
Sat Flow, veh/h	3456	4678	506	3456	5106	1585	3456	3818	1234	3456	5106	1585
Grp Volume(v), veh/h	358	629	331	356	739	0	90	819	398	342	935	162
Grp Sat Flow(s),veh/h/ln	1728	1702	1779	1728	1702	1585	1728	1702	1648	1728	1702	1585
Q Serve(g_s), s	12.2	18.3	18.5	12.1	13.7	0.0	3.0	28.3	28.4	11.7	18.6	9.4
Cycle Q Clear(g_c), s	12.2	18.3	18.5	12.1	13.7	0.0	3.0	28.3	28.4	11.7	18.6	9.4
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.75	1.00		1.00
Lane Grp Cap(c), veh/h	412	1109	580	412	1663		219	875	424	396	1574	489
V/C Ratio(X)	0.87	0.57	0.57	0.86	0.44		0.41	0.94	0.94	0.86	0.59	0.33
Avail Cap(c_a), veh/h	490	1109	580	605	1663		288	875	424	490	1574	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	51.9	33.5	33.5	51.9	31.9	0.0	54.0	43.6	43.7	52.2	35.1	32.0
Incr Delay (d2), s/veh	12.1	2.1	4.0	6.2	0.9	0.0	0.5	18.4	30.9	10.3	1.6	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	7.6	8.3	5.5	5.6	0.0	1.3	13.7	14.8	5.4	7.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.1	35.6	37.5	58.1	32.8	0.0	54.5	62.0	74.6	62.4	36.7	33.7
LnGrp LOS	E	D	D	E	C		D	E	E	E	D	C
Approach Vol, veh/h		1318			1095	A		1307			1439	
Approach Delay, s/veh		43.8			41.0			65.3			42.5	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.3	45.1	12.6	43.0	19.3	45.1	18.8	36.8				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0				
Max Green Setting (Gmax), s	34.0	10.0	37.0	21.0	30.0	17.0	30.0					
Max Q Clear Time (g_c+1/4), s	15.7	5.0	20.6	14.1	20.5	13.7	30.4					
Green Ext Time (p_c), s	0.1	1.7	0.0	2.0	0.2	1.6	0.1	0.0				

Intersection Summary



































HCM 6th Ctrl Delay	48.3
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
31: Monterey Ave & Fred Waring Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		  	 	
Traffic Volume (veh/h)	333	805	87	331	687	264	84	855	277	318	870	231
Future Volume (veh/h)	333	805	87	331	687	264	84	855	277	318	870	231
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	358	866	94	356	739	0	90	919	298	342	935	162
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	412	1524	165	412	1663		219	981	317	396	1574	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.12	0.33	0.33	0.12	0.33	0.00	0.06	0.26	0.26	0.11	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	64.1	35.6	37.5	58.1	32.8	0.0	54.5	62.0	74.6	62.4	36.7	33.7
Ln Grp LOS	E	D	D	E	C		D	E	E	E	D	C
Approach Vol, veh/h		1318			1095			1307			1439	
Approach Delay, s/veh		43.8			41.0			65.3			42.5	
Approach LOS		D			D			E			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		19.3	45.1	12.6	43.0	19.3	45.1	18.8	36.8			
Change Period (Y+Rc), s		5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0			
Max Green (Gmax), s		17.0	34.0	10.0	37.0	21.0	30.0	17.0	30.0			
Max Allow Headway (MAH), s		1.7	2.9	1.7	2.7	1.7	2.9	1.7	3.0			
Max Q Clear (g_c+I1), s		14.2	15.7	5.0	20.6	14.1	20.5	13.7	30.4			
Green Ext Time (g_e), s		0.1	1.7	0.0	2.0	0.2	1.6	0.1	0.0			
Prob of Phs Call (p_c)		1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.11	0.00	0.00	0.00	0.00	0.00	0.03	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		4678		3818			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		506		1234			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	358	0	90	0	356	0	342	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	12.2	0.0	3.0	0.0	12.1	0.0	11.7	0.0
Cycle Q Clear Time (g_c), s	12.2	0.0	3.0	0.0	12.1	0.0	11.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	412	0	219	0	412	0	396	0
V/C Ratio (X)	0.87	0.00	0.41	0.00	0.86	0.00	0.86	0.00
Avail Cap (c_a), veh/h	490	0	288	0	605	0	490	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.94	0.00
Uniform Delay (d1), s/veh	51.9	0.0	54.0	0.0	51.9	0.0	52.2	0.0
Incr Delay (d2), s/veh	12.1	0.0	0.5	0.0	6.2	0.0	10.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.1	0.0	54.5	0.0	58.1	0.0	62.4	0.0
1st-Term Q (Q1), veh/ln	5.2	0.0	1.3	0.0	5.1	0.0	4.9	0.0
2nd-Term Q (Q2), veh/ln	0.7	0.0	0.0	0.0	0.4	0.0	0.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	5.8	0.0	1.3	0.0	5.5	0.0	5.4	0.0
%ile Storage Ratio (RQ%)	1.10	0.00	0.19	0.00	0.79	0.00	1.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	2	0	2
Grp Vol (v), veh/h	0	739	0	935	0	629	0	819
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	13.7	0.0	18.6	0.0	18.3	0.0	28.3
Cycle Q Clear Time (g_c), s	0.0	13.7	0.0	18.6	0.0	18.3	0.0	28.3
Lane Grp Cap (c), veh/h	0	1663	0	1574	0	1109	0	875
V/C Ratio (X)	0.00	0.44	0.00	0.59	0.00	0.57	0.00	0.94
Avail Cap (c_a), veh/h	0	1663	0	1574	0	1109	0	875
Upstream Filter (I)	0.00	1.00	0.00	0.94	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	31.9	0.0	35.1	0.0	33.5	0.0	43.6
Incr Delay (d2), s/veh	0.0	0.9	0.0	1.6	0.0	2.1	0.0	18.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.8	0.0	36.7	0.0	35.6	0.0	62.0
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	7.4	0.0	7.3	0.0	11.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.3	0.0	2.2

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.6	0.0	7.6	0.0	7.6	0.0	13.7
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.02	0.00	0.07	0.00	0.28
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	162	0	331	0	398
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1779	0	1648
Q Serve Time (g_s), s	0.0	0.0	0.0	9.4	0.0	18.5	0.0	28.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.4	0.0	18.5	0.0	28.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.28	0.00	0.75
Lane Grp Cap (c), veh/h	0	516	0	489	0	580	0	424
V/C Ratio (X)	0.00	0.00	0.00	0.33	0.00	0.57	0.00	0.94
Avail Cap (c_a), veh/h	0	516	0	489	0	580	0	424
Upstream Filter (I)	0.00	0.00	0.00	0.94	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	32.0	0.0	33.5	0.0	43.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.7	0.0	4.0	0.0	30.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	33.7	0.0	37.5	0.0	74.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.5	0.0	7.7	0.0	11.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.7	0.0	3.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.7	0.0	8.3	0.0	14.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.27	0.00	0.07	0.00	0.31
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	48.3
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 32: Monterey Ave & SR-111

07/11/2019



































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	200	1152	144	220	931	257	249	473	175	342	498	162
Future Volume (veh/h)	200	1152	144	220	931	257	249	473	175	342	498	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	1176	68	224	950	204	254	483	31	349	508	30
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	257	2533	786	276	2562	795	305	555	248	354	605	270
Arrive On Green	0.07	0.50	0.50	0.08	0.50	0.50	0.09	0.16	0.16	0.10	0.17	0.17
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	204	1176	68	224	950	204	254	483	31	349	508	30
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	7.4	19.2	2.9	8.1	14.5	9.3	9.2	16.9	2.1	12.8	17.6	2.0
Cycle Q Clear(g_c), s	7.4	19.2	2.9	8.1	14.5	9.3	9.2	16.9	2.1	12.8	17.6	2.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	257	2533	786	276	2562	795	305	555	248	354	605	270
V/C Ratio(X)	0.80	0.46	0.09	0.81	0.37	0.26	0.83	0.87	0.13	0.99	0.84	0.11
Avail Cap(c_a), veh/h	381	2533	786	381	2562	795	354	1119	499	354	1035	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.8	21.0	16.8	57.5	19.4	18.1	57.0	52.3	46.1	56.9	51.0	44.6
Incr Delay (d2), s/veh	3.8	0.6	0.2	6.3	0.4	0.8	12.1	1.7	0.1	44.0	1.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	7.4	1.1	3.7	5.6	3.5	4.4	7.4	0.8	7.6	7.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.6	21.6	17.1	63.8	19.8	18.9	69.1	54.0	46.2	100.9	52.2	44.6
LnGrp LOS	E	C	B	E	B	B	E	D	D	F	D	D
Approach Vol, veh/h		1448			1378			768			887	
Approach Delay, s/veh		27.0			26.8			58.7			71.1	
Approach LOS		C			C			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.2	69.0	16.2	26.6	14.4	69.7	18.0	24.8				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	14.0	39.0	13.0	37.0	14.0	34.0	13.0	40.0				
Max Q Clear Time (g_c+I1), s	11.0	21.2	11.2	19.6	9.4	16.5	14.8	18.9				
Green Ext Time (p_c), s	0.1	2.8	0.0	1.0	0.1	2.2	0.0	1.0				

Intersection Summary

HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis
32: Monterey Ave & SR-111

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 		
Traffic Volume (veh/h)	200	1152	144	220	931	257	249	473	175	342	498	162
Future Volume (veh/h)	200	1152	144	220	931	257	249	473	175	342	498	162
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	204	1176	68	224	950	204	254	483	31	349	508	30
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	257	2533	786	276	2562	795	305	555	248	354	605	270
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.50	0.50	0.08	0.50	0.50	0.09	0.16	0.16	0.10	0.17	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	61.6	21.6	17.1	63.8	19.8	18.9	69.1	54.0	46.2	100.9	52.2	44.6
Ln Grp LOS	E	C	B	E	B	B	E	D	D	F	D	D
Approach Vol, veh/h		1448			1378			768			887	
Approach Delay, s/veh		27.0			26.8			58.7			71.1	
Approach LOS		C			C			E			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.2	69.0	16.2	26.6	14.4	69.7	18.0	24.8			
Change Period (Y+Rc), s		5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0			
Max Green (Gmax), s		14.0	39.0	13.0	37.0	14.0	34.0	13.0	40.0			
Max Allow Headway (MAH), s		1.7	2.9	1.7	2.9	1.7	2.7	1.7	2.8			
Max Q Clear (g_c+I1), s		10.1	21.2	11.2	19.6	9.4	16.5	14.8	18.9			
Green Ext Time (g_e), s		0.1	2.8	0.0	1.0	0.1	2.2	0.0	1.0			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.76	0.00	0.00	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	224	0	254	0	204	0	349	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	8.1	0.0	9.2	0.0	7.4	0.0	12.8	0.0
Cycle Q Clear Time (g_c), s	8.1	0.0	9.2	0.0	7.4	0.0	12.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	276	0	305	0	257	0	354	0
V/C Ratio (X)	0.81	0.00	0.83	0.00	0.80	0.00	0.99	0.00
Avail Cap (c_a), veh/h	381	0	354	0	381	0	354	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	57.5	0.0	57.0	0.0	57.8	0.0	56.9	0.0
Incr Delay (d2), s/veh	6.3	0.0	12.1	0.0	3.8	0.0	44.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.8	0.0	69.1	0.0	61.6	0.0	100.9	0.0
1st-Term Q (Q1), veh/ln	3.5	0.0	3.9	0.0	3.2	0.0	5.4	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.5	0.0	0.1	0.0	2.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.7	0.0	4.4	0.0	3.3	0.0	7.6	0.0
%ile Storage Ratio (RQ%)	0.51	0.00	1.25	0.00	0.33	0.00	1.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	1176	0	508	0	950	0	483
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	19.2	0.0	17.6	0.0	14.5	0.0	16.9
Cycle Q Clear Time (g_c), s	0.0	19.2	0.0	17.6	0.0	14.5	0.0	16.9
Lane Grp Cap (c), veh/h	0	2533	0	605	0	2562	0	555
V/C Ratio (X)	0.00	0.46	0.00	0.84	0.00	0.37	0.00	0.87
Avail Cap (c_a), veh/h	0	2533	0	1035	0	2562	0	1119
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.0	0.0	51.0	0.0	19.4	0.0	52.3
Incr Delay (d2), s/veh	0.0	0.6	0.0	1.2	0.0	0.4	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.6	0.0	52.2	0.0	19.8	0.0	54.0
1st-Term Q (Q1), veh/ln	0.0	7.2	0.0	7.6	0.0	5.5	0.0	7.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.4	0.0	7.7	0.0	5.6	0.0	7.4
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.16	0.00	0.06	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	68	0	30	0	204	0	31
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	2.9	0.0	2.0	0.0	9.3	0.0	2.1
Cycle Q Clear Time (g_c), s	0.0	2.9	0.0	2.0	0.0	9.3	0.0	2.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	786	0	270	0	795	0	248
V/C Ratio (X)	0.00	0.09	0.00	0.11	0.00	0.26	0.00	0.13
Avail Cap (c_a), veh/h	0	786	0	462	0	795	0	499
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.8	0.0	44.6	0.0	18.1	0.0	46.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	0.0	0.8	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.1	0.0	44.6	0.0	18.9	0.0	46.2
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.8	0.0	3.3	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.1	0.0	0.8	0.0	3.5	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.02	0.00	1.35	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	41.1
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

33: Gerald Ford Dr & Oasis Way

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	813	73	70	623	25	50	0	42	55	0	42
Future Volume (veh/h)	32	813	73	70	623	25	50	0	42	55	0	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	884	79	76	677	14	54	0	46	60	0	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	544	1643	147	441	1770	789	469	0	284	469	0	284
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.18	0.00	0.18	0.18	0.00	0.18
Sat Flow, veh/h	752	3299	295	583	3554	1585	1360	0	1585	1360	0	1585
Grp Volume(v), veh/h	35	476	487	76	677	14	54	0	46	60	0	46
Grp Sat Flow(s),veh/h/ln	752	1777	1817	583	1777	1585	1360	0	1585	1360	0	1585
Q Serve(g_s), s	0.8	5.1	5.1	2.9	3.3	0.1	1.0	0.0	0.7	1.1	0.0	0.7
Cycle Q Clear(g_c), s	4.1	5.1	5.1	8.0	3.3	0.1	1.7	0.0	0.7	1.8	0.0	0.7
Prop In Lane	1.00		0.16	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	544	885	905	441	1770	789	469	0	284	469	0	284
V/C Ratio(X)	0.06	0.54	0.54	0.17	0.38	0.02	0.12	0.00	0.16	0.13	0.00	0.16
Avail Cap(c_a), veh/h	776	1433	1466	622	2867	1279	1127	0	1051	1127	0	1051
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.6	4.8	4.8	7.5	4.3	3.5	10.4	0.0	9.7	10.4	0.0	9.7
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.2	0.1	0.0	0.1	0.0	0.3	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.8	0.8	0.2	0.1	0.0	0.2	0.0	0.2	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.7	5.3	5.3	7.7	4.5	3.6	10.5	0.0	9.9	10.5	0.0	9.9
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		998			767			100				106
Approach Delay, s/veh		5.3			4.8			10.2				10.3
Approach LOS		A			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		18.4		9.5		18.4				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		22.5		18.5		22.5				
Max Q Clear Time (g_c+I1), s		3.7		7.1		3.8		10.0				
Green Ext Time (p_c), s		0.3		5.9		0.3		3.9				
Intersection Summary												
HCM 6th Ctrl Delay				5.6								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	813	73	70	623	25	50	0	42	55	0	42
Future Volume (veh/h)	32	813	73	70	623	25	50	0	42	55	0	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	884	79	76	677	14	54	0	46	60	0	46
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	544	1643	147	441	1770	789	469	0	284	469	0	284
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.18	0.00	0.18	0.18	0.00	0.18
Unsig. Movement Delay												
Ln Grp Delay, s/veh	5.7	5.3	5.3	7.7	4.5	3.6	10.5	0.0	9.9	10.5	0.0	9.9
Ln Grp LOS	A	A	A	A	A	A	B	A	A	B	A	A
Approach Vol, veh/h		998			767			100			106	
Approach Delay, s/veh		5.3			4.8			10.2			10.3	
Approach LOS		A			A			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		5.0			
Phs Duration (G+Y+Rc), s			9.5		18.4		9.5		18.4			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			18.5		22.5		18.5		22.5			
Max Allow Headway (MAH), s			4.7		5.3		4.6		5.0			
Max Q Clear (g_c+I1), s			3.7		7.1		3.8		10.0			
Green Ext Time (g_e), s			0.3		5.9		0.3		3.9			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.34		0.00		0.24			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1360		752		1360		583			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			0		3299		0		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		295		1585		1585			
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment		L		L		L		L				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	54	0	35	0	60	0	76
Grp Sat Flow (s), veh/h/ln	0	1360	0	752	0	1360	0	583
Q Serve Time (g_s), s	0.0	1.0	0.0	0.8	0.0	1.1	0.0	2.9
Cycle Q Clear Time (g_c), s	0.0	1.7	0.0	4.1	0.0	1.8	0.0	8.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1360	0	752	0	1360	0	583
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	5.0	0.0	13.9	0.0	5.0	0.0	13.9
Perm LT Serve Time (g_u), s	0.0	4.3	0.0	10.6	0.0	4.3	0.0	8.8
Perm LT Q Serve Time (g_ps), s	0.0	1.0	0.0	0.8	0.0	1.1	0.0	2.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	469	0	544	0	469	0	441
V/C Ratio (X)	0.00	0.12	0.00	0.06	0.00	0.13	0.00	0.17
Avail Cap (c_a), veh/h	0	1127	0	776	0	1127	0	622
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.4	0.0	5.6	0.0	10.4	0.0	7.5
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.5	0.0	5.7	0.0	10.5	0.0	7.7
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.02	0.00	0.01	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	476	0	0	0	677
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	5.1	0.0	0.0	0.0	3.3
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	5.1	0.0	0.0	0.0	3.3
Lane Grp Cap (c), veh/h	0	0	0	885	0	0	0	1770
V/C Ratio (X)	0.00	0.00	0.00	0.54	0.00	0.00	0.00	0.38
Avail Cap (c_a), veh/h	0	0	0	1433	0	0	0	2867
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	4.8	0.0	0.0	0.0	4.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	5.3	0.0	0.0	0.0	4.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	46	0	487	0	46	0	14
Grp Sat Flow (s), veh/h/ln	0	1585	0	1817	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.7	0.0	5.1	0.0	0.7	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.7	0.0	5.1	0.0	0.7	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.16	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	284	0	905	0	284	0	789
V/C Ratio (X)	0.00	0.16	0.00	0.54	0.00	0.16	0.00	0.02
Avail Cap (c_a), veh/h	0	1051	0	1466	0	1051	0	1279
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.7	0.0	4.8	0.0	9.7	0.0	3.5
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.5	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.9	0.0	5.3	0.0	9.9	0.0	3.6
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.7	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.8	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
 34: Monterey Ave & Shadow Ridge Rd

































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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔	↔		↔↑↑↑	↑↑↑	↔	↔	↑↑↑	↑↑↑
Traffic Volume (veh/h)	256	0	93	82	0	67	142	1437	46	50	1325	255
Future Volume (veh/h)	256	0	93	82	0	67	142	1437	46	50	1325	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No		No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	272	0	99	87	0	71	151	1529	27	53	1410	271
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	0	166	109	0	99	178	3196	992	74	2441	469
Arrive On Green	0.10	0.00	0.10	0.06	0.00	0.06	0.10	0.63	0.63	0.01	0.19	0.19
Sat Flow, veh/h	3456	0	1585	1781	0	1585	1781	5106	1585	1781	4300	825
Grp Volume(v), veh/h	272	0	99	87	0	71	151	1529	27	53	1116	565
Grp Sat Flow(s),veh/h/ln	1728	0	1585	1781	0	1585	1781	1702	1585	1781	1702	1722
Q Serve(g_s), s	9.2	0.0	7.2	5.8	0.0	5.3	10.0	19.2	0.8	3.6	35.8	35.9
Cycle Q Clear(g_c), s	9.2	0.0	7.2	5.8	0.0	5.3	10.0	19.2	0.8	3.6	35.8	35.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	344	0	166	109	0	99	178	3196	992	74	1932	977
V/C Ratio(X)	0.79	0.00	0.60	0.80	0.00	0.72	0.85	0.48	0.03	0.72	0.58	0.58
Avail Cap(c_a), veh/h	648	0	390	178	0	238	200	3196	992	135	1932	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	0.68	0.68	0.68
Uniform Delay (d), s/veh	52.8	0.0	51.3	55.6	0.0	55.2	53.1	12.0	8.5	58.5	35.6	35.7
Incr Delay (d2), s/veh	4.1	0.0	1.3	4.9	0.0	9.4	25.5	0.5	0.1	3.3	0.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	2.9	2.7	0.0	2.4	5.5	6.3	0.3	1.6	16.4	16.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.9	0.0	52.6	60.4	0.0	64.6	78.6	12.5	8.6	61.8	36.5	37.4
LnGrp LOS	E	A	D	E	A	E	E	B	A	E	D	D
Approach Vol, veh/h		371			158			1707			1734	
Approach Delay, s/veh		55.8			62.3			18.3			37.6	
Approach LOS		E			E			B			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	66.5	75.1	11.4	17.0	9.5	82.1	16.4	12.0				
Change Period (Y+Rc), s	4.5	7.0	4.0	* 4.5	4.5	7.0	4.5	4.5				
Max Green Setting (Gmax), s	11.5	45.5	12.0	* 30	9.1	49.9	22.5	18.0				
Max Q Clear Time (g_c+1/2g), s	11.0	37.9	7.8	9.2	5.6	21.2	11.2	7.3				
Green Ext Time (p_c), s	0.1	2.6	0.0	0.2	0.0	3.7	0.7	0.2				
Intersection Summary												
HCM 6th Ctrl Delay			32.0									
HCM 6th LOS			C									
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	  	 
Traffic Volume (veh/h)	256	0	93	82	0	67	142	1437	46	50	1325	255
Future Volume (veh/h)	256	0	93	82	0	67	142	1437	46	50	1325	255
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	272	0	99	87	0	71	151	1529	27	53	1410	271
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	344	0	166	109	0	99	178	3196	992	74	2441	469
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.10	0.00	0.10	0.06	0.00	0.06	0.10	0.63	0.63	0.01	0.19	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	56.9	0.0	52.6	60.4	0.0	64.6	78.6	12.5	8.6	61.8	36.5	37.4
Ln Grp LOS	E	A	D	E	A	E	E	B	A	E	D	D
Approach Vol, veh/h		371			158			1707			1734	
Approach Delay, s/veh		55.8			62.3			18.3			37.6	
Approach LOS		E			E			B			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	4.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		16.5	75.1	11.4	17.0	9.5	82.1	16.4	12.0			
Change Period (Y+Rc), s		4.5	7.0	4.0	* 4.5	4.5	7.0	4.5	4.5			
Max Green (Gmax), s		13.5	45.5	12.0	* 30	9.1	49.9	22.5	18.0			
Max Allow Headway (MAH), s		3.6	2.8	1.8	3.6	1.6	2.7	3.8	5.6			
Max Q Clear (g_c+I1), s		12.0	37.9	7.8	9.2	5.6	21.2	11.2	7.3			
Green Ext Time (g_e), s		0.1	2.6	0.0	0.2	0.0	3.7	0.7	0.2			
Prob of Phs Call (p_c)		0.99	1.00	0.94	0.96	0.83	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			4300		0		5106		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			825		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	151	0	87	0	53	0	272	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	10.0	0.0	5.8	0.0	3.6	0.0	9.2	0.0
Cycle Q Clear Time (g_c), s	10.0	0.0	5.8	0.0	3.6	0.0	9.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	178	0	109	0	74	0	344	0
V/C Ratio (X)	0.85	0.00	0.80	0.00	0.72	0.00	0.79	0.00
Avail Cap (c_a), veh/h	200	0	178	0	135	0	648	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	0.68	0.00	1.00	0.00
Uniform Delay (d1), s/veh	53.1	0.0	55.6	0.0	58.5	0.0	52.8	0.0
Incr Delay (d2), s/veh	25.5	0.0	4.9	0.0	3.3	0.0	4.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	78.6	0.0	60.4	0.0	61.8	0.0	56.9	0.0
1st-Term Q (Q1), veh/ln	4.3	0.0	2.6	0.0	1.6	0.0	4.0	0.0
2nd-Term Q (Q2), veh/ln	1.3	0.0	0.1	0.0	0.1	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	5.5	0.0	2.7	0.0	1.6	0.0	4.2	0.0
%ile Storage Ratio (RQ%)	0.94	0.00	0.07	0.00	0.28	0.00	0.71	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	3	0	0
Grp Vol (v), veh/h	0	1116	0	0	0	1529	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	35.8	0.0	0.0	0.0	19.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	35.8	0.0	0.0	0.0	19.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	1932	0	0	0	3196	0	0
V/C Ratio (X)	0.00	0.58	0.00	0.00	0.00	0.48	0.00	0.00
Avail Cap (c_a), veh/h	0	1932	0	0	0	3196	0	0
Upstream Filter (I)	0.00	0.68	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	35.6	0.0	0.0	0.0	12.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	36.5	0.0	0.0	0.0	12.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	16.1	0.0	0.0	0.0	6.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	16.4	0.0	0.0	0.0	6.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.28	0.00	0.00	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	565	0	99	0	27	0	71
Grp Sat Flow (s), veh/h/ln	0	1722	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	35.9	0.0	7.2	0.0	0.8	0.0	5.3
Cycle Q Clear Time (g_c), s	0.0	35.9	0.0	7.2	0.0	0.8	0.0	5.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.48	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	977	0	166	0	992	0	99
V/C Ratio (X)	0.00	0.58	0.00	0.60	0.00	0.03	0.00	0.72
Avail Cap (c_a), veh/h	0	977	0	390	0	992	0	238
Upstream Filter (I)	0.00	0.68	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	35.7	0.0	51.3	0.0	8.5	0.0	55.2
Incr Delay (d2), s/veh	0.0	1.7	0.0	1.3	0.0	0.1	0.0	9.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	37.4	0.0	52.6	0.0	8.6	0.0	64.6
1st-Term Q (Q1), veh/ln	0.0	16.3	0.0	2.8	0.0	0.3	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	16.8	0.0	2.9	0.0	0.3	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.28	0.00	0.07	0.00	0.04	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 35: Bob Hope Dr & Sunny Lands Center





















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↘		↗	↕		↗	↘	
Traffic Volume (veh/h)	0	0	6	18	0	54	0	1053	29	89	779	2
Future Volume (veh/h)	0	0	6	18	0	54	0	1053	29	89	779	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	6	19	0	56	0	1086	30	92	803	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	0	132	371	0	132	258	2098	58	467	2160	5
Arrive On Green	0.00	0.00	0.08	0.08	0.00	0.08	0.00	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	0	0	1585	1410	0	1585	677	3532	98	505	3637	9
Grp Volume(v), veh/h	0	0	6	19	0	56	0	546	570	92	392	413
Grp Sat Flow(s),veh/h/ln	0	0	1585	1410	0	1585	677	1777	1853	505	1777	1869
Q Serve(g_s), s	0.0	0.0	0.1	0.4	0.0	0.9	0.0	5.0	5.0	3.6	3.2	3.2
Cycle Q Clear(g_c), s	0.0	0.0	0.1	0.4	0.0	0.9	0.0	5.0	5.0	8.7	3.2	3.2
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.05	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	132	371	0	132	258	1055	1100	467	1055	1110
V/C Ratio(X)	0.00	0.00	0.05	0.05	0.00	0.42	0.00	0.52	0.52	0.20	0.37	0.37
Avail Cap(c_a), veh/h	0	0	1022	1163	0	1022	535	1783	1859	674	1783	1875
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	11.8	12.0	0.0	12.1	0.0	3.3	3.3	5.9	3.0	3.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.1	0.0	2.1	0.0	0.4	0.4	0.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.1	0.1	0.2	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	11.9	12.0	0.0	14.3	0.0	3.7	3.7	6.1	3.2	3.2
LnGrp LOS	A	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		6			75			1116			897	
Approach Delay, s/veh		11.9			13.7			3.7			3.5	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.1		6.8		21.1		6.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		28.0		18.0		28.0		18.0				
Max Q Clear Time (g_c+I1), s		7.0		2.1		10.7		2.9				
Green Ext Time (p_c), s		6.4		0.0		5.9		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				4.0								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	6	18	0	54	0	1053	29	89	779	2
Future Volume (veh/h)	0	0	6	18	0	54	0	1053	29	89	779	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	6	19	0	56	0	1086	30	92	803	2
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	0	0	132	371	0	132	258	2098	58	467	2160	5
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.00	0.08	0.08	0.00	0.08	0.00	0.59	0.59	0.59	0.59	0.59
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	0.0	11.9	12.0	0.0	14.3	0.0	3.7	3.7	6.1	3.2	3.2
Ln Grp LOS	A	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		6			75			1116			897	
Approach Delay, s/veh		11.9			13.7			3.7			3.5	
Approach LOS		B			B			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		8.0		6.0		6.0		6.0	
Phs Duration (G+Y+Rc), s			21.1		6.8		21.1		6.8		6.8	
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5		4.5	
Max Green (Gmax), s			28.0		18.0		28.0		18.0		18.0	
Max Allow Headway (MAH), s			4.7		5.6		5.5		5.1		5.1	
Max Q Clear (g_c+I1), s			7.0		2.1		10.7		2.9		2.9	
Green Ext Time (g_e), s			6.4		0.0		5.9		0.2		0.2	
Prob of Phs Call (p_c)			1.00		0.47		1.00		0.47		0.47	
Prob of Max Out (p_x)			0.15		0.00		0.25		0.00		0.00	
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			677		0		505		1410			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3532		0		3637		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			98		1585		9		1585			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L				L		L			

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Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	0	0	0	0	92	0	19
Grp Sat Flow (s), veh/h/ln	0	677	0	0	0	505	0	1410
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	8.7	0.0	0.4
Perm LT Sat Flow (s_l), veh/h/ln	0	677	0	0	0	505	0	1410
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	16.6	0.0	2.3
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	11.5	0.0	2.2
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	3.6	0.0	0.4
Time to First Blk (g_f), s	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	258	0	0	0	467	0	371
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.20	0.00	0.05
Avail Cap (c_a), veh/h	0	535	0	0	0	674	0	1163
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	5.9	0.0	12.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	6.1	0.0	12.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	546	0	0	0	392	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	5.0	0.0	0.0	0.0	3.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	0.0	0.0	3.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	1055	0	0	0	1055	0	0
V/C Ratio (X)	0.00	0.52	0.00	0.00	0.00	0.37	0.00	0.00
Avail Cap (c_a), veh/h	0	1783	0	0	0	1783	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.3	0.0	0.0	0.0	3.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.7	0.0	0.0	0.0	3.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	570	0	6	0	413	0	56
Grp Sat Flow (s), veh/h/ln	0	1853	0	1585	0	1869	0	1585
Q Serve Time (g_s), s	0.0	5.0	0.0	0.1	0.0	3.2	0.0	0.9
Cycle Q Clear Time (g_c), s	0.0	5.0	0.0	0.1	0.0	3.2	0.0	0.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.05	0.00	1.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1100	0	132	0	1110	0	132
V/C Ratio (X)	0.00	0.52	0.00	0.05	0.00	0.37	0.00	0.42
Avail Cap (c_a), veh/h	0	1859	0	1022	0	1875	0	1022
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	3.3	0.0	11.8	0.0	3.0	0.0	12.1
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.1	0.0	0.2	0.0	2.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.7	0.0	11.9	0.0	3.2	0.0	14.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	4.0
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↶	↷	↶	↑↑↑	↑↑↑	↶
Traffic Volume (veh/h)	33	28	51	179	241	55
Future Volume (veh/h)	33	28	51	179	241	55
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	36	2	55	195	262	60
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	81	72	901	3249	2667	584
Arrive On Green	0.05	0.05	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1781	1585	1058	5274	4360	918
Grp Volume(v), veh/h	36	2	55	195	211	111
Grp Sat Flow(s),veh/h/ln	1781	1585	1058	1702	1702	1705
Q Serve(g_s), s	0.6	0.0	0.6	0.4	0.7	0.7
Cycle Q Clear(g_c), s	0.6	0.0	1.3	0.4	0.7	0.7
Prop In Lane	1.00	1.00	1.00			0.54
Lane Grp Cap(c), veh/h	81	72	901	3249	2166	1085
V/C Ratio(X)	0.44	0.03	0.06	0.06	0.10	0.10
Avail Cap(c_a), veh/h	1133	1008	901	3249	2166	1085
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	12.9	2.3	1.9	2.0	2.0
Incr Delay (d2), s/veh	3.7	0.2	0.1	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.0	0.0	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.9	13.1	2.4	2.0	2.1	2.2
LnGrp LOS	B	B	A	A	A	A
Approach Vol, veh/h	38			250	322	
Approach Delay, s/veh	16.7			2.1	2.1	
Approach LOS	B			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		22.5		5.8		22.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		3.3		2.6		2.7
Green Ext Time (p_c), s		1.0		0.0		1.4
Intersection Summary						
HCM 6th Ctrl Delay			3.0			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations									
Traffic Volume (veh/h)	33	28	51	179	241	55			
Future Volume (veh/h)	33	28	51	179	241	55			
Number	7	14	5	2	6	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00	1.00			1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	36	2	55	195	262	60			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes		Yes						
Cap, veh/h	81	72	901	3249	2667	584			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.05	0.05	0.64	0.64	0.64	0.64			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	16.9	13.1	2.4	2.0	2.1	2.2			
Ln Grp LOS	B	B	A	A	A	A			
Approach Vol, veh/h	38			250	322				
Approach Delay, s/veh	16.7			2.1	2.1				
Approach LOS	B			A	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		8.0		
Phs Duration (G+Y+Rc), s			22.5		5.8		22.5		
Change Period (Y+Rc), s			4.5		4.5		4.5		
Max Green (Gmax), s			18.0		18.0		18.0		
Max Allow Headway (MAH), s			4.7		3.8		4.8		
Max Q Clear (g_c+I1), s			3.3		2.6		2.7		
Green Ext Time (g_e), s			1.0		0.0		1.4		
Prob of Phs Call (p_c)			1.00		0.26		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			1058		1781		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			5274		0		4360		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		918		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	55	0	36	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1058	0	1781	0	0	0	0
Q Serve Time (g_s), s	0.0	0.6	0.0	0.6	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.3	0.0	0.6	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1058	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	18.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	17.3	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	18.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	901	0	81	0	0	0	0
V/C Ratio (X)	0.00	0.06	0.00	0.44	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	901	0	1133	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.3	0.0	13.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	3.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.4	0.0	16.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.13	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	195	0	0	0	211	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	0.4	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.4	0.0	0.0	0.0	0.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	3249	0	0	0	2166	0	0
V/C Ratio (X)	0.00	0.06	0.00	0.00	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	3249	0	0	0	2166	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	1.9	0.0	0.0	0.0	2.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.0	0.0	0.0	0.0	2.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		T+R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	2	0	111	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1705	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	0.54	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	72	0	1085	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.03	0.00	0.10	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	1008	0	1085	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	12.9	0.0	2.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	13.1	0.0	2.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	3.0
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
 37: Kavendish Way & Frank Sinatra Dr




















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	772	3	9	572	52	0	0	4	32	0	28
Future Volume (veh/h)	45	772	3	9	572	52	0	0	4	32	0	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	804	3	9	596	54	0	0	4	33	0	29
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	529	1550	6	473	1407	127	0	0	324	581	0	324
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.00	0.00	0.20	0.20	0.00	0.20
Sat Flow, veh/h	782	3631	14	675	3295	298	0	0	1585	1412	0	1585
Grp Volume(v), veh/h	47	393	414	9	321	329	0	0	4	33	0	29
Grp Sat Flow(s),veh/h/ln	782	1777	1868	675	1777	1817	0	0	1585	1412	0	1585
Q Serve(g_s), s	1.1	4.0	4.0	0.2	3.1	3.1	0.0	0.0	0.0	0.5	0.0	0.4
Cycle Q Clear(g_c), s	4.2	4.0	4.0	4.2	3.1	3.1	0.0	0.0	0.0	0.5	0.0	0.4
Prop In Lane	1.00		0.01	1.00		0.16	0.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	529	759	797	473	759	776	0	0	324	581	0	324
V/C Ratio(X)	0.09	0.52	0.52	0.02	0.42	0.42	0.00	0.00	0.01	0.06	0.00	0.09
Avail Cap(c_a), veh/h	772	1309	1376	682	1309	1339	0	0	1168	1333	0	1168
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.4	5.2	5.2	6.7	4.9	4.9	0.0	0.0	7.7	8.0	0.0	7.9
Incr Delay (d2), s/veh	0.1	0.6	0.5	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.6	0.6	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.4	5.7	5.7	6.7	5.3	5.3	0.0	0.0	7.8	8.0	0.0	8.0
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h	854			659			4			62		
Approach Delay, s/veh	5.7			5.3			7.8			8.0		
Approach LOS	A			A			A			A		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	9.5		14.9		9.5		14.9					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.0		18.0		18.0		18.0					
Max Q Clear Time (g_c+I1), s	2.0		6.2		2.5		6.2					
Green Ext Time (p_c), s	0.0		4.2		0.1		2.8					
Intersection Summary												
HCM 6th Ctrl Delay			5.6									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	772	3	9	572	52	0	0	4	32	0	28
Future Volume (veh/h)	45	772	3	9	572	52	0	0	4	32	0	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	804	3	9	596	54	0	0	4	33	0	29
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	529	1550	6	473	1407	127	0	0	324	581	0	324
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.00	0.00	0.20	0.20	0.00	0.20
Unsig. Movement Delay												
Ln Grp Delay, s/veh	6.4	5.7	5.7	6.7	5.3	5.3	0.0	0.0	7.8	8.0	0.0	8.0
Ln Grp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		854			659			4			62	
Approach Delay, s/veh		5.7			5.3			7.8			8.0	
Approach LOS		A			A			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			8.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			9.5		14.9		9.5		14.9			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			18.0		18.0		18.0		18.0			
Max Allow Headway (MAH), s			5.6		5.3		4.6		4.9			
Max Q Clear (g_c+I1), s			2.0		6.2		2.5		6.2			
Green Ext Time (g_e), s			0.0		4.2		0.1		2.8			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.40		0.00		0.21			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			0		782		1412		675			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			0		3631		0		3295			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		14		1585		298			
Left Lane Group Data												
Assigned Mvmt	0	5	0	7	0	1	0	3				
Lane Assignment				L		L		L				

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	47	0	33	0	9
Grp Sat Flow (s), veh/h/ln	0	0	0	782	0	1412	0	675
Q Serve Time (g_s), s	0.0	0.0	0.0	1.1	0.0	0.5	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.2	0.0	0.5	0.0	4.2
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	782	0	1412	0	675
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	10.4	0.0	5.0	0.0	10.4
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	7.3	0.0	5.0	0.0	6.4
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.1	0.0	0.5	0.0	0.2
Time to First Blk (g_f), s	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	0	0	529	0	581	0	473
V/C Ratio (X)	0.00	0.00	0.00	0.09	0.00	0.06	0.00	0.02
Avail Cap (c_a), veh/h	0	0	0	772	0	1333	0	682
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	6.4	0.0	8.0	0.0	6.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	6.4	0.0	8.0	0.0	6.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	393	0	0	0	321
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	4.0	0.0	0.0	0.0	3.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.0	0.0	0.0	0.0	3.1
Lane Grp Cap (c), veh/h	0	0	0	759	0	0	0	759
V/C Ratio (X)	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.42
Avail Cap (c_a), veh/h	0	0	0	1309	0	0	0	1309
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	5.2	0.0	0.0	0.0	4.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	5.7	0.0	0.0	0.0	5.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	4	0	414	0	29	0	329
Grp Sat Flow (s), veh/h/ln	0	1585	0	1868	0	1585	0	1817
Q Serve Time (g_s), s	0.0	0.0	0.0	4.0	0.0	0.4	0.0	3.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.0	0.0	0.4	0.0	3.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.01	0.00	1.00	0.00	0.16
Lane Grp Cap (c), veh/h	0	324	0	797	0	324	0	776
V/C Ratio (X)	0.00	0.01	0.00	0.52	0.00	0.09	0.00	0.42
Avail Cap (c_a), veh/h	0	1168	0	1376	0	1168	0	1339
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	7.7	0.0	5.2	0.0	7.9	0.0	4.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.1	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.8	0.0	5.7	0.0	8.0	0.0	5.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.5	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.6	0.0	0.1	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

**APPENDIX D: LEVEL OF SERVICE CALCULATION SHEETS
CUMULATIVE YEAR (2040) CONDITIONS**



HCM 6th Signalized Intersection Summary

1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↖	↗	↘↙	↘↖			↗↘	↗
Traffic Volume (veh/h)	0	0	0	910	0	380	600	560	0	0	260	270
Future Volume (veh/h)	0	0	0	910	0	380	600	560	0	0	260	270
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				958	0	0	632	589	0	0	274	47
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				1222	0		806	2262	0	0	615	191
Arrive On Green				0.34	0.00	0.00	0.23	0.44	0.00	0.00	0.12	0.12
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1585
Grp Volume(v), veh/h				958	0	0	632	589	0	0	274	47
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1585
Q Serve(g_s), s				10.8	0.0	0.0	7.7	3.3	0.0	0.0	2.2	1.2
Cycle Q Clear(g_c), s				10.8	0.0	0.0	7.7	3.3	0.0	0.0	2.2	1.2
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1222	0		806	2262	0	0	615	191
V/C Ratio(X)				0.78	0.00		0.78	0.26	0.00	0.00	0.45	0.25
Avail Cap(c_a), veh/h				2003	0		1234	5149	0	0	2871	891
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				13.2	0.0	0.0	16.1	7.9	0.0	0.0	18.3	17.9
Incr Delay (d2), s/veh				0.9	0.0	0.0	0.8	0.0	0.0	0.0	0.4	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.6	0.0	0.0	2.2	0.7	0.0	0.0	0.7	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				14.1	0.0	0.0	17.0	7.9	0.0	0.0	18.7	18.4
LnGrp LOS				B	A		B	A	A	A	B	B
Approach Vol, veh/h					958	A		1221			321	
Approach Delay, s/veh					14.1			12.6			18.6	
Approach LOS					B			B			B	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		24.7			14.4	10.2		20.2				
Change Period (Y+Rc), s		4.8			4.0	4.8		4.8				
Max Green Setting (Gmax), s		45.2			16.0	25.2		25.2				
Max Q Clear Time (g_c+I1), s		5.3			9.7	4.2		12.8				
Green Ext Time (p_c), s		3.0			0.8	1.3		2.5				

Intersection Summary





















HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	910	0	380	600	560	0	0	260	270
Future Volume (veh/h)	0	0	0	910	0	380	600	560	0	0	260	270
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				958	0	0	632	589	0	0	274	47
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Opposing Right Turn Influence				Yes			Yes			No		
Cap, veh/h				1222	0		806	2262	0	0	615	191
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.34	0.00	0.00	0.23	0.44	0.00	0.00	0.12	0.12
Unsig. Movement Delay												
Ln Grp Delay, s/veh				14.1	0.0	0.0	17.0	7.9	0.0	0.0	18.7	18.4
Ln Grp LOS				B	A		B	A	A	A	B	B
Approach Vol, veh/h					958			1221			321	
Approach Delay, s/veh					14.1			12.6			18.6	
Approach LOS					B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8		5	6					
Case No			4.0	9.0		2.0	7.0					
Phs Duration (G+Y+Rc), s			24.7	20.2		14.4	10.2					
Change Period (Y+Rc), s			4.8	4.8		4.0	4.8					
Max Green (Gmax), s			45.2	25.2		16.0	25.2					
Max Allow Headway (MAH), s			4.2	3.3		2.6	4.1					
Max Q Clear (g_c+I1), s			5.3	12.8		9.7	4.2					
Green Ext Time (g_e), s			3.0	2.5		0.8	1.3					
Prob of Phs Call (p_c)			1.00	1.00		1.00	0.98					
Prob of Max Out (p_x)			0.00	0.05		0.06	0.00					
Left-Turn Movement Data												
Assigned Mvmt				3		5	1					
Mvmt Sat Flow, veh/h				3563		3456	0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			5274	0			5274					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			0	1585			1585					
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	0	0				
Lane Assignment			L		L (Prot)							

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

Lanes in Grp	0	0	2	0	2	0	0	0
Grp Vol (v), veh/h	0	0	958	0	632	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1728	0	0	0
Q Serve Time (g_s), s	0.0	0.0	10.8	0.0	7.7	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	10.8	0.0	7.7	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1222	0	806	0	0	0
V/C Ratio (X)	0.00	0.00	0.78	0.00	0.78	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	2003	0	1234	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	13.2	0.0	16.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.9	0.0	0.8	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	14.1	0.0	17.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	3.5	0.0	2.1	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	3.6	0.0	2.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.10	0.00	0.26	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	589	0	0	0	274	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	3.3	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.3	0.0	0.0	0.0	2.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	2262	0	0	0	615	0	0
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.45	0.00	0.00
Avail Cap (c_a), veh/h	0	5149	0	0	0	2871	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.9	0.0	0.0	0.0	18.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.9	0.0	0.0	0.0	18.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	0.0	0.0	0.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.7	0.0	0.0	0.0	0.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	47	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	544	0	0	191	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00
Avail Cap (c_a), veh/h	0	0	891	0	0	891	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	17.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	18.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	13.9
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	0	1092	0	0	0	0	745	80	130	1040	0
Future Volume (veh/h)	415	0	1092	0	0	0	0	745	80	130	1040	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	291	0	1244				0	784	28	137	1095	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	781	0	1390				0	1214	343	287	1922	0
Arrive On Green	0.44	0.00	0.44				0.00	0.22	0.22	0.08	0.38	0.00
Sat Flow, veh/h	1781	0	3170				0	5611	1585	3456	5274	0
Grp Volume(v), veh/h	291	0	1244				0	784	28	137	1095	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1870	1585	1728	1702	0
Q Serve(g_s), s	5.7	0.0	18.8				0.0	6.6	0.7	2.0	8.8	0.0
Cycle Q Clear(g_c), s	5.7	0.0	18.8				0.0	6.6	0.7	2.0	8.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	781	0	1390				0	1214	343	287	1922	0
V/C Ratio(X)	0.37	0.00	0.90				0.00	0.65	0.08	0.48	0.57	0.00
Avail Cap(c_a), veh/h	831	0	1479				0	1861	526	333	2580	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.8	0.0	13.5				0.0	18.5	16.2	22.7	12.8	0.0
Incr Delay (d2), s/veh	0.2	0.0	7.1				0.0	0.4	0.1	0.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9	0.0	6.7				0.0	2.3	0.2	0.7	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.0	0.0	20.5				0.0	18.9	16.3	23.2	13.0	0.0
LnGrp LOS	A	A	C				A	B	B	C	B	A
Approach Vol, veh/h	1535						812			1232		
Approach Delay, s/veh	18.5						18.8			14.2		
Approach LOS	B						B			B		
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	8.3	16.0	27.5	24.3								
Change Period (Y+Rc), s	4.0	4.8	4.8	4.8								
Max Green Setting (Gmax), s	5.0	17.2	24.2	26.2								
Max Q Clear Time (g_c+I), s	14.0	8.6	20.8	10.8								
Green Ext Time (p_c), s	0.0	2.6	1.9	5.0								

Intersection Summary

HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Ramp/I-10 EB On Ramp

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	0	1092	0	0	0	0	745	80	130	1040	0
Future Volume (veh/h)	415	0	1092	0	0	0	0	745	80	130	1040	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	291	0	1244				0	784	28	137	1095	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	781	0	1390				0	1214	343	287	1922	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.44	0.00	0.44				0.00	0.22	0.22	0.08	0.38	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	10.0	0.0	20.5				0.0	18.9	16.3	23.2	13.0	0.0
Ln Grp LOS	A	A	C				A	B	B	C	B	A
Approach Vol, veh/h		1535						812			1232	
Approach Delay, s/veh		18.5						18.8			14.2	
Approach LOS		B						B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		8.3	16.0		27.5		24.3					
Change Period (Y+Rc), s		4.0	4.8		4.8		4.8					
Max Green (Gmax), s		5.0	17.2		24.2		26.2					
Max Allow Headway (MAH), s		2.6	4.2		3.5		4.2					
Max Q Clear (g_c+I1), s		4.0	8.6		20.8		10.8					
Green Ext Time (g_e), s		0.0	2.6		1.9		5.0					
Prob of Phs Call (p_c)		0.86	1.00		1.00		1.00					
Prob of Max Out (p_x)		1.00	0.32		1.00		0.14					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5611		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	137	0	0	291	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	2.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	2.0	0.0	0.0	5.7	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	11.2	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	287	0	0	781	0	0	0	0
V/C Ratio (X)	0.48	0.00	0.00	0.37	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	333	0	0	831	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	22.7	0.0	0.0	9.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	23.2	0.0	0.0	10.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.0	1.8	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	0.0	1.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.00	0.10	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	784	0	0	0	1095	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	6.6	0.0	0.0	0.0	8.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.6	0.0	0.0	0.0	8.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	1214	0	0	0	1922	0	0
V/C Ratio (X)	0.00	0.65	0.00	0.00	0.00	0.57	0.00	0.00
Avail Cap (c_a), veh/h	0	1861	0	0	0	2580	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	18.5	0.0	0.0	0.0	12.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.9	0.0	0.0	0.0	13.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	0.0	0.0	2.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	0.0	0.0	2.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.09	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	28	0	1244	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.7	0.0	18.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.7	0.0	18.8	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	343	0	1390	0	0	0	0
V/C Ratio (X)	0.00	0.08	0.00	0.90	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	526	0	1479	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.2	0.0	13.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	7.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.3	0.0	20.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	5.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	6.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	1.31	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

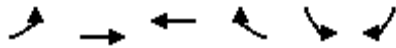
Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: Ramon Rd & Rattler Rd

07/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖↗	↑↑↑	↑↑↑	↖	↖↗	↖	
Traffic Volume (veh/h)	100	1710	1215	130	110	90	
Future Volume (veh/h)	100	1710	1215	130	110	90	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	105	1800	1279	91	116	36	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	252	3748	2906	1033	294	131	
Arrive On Green	0.07	0.73	0.57	0.57	0.08	0.08	
Sat Flow, veh/h	3456	5274	5274	1585	3563	1585	
Grp Volume(v), veh/h	105	1800	1279	91	116	36	
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1585	1781	1585	
Q Serve(g_s), s	1.6	7.9	7.8	1.2	1.7	1.2	
Cycle Q Clear(g_c), s	1.6	7.9	7.8	1.2	1.7	1.2	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	252	3748	2906	1033	294	131	
V/C Ratio(X)	0.42	0.48	0.44	0.09	0.39	0.28	
Avail Cap(c_a), veh/h	380	3748	2906	1033	2288	1018	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	24.1	3.0	6.7	3.5	23.7	23.5	
Incr Delay (d2), s/veh	1.1	0.4	0.5	0.2	0.9	1.1	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.6	0.2	1.6	0.3	0.7	1.1	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	25.2	3.4	7.2	3.7	24.6	24.6	
LnGrp LOS	C	A	A	A	C	C	
Approach Vol, veh/h		1905	1370		152		
Approach Delay, s/veh		4.6	7.0		24.6		
Approach LOS		A	A		C		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				45.0	9.5	9.0	36.0
Change Period (Y+Rc), s				5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s				40.0	35.0	6.0	29.0
Max Q Clear Time (g_c+I1), s				9.9	3.7	3.6	9.8
Green Ext Time (p_c), s				15.0	0.5	0.1	8.2
Intersection Summary							
HCM 6th Ctrl Delay			6.5				
HCM 6th LOS			A				
Notes							
User approved volume balancing among the lanes for turning movement.							

HCM 6th Signalized Intersection Capacity Analysis
3: Ramon Rd & Rattler Rd

07/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖↖	↑↑↑	↑↑↑	↗	↘↘	↘			
Traffic Volume (veh/h)	100	1710	1215	130	110	90			
Future Volume (veh/h)	100	1710	1215	130	110	90			
Number	7	4	8	18	1	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	105	1800	1279	91	116	36			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	252	3748	2906	1033	294	131			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.07	0.73	0.57	0.57	0.08	0.08			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	25.2	3.4	7.2	3.7	24.6	24.6			
Ln Grp LOS	C	A	A	A	C	C			
Approach Vol, veh/h		1905	1370		152				
Approach Delay, s/veh		4.6	7.0		24.6				
Approach LOS		A	A		C				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		6			4			7	8
Case No		9.0			4.0			2.0	7.0
Phs Duration (G+Y+Rc), s		9.5			45.0			9.0	36.0
Change Period (Y+Rc), s		5.0			5.0			5.0	5.0
Max Green (Gmax), s		35.0			40.0			6.0	29.0
Max Allow Headway (MAH), s		3.8			4.7			3.6	4.7
Max Q Clear (g_c+I1), s		3.7			9.9			3.6	9.8
Green Ext Time (g_e), s		0.5			15.0			0.1	8.2
Prob of Phs Call (p_c)		0.90			1.00			0.80	1.00
Prob of Max Out (p_x)		0.00			0.00			1.00	0.00
Left-Turn Movement Data									
Assigned Mvmt		1						7	3
Mvmt Sat Flow, veh/h		3563						3456	0
Through Movement Data									
Assigned Mvmt		6			4				8
Mvmt Sat Flow, veh/h		0			5274				5274
Right-Turn Movement Data									
Assigned Mvmt		16			14				18
Mvmt Sat Flow, veh/h		1585			0				1585
Left Lane Group Data									
Assigned Mvmt		1	0	0	0	0	0	7	3
Lane Assignment		L						L (Prot)	

HCM 6th Signalized Intersection Capacity Analysis
 3: Ramon Rd & Rattler Rd

07/11/2019

Lanes in Grp	2	0	0	0	0	0	2	0
Grp Vol (v), veh/h	116	0	0	0	0	0	105	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	0	0	0	1728	0
Q Serve Time (g_s), s	1.7	0.0	0.0	0.0	0.0	0.0	1.6	0.0
Cycle Q Clear Time (g_c), s	1.7	0.0	0.0	0.0	0.0	0.0	1.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1781	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	294	0	0	0	0	0	252	0
V/C Ratio (X)	0.39	0.00	0.00	0.00	0.00	0.00	0.42	0.00
Avail Cap (c_a), veh/h	2288	0	0	0	0	0	380	0
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	23.7	0.0	0.0	0.0	0.0	0.0	24.1	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.0	0.0	0.0	1.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.6	0.0	0.0	0.0	0.0	0.0	25.2	0.0
1st-Term Q (Q1), veh/ln	0.6	0.0	0.0	0.0	0.0	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
%ile Back of Q (50%), veh/ln	0.7	0.0	0.0	0.0	0.0	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	6	0	0	4	0	0	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1800	0	0	0	1279
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	7.9	0.0	0.0	0.0	7.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	7.9	0.0	0.0	0.0	7.8
Lane Grp Cap (c), veh/h	0	0	0	3748	0	0	0	2906
V/C Ratio (X)	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.44
Avail Cap (c_a), veh/h	0	0	0	3748	0	0	0	2906
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	3.0	0.0	0.0	0.0	6.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	3.4	0.0	0.0	0.0	7.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
 3: Ramon Rd & Rattler Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	16	0	0	14	0	0	0	18
Lane Assignment	R							R
Lanes in Grp	1	0	0	0	0	0	0	1
Grp Vol (v), veh/h	36	0	0	0	0	0	0	91
Grp Sat Flow (s), veh/h/ln	1585	0	0	0	0	0	0	1585
Q Serve Time (g_s), s	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2
Cycle Q Clear Time (g_c), s	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.5
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	131	0	0	0	0	0	0	1033
V/C Ratio (X)	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.09
Avail Cap (c_a), veh/h	1018	0	0	0	0	0	0	1033
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	23.5	0.0	0.0	0.0	0.0	0.0	0.0	3.5
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.6	0.0	0.0	0.0	0.0	0.0	0.0	3.7
1st-Term Q (Q1), veh/ln	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3
%ile Storage Ratio (RQ%)	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	6.5
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Bob Hope Dr & Ramon Rd

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	360	1040	420	150	515	20	230	445	250	210	1320	602
Future Volume (veh/h)	360	1040	420	150	515	20	230	445	250	210	1320	602
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	379	1095	296	158	542	5	242	468	108	221	1389	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	396	1133	505	297	1031	460	298	1564	485	325	1604	
Arrive On Green	0.11	0.32	0.32	0.09	0.29	0.29	0.09	0.31	0.31	0.09	0.31	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	379	1095	296	158	542	5	242	468	108	221	1389	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	13.9	38.6	19.9	5.6	16.3	0.3	8.8	8.9	6.5	7.9	32.6	0.0
Cycle Q Clear(g_c), s	13.9	38.6	19.9	5.6	16.3	0.3	8.8	8.9	6.5	7.9	32.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	396	1133	505	297	1031	460	298	1564	485	325	1604	
V/C Ratio(X)	0.96	0.97	0.59	0.53	0.53	0.01	0.81	0.30	0.22	0.68	0.87	
Avail Cap(c_a), veh/h	396	1133	505	298	1032	460	298	1584	492	383	1708	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.1	42.7	36.3	55.7	37.9	32.2	57.2	33.7	32.9	55.8	41.2	0.0
Incr Delay (d2), s/veh	33.8	19.2	1.8	0.9	0.5	0.0	14.4	0.1	0.3	2.6	4.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	18.9	7.6	2.4	6.8	0.1	4.3	3.5	2.4	3.4	13.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.9	61.9	38.1	56.7	38.4	32.2	71.6	33.9	33.2	58.4	46.0	0.0
LnGrp LOS	F	E	D	E	D	C	E	C	C	E	D	
Approach Vol, veh/h		1770			705			818			1610	A
Approach Delay, s/veh		63.9			42.4			44.9			47.7	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	46.5	16.4	47.1	16.4	47.5	20.0	43.5				
Change Period (Y+Rc), s	5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5				
Max Green Setting (Gmax), s	14.1	39.5	11.0	40.6	11.0	42.6	14.6	37.0				
Max Q Clear Time (g_c+1), s	19.9	10.9	7.6	40.6	10.8	34.6	15.9	18.3				
Green Ext Time (p_c), s	0.1	3.9	0.1	0.0	0.0	5.4	0.0	2.9				

Intersection Summary



































HCM 6th Ctrl Delay	52.3
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
4: Bob Hope Dr & Ramon Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	360	1040	420	150	515	20	230	445	250	210	1320	602
Future Volume (veh/h)	360	1040	420	150	515	20	230	445	250	210	1320	602
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	379	1095	296	158	542	5	242	468	108	221	1389	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	396	1133	505	297	1031	460	298	1564	485	325	1604	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.32	0.32	0.09	0.29	0.29	0.09	0.31	0.31	0.09	0.31	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	89.9	61.9	38.1	56.7	38.4	32.2	71.6	33.9	33.2	58.4	46.0	0.0
Ln Grp LOS	F	E	D	E	D	C	E	C	C	E	D	
Approach Vol, veh/h		1770			705			818			1610	
Approach Delay, s/veh		63.9			42.4			44.9			47.7	
Approach LOS		E			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		17.4	46.5	16.4	47.1	16.4	47.5	20.0	43.5			
Change Period (Y+Rc), s		5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5			
Max Green (Gmax), s		14.1	39.5	11.0	40.6	11.0	42.6	14.6	37.0			
Max Allow Headway (MAH), s		2.1	5.1	2.1	4.6	2.1	5.2	2.1	4.7			
Max Q Clear (g_c+I1), s		9.9	10.9	7.6	40.6	10.8	34.6	15.9	18.3			
Green Ext Time (g_e), s		0.1	3.9	0.1	0.0	0.0	5.4	0.0	2.9			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.02	0.00	0.07	1.00	1.00	0.83	1.00	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	221	0	158	0	242	0	379	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	7.9	0.0	5.6	0.0	8.8	0.0	13.9	0.0
Cycle Q Clear Time (g_c), s	7.9	0.0	5.6	0.0	8.8	0.0	13.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	325	0	297	0	298	0	396	0
V/C Ratio (X)	0.68	0.00	0.53	0.00	0.81	0.00	0.96	0.00
Avail Cap (c_a), veh/h	383	0	298	0	298	0	396	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	55.8	0.0	55.7	0.0	57.2	0.0	56.1	0.0
Incr Delay (d2), s/veh	2.6	0.0	0.9	0.0	14.4	0.0	33.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	58.4	0.0	56.7	0.0	71.6	0.0	89.9	0.0
1st-Term Q (Q1), veh/ln	3.3	0.0	2.3	0.0	3.7	0.0	5.8	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.6	0.0	1.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.4	0.0	2.4	0.0	4.3	0.0	7.7	0.0
%ile Storage Ratio (RQ%)	0.40	0.00	0.18	0.00	0.53	0.00	0.70	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	468	0	1095	0	1389	0	542
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	8.9	0.0	38.6	0.0	32.6	0.0	16.3
Cycle Q Clear Time (g_c), s	0.0	8.9	0.0	38.6	0.0	32.6	0.0	16.3
Lane Grp Cap (c), veh/h	0	1564	0	1133	0	1604	0	1031
V/C Ratio (X)	0.00	0.30	0.00	0.97	0.00	0.87	0.00	0.53
Avail Cap (c_a), veh/h	0	1584	0	1133	0	1708	0	1032
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	33.7	0.0	42.7	0.0	41.2	0.0	37.9
Incr Delay (d2), s/veh	0.0	0.1	0.0	19.2	0.0	4.9	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.9	0.0	61.9	0.0	46.0	0.0	38.4
1st-Term Q (Q1), veh/ln	0.0	3.5	0.0	15.9	0.0	12.9	0.0	6.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	3.0	0.0	0.7	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.5	0.0	18.9	0.0	13.6	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.40	0.00	0.30	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	108	0	296	0	0	0	5
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	6.5	0.0	19.9	0.0	0.0	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	6.5	0.0	19.9	0.0	0.0	0.0	0.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	485	0	505	0	498	0	460
V/C Ratio (X)	0.00	0.22	0.00	0.59	0.00	0.00	0.00	0.01
Avail Cap (c_a), veh/h	0	492	0	505	0	530	0	460
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	32.9	0.0	36.3	0.0	0.0	0.0	32.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	1.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.2	0.0	38.1	0.0	0.0	0.0	32.2
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	7.3	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	7.6	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.22	0.00	0.16	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	52.3
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
5: Bob Hope Dr & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	510	160	100	550	365	180	430	180	280	1410	210
Future Volume (veh/h)	95	510	160	100	550	365	180	430	180	280	1410	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	537	48	105	579	171	189	453	0	295	1484	221
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	120	794	354	120	794	354	232	1837		232	1611	240
Arrive On Green	0.07	0.22	0.22	0.07	0.22	0.22	0.07	0.36	0.00	0.07	0.36	0.36
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	5106	1585	3456	4477	666
Grp Volume(v), veh/h	100	537	48	105	579	171	189	453	0	295	1128	577
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1585	1728	1702	1739
Q Serve(g_s), s	4.1	10.3	1.8	4.3	11.2	7.0	4.0	4.6	0.0	5.0	23.6	23.7
Cycle Q Clear(g_c), s	4.1	10.3	1.8	4.3	11.2	7.0	4.0	4.6	0.0	5.0	23.6	23.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	120	794	354	120	794	354	232	1837		232	1225	626
V/C Ratio(X)	0.84	0.68	0.14	0.88	0.73	0.48	0.81	0.25		1.27	0.92	0.92
Avail Cap(c_a), veh/h	120	1290	575	120	1290	575	232	1853		232	1236	631
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	26.4	23.1	34.4	26.8	25.1	34.2	16.7	0.0	34.7	22.8	22.8
Incr Delay (d2), s/veh	35.8	1.0	0.2	45.5	1.3	1.0	18.3	0.1	0.0	150.8	11.2	19.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.0	0.6	3.2	4.4	2.4	2.1	1.6	0.0	6.8	9.7	11.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	27.4	23.3	79.9	28.1	26.2	52.5	16.8	0.0	185.5	34.0	42.0
LnGrp LOS	E	C	C	E	C	C	D	B		F	C	D
Approach Vol, veh/h		685			855			642	A		2000	
Approach Delay, s/veh		33.4			34.1			27.3			58.7	
Approach LOS		C			C			C			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	33.3	9.0	23.1	9.0	33.3	9.0	23.1				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	5.0	27.0	5.0	27.0	5.0	27.0	5.0	27.0				
Max Q Clear Time (g_c+1), s	17.0	6.6	6.3	12.3	6.0	25.7	6.1	13.2				
Green Ext Time (p_c), s	0.0	2.6	0.0	2.8	0.0	1.1	0.0	3.4				

Intersection Summary

























HCM 6th Ctrl Delay	44.7
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
5: Bob Hope Dr & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	510	160	100	550	365	180	430	180	280	1410	210
Future Volume (veh/h)	95	510	160	100	550	365	180	430	180	280	1410	210
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	537	48	105	579	171	189	453	0	295	1484	221
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	120	794	354	120	794	354	232	1837		232	1611	240
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.22	0.22	0.07	0.22	0.22	0.07	0.36	0.00	0.07	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	70.1	27.4	23.3	79.9	28.1	26.2	52.5	16.8	0.0	185.5	34.0	42.0
Ln Grp LOS	E	C	C	E	C	C	D	B		F	C	D
Approach Vol, veh/h		685			855			642			2000	
Approach Delay, s/veh		33.4			34.1			27.3			58.7	
Approach LOS		C			C			C			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.0	33.3	9.0	23.1	9.0	33.3	9.0	23.1			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		5.0	27.0	5.0	27.0	5.0	27.0	5.0	27.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.8	2.7	4.6			
Max Q Clear (g_c+I1), s		7.0	6.6	6.3	12.3	6.0	25.7	6.1	13.2			
Green Ext Time (g_e), s		0.0	2.6	0.0	2.8	0.0	1.1	0.0	3.4			
Prob of Phs Call (p_c)		1.00	1.00	0.89	1.00	0.98	1.00	0.87	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.06	1.00	1.00	1.00	0.12			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4477		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		666		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	295	0	105	0	189	0	100	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	5.0	0.0	4.3	0.0	4.0	0.0	4.1	0.0
Cycle Q Clear Time (g_c), s	5.0	0.0	4.3	0.0	4.0	0.0	4.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	232	0	120	0	232	0	120	0
V/C Ratio (X)	1.27	0.00	0.88	0.00	0.81	0.00	0.84	0.00
Avail Cap (c_a), veh/h	232	0	120	0	232	0	120	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	34.7	0.0	34.4	0.0	34.2	0.0	34.3	0.0
Incr Delay (d2), s/veh	150.8	0.0	45.5	0.0	18.3	0.0	35.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	185.5	0.0	79.9	0.0	52.5	0.0	70.1	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	1.7	0.0	1.5	0.0	1.6	0.0
2nd-Term Q (Q2), veh/ln	4.9	0.0	1.5	0.0	0.6	0.0	1.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	6.8	0.0	3.2	0.0	2.1	0.0	2.8	0.0
%ile Storage Ratio (RQ%)	0.72	0.00	0.36	0.00	0.22	0.00	0.36	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	15.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	453	0	537	0	1128	0	579
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	4.6	0.0	10.3	0.0	23.6	0.0	11.2
Cycle Q Clear Time (g_c), s	0.0	4.6	0.0	10.3	0.0	23.6	0.0	11.2
Lane Grp Cap (c), veh/h	0	1837	0	794	0	1225	0	794
V/C Ratio (X)	0.00	0.25	0.00	0.68	0.00	0.92	0.00	0.73
Avail Cap (c_a), veh/h	0	1853	0	1290	0	1236	0	1290
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.7	0.0	26.4	0.0	22.8	0.0	26.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.0	0.0	11.2	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.8	0.0	27.4	0.0	34.0	0.0	28.1
1st-Term Q (Q1), veh/ln	0.0	1.6	0.0	3.9	0.0	7.8	0.0	4.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	1.9	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
5: Bob Hope Dr & Dinah Shore Dr

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	4.0	0.0	9.7	0.0	4.4
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.02	0.00	0.11	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	48	0	577	0	171
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1739	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	1.8	0.0	23.7	0.0	7.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.8	0.0	23.7	0.0	7.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.38	0.00	1.00
Lane Grp Cap (c), veh/h	0	570	0	354	0	626	0	354
V/C Ratio (X)	0.00	0.00	0.00	0.14	0.00	0.92	0.00	0.48
Avail Cap (c_a), veh/h	0	575	0	575	0	631	0	575
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	23.1	0.0	22.8	0.0	25.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	19.2	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	23.3	0.0	42.0	0.0	26.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	8.0	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.6	0.0	11.3	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.13	0.00	0.13	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	44.7
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Monterey Ave & Varner Rd

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	90	335	800	610	240	410	430	166	80	710	20
Future Volume (veh/h)	20	90	335	800	610	240	410	430	166	80	710	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	95	192	842	642	86	432	453	0	84	747	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	156	264	896	1086	485	578	1322		153	1001	
Arrive On Green	0.05	0.08	0.08	0.26	0.31	0.31	0.17	0.37	0.00	0.09	0.28	0.00
Sat Flow, veh/h	1781	1870	3170	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	21	95	192	842	642	86	432	453	0	84	747	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.4	5.9	7.1	28.6	18.4	4.8	14.3	11.0	0.0	5.4	22.9	0.0
Cycle Q Clear(g_c), s	1.4	5.9	7.1	28.6	18.4	4.8	14.3	11.0	0.0	5.4	22.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	156	264	896	1086	485	578	1322		153	1001	
V/C Ratio(X)	0.26	0.61	0.73	0.94	0.59	0.18	0.75	0.34		0.55	0.75	
Avail Cap(c_a), veh/h	163	175	296	973	1086	485	578	1322		183	1001	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.60	0.60	0.60	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.2	53.1	53.7	43.5	35.3	30.6	47.5	27.1	0.0	52.6	39.2	0.0
Incr Delay (d2), s/veh	0.6	5.0	7.7	10.2	0.5	0.1	5.1	0.7	0.0	1.1	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.9	3.0	12.8	7.6	1.8	6.6	4.8	0.0	2.4	10.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	58.1	61.3	53.7	35.8	30.7	52.6	27.8	0.0	53.7	44.3	0.0
LnGrp LOS	E	E	E	D	D	C	D	C		D	D	
Approach Vol, veh/h		308			1570			885	A		831	A
Approach Delay, s/veh		60.0			45.1			39.9			45.2	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	50.8	37.6	15.8	26.3	40.3	10.2	43.2				
Change Period (Y+Rc), s	5.4	6.2	6.5	* 5.8	6.2	* 6.5	* 4.7	6.5				
Max Green Setting (Gmax), s	12.3	39.9	33.8	* 11	18.4	* 34	* 11	34.0				
Max Q Clear Time (g_c+1), s	17.4	13.0	30.6	9.1	16.3	24.9	3.4	20.4				
Green Ext Time (p_c), s	0.0	3.2	0.5	0.2	0.3	2.9	0.0	3.4				

Intersection Summary

























HCM 6th Ctrl Delay	45.1
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	90	335	800	610	240	410	430	166	80	710	20
Future Volume (veh/h)	20	90	335	800	610	240	410	430	166	80	710	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	95	192	842	642	86	432	453	0	84	747	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	82	156	264	896	1086	485	578	1322		153	1001	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.08	0.08	0.26	0.31	0.31	0.17	0.37	0.00	0.09	0.28	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.8	58.1	61.3	53.7	35.8	30.7	52.6	27.8	0.0	53.7	44.3	0.0
Ln Grp LOS	E	E	E	D	D	C	D	C		D	D	
Approach Vol, veh/h		308			1570			885			831	
Approach Delay, s/veh		60.0			45.1			39.9			45.2	
Approach LOS		E			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	3.0	3.0	2.0	3.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.7	50.8	15.8	37.6	40.3	26.3	10.2	43.2			
Change Period (Y+Rc), s		5.4	6.2	* 5.8	6.5	* 6.5	6.2	* 4.7	6.5			
Max Green (Gmax), s		12.3	39.9	* 11	33.8	* 34	18.4	* 11	34.0			
Max Allow Headway (MAH), s		2.1	5.2	4.2	2.1	4.7	3.3	2.1	4.6			
Max Q Clear (g_c+I1), s		7.4	13.0	9.1	30.6	24.9	16.3	3.4	20.4			
Green Ext Time (g_e), s		0.0	3.2	0.2	0.5	2.9	0.3	0.0	3.4			
Prob of Phs Call (p_c)		0.94	1.00	1.00	1.00	1.00	1.00	0.50	1.00			
Prob of Max Out (p_x)		0.00	0.00	1.00	0.42	0.00	1.00	0.00	0.12			
Left-Turn Movement Data												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1781			3456		3456	1781				
Through Movement Data												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			3554	1870		3554			3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			1585	3170		1585			1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		L (Prot)			L (Prot)		L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

07/11/2019

Lanes in Grp	1	0	0	2	0	2	1	0
Grp Vol (v), veh/h	84	0	0	842	0	432	21	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1728	0	1728	1781	0
Q Serve Time (g_s), s	5.4	0.0	0.0	28.6	0.0	14.3	1.4	0.0
Cycle Q Clear Time (g_c), s	5.4	0.0	0.0	28.6	0.0	14.3	1.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	153	0	0	896	0	578	82	0
V/C Ratio (X)	0.55	0.00	0.00	0.94	0.00	0.75	0.26	0.00
Avail Cap (c_a), veh/h	183	0	0	973	0	578	163	0
Upstream Filter (I)	1.00	0.00	0.00	0.60	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	52.6	0.0	0.0	43.5	0.0	47.5	55.2	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	10.2	0.0	5.1	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	53.7	0.0	0.0	53.7	0.0	52.6	55.8	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	0.0	11.5	0.0	6.1	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.3	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.4	0.0	0.0	12.8	0.0	6.6	0.6	0.0
%ile Storage Ratio (RQ%)	0.35	0.00	0.00	1.08	0.00	0.71	0.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	1	0	2	0	0	2
Grp Vol (v), veh/h	0	453	95	0	747	0	0	642
Grp Sat Flow (s), veh/h/ln	0	1777	1870	0	1777	0	0	1777
Q Serve Time (g_s), s	0.0	11.0	5.9	0.0	22.9	0.0	0.0	18.4
Cycle Q Clear Time (g_c), s	0.0	11.0	5.9	0.0	22.9	0.0	0.0	18.4
Lane Grp Cap (c), veh/h	0	1322	156	0	1001	0	0	1086
V/C Ratio (X)	0.00	0.34	0.61	0.00	0.75	0.00	0.00	0.59
Avail Cap (c_a), veh/h	0	1322	175	0	1001	0	0	1086
Upstream Filter (I)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	0.60
Uniform Delay (d1), s/veh	0.0	27.1	53.1	0.0	39.2	0.0	0.0	35.3
Incr Delay (d2), s/veh	0.0	0.7	5.0	0.0	5.1	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.8	58.1	0.0	44.3	0.0	0.0	35.8
1st-Term Q (Q1), veh/ln	0.0	4.7	2.7	0.0	9.4	0.0	0.0	7.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.2	0.0	0.7	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	2.9	0.0	10.1	0.0	0.0	7.6
%ile Storage Ratio (RQ%)	0.00	0.52	0.05	0.00	0.32	0.00	0.00	0.34
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		R	R		R			R
Lanes in Grp	0	1	2	0	1	0	0	1
Grp Vol (v), veh/h	0	0	192	0	0	0	0	86
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	0	1585
Q Serve Time (g_s), s	0.0	0.0	7.1	0.0	0.0	0.0	0.0	4.8
Cycle Q Clear Time (g_c), s	0.0	0.0	7.1	0.0	0.0	0.0	0.0	4.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	590	264	0	446	0	0	485
V/C Ratio (X)	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.18
Avail Cap (c_a), veh/h	0	590	296	0	446	0	0	485
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.60
Uniform Delay (d1), s/veh	0.0	0.0	53.7	0.0	0.0	0.0	0.0	30.6
Incr Delay (d2), s/veh	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	61.3	0.0	0.0	0.0	0.0	30.7
1st-Term Q (Q1), veh/ln	0.0	0.0	2.7	0.0	0.0	0.0	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	3.0	0.0	0.0	0.0	0.0	1.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	45.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 7: I-10 WB Off Ramp & Varner Rd

07/11/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	↑
Traffic Volume (veh/h)	340	0	0	550	1140	40
Future Volume (veh/h)	340	0	0	550	1140	40
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	358	0	0	579	1200	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	832	0	0	832	1508	692
Arrive On Green	0.23	0.00	0.00	0.23	0.44	0.44
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	358	0	0	579	1200	37
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1728	1585
Q Serve(g_s), s	2.9	0.0	0.0	5.1	10.2	0.5
Cycle Q Clear(g_c), s	2.9	0.0	0.0	5.1	10.2	0.5
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	832	0	0	832	1508	692
V/C Ratio(X)	0.43	0.00	0.00	0.70	0.80	0.05
Avail Cap(c_a), veh/h	1066	0	0	1066	1891	867
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.1	0.0	0.0	11.9	8.3	5.5
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.2	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	1.3	2.6	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.4	0.0	0.0	13.2	10.1	5.6
LnGrp LOS	B	A	A	B	B	A
Approach Vol, veh/h	358			579	1237	
Approach Delay, s/veh	11.4			13.2	10.0	
Approach LOS	B			B	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		13.8			13.8	20.2
Change Period (Y+Rc), s		5.8			5.8	5.4
Max Green Setting (Gmax), s		10.2			10.2	18.6
Max Q Clear Time (g_c+1), s		4.9			7.1	12.2
Green Ext Time (p_c), s		0.8			0.9	2.6
Intersection Summary						
HCM 6th Ctrl Delay			11.1			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

07/11/2019

	→	↘	↙	←	↖	↗					
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	↑↑			↑↑	↗↘	↗					
Traffic Volume (veh/h)	340	0	0	550	1140	40					
Future Volume (veh/h)	340	0	0	550	1140	40					
Number	2	12	1	6	3	18					
Initial Q, veh	0	0	0	0	0	0					
Ped-Bike Adj (A_pbT)		1.00	1.00		1.00	1.00					
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00					
Work Zone On Approach	No			No	No						
Lanes Open During Work Zone											
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870					
Adj Flow Rate, veh/h	358	0	0	579	1200	37					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95					
Percent Heavy Veh, %	2	0	0	2	2	2					
Opposing Right Turn Influence	No			Yes							
Cap, veh/h	832	0	0	832	1508	692					
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00					
Prop Arrive On Green	0.23	0.00	0.00	0.23	0.44	0.44					
Unsig. Movement Delay											
Ln Grp Delay, s/veh	11.4	0.0	0.0	13.2	10.1	5.6					
Ln Grp LOS	B	A	A	B	B	A					
Approach Vol, veh/h	358			579		1237					
Approach Delay, s/veh	11.4			13.2		10.0					
Approach LOS	B			B		A					
Timer:		1	2	3	4	5	6	7	8		
Assigned Phs			2	8			6				
Case No			8.0	9.0			8.0				
Phs Duration (G+Y+Rc), s			13.8	20.2			13.8				
Change Period (Y+Rc), s			5.8	5.4			5.8				
Max Green (Gmax), s			10.2	18.6			10.2				
Max Allow Headway (MAH), s			4.4	3.5			4.4				
Max Q Clear (g_c+I1), s			4.9	12.2			7.1				
Green Ext Time (g_e), s			0.8	2.6			0.9				
Prob of Phs Call (p_c)			0.97	1.00			1.00				
Prob of Max Out (p_x)			0.66	0.53			1.00				
Left-Turn Movement Data											
Assigned Mvmt			5	3			1				
Mvmt Sat Flow, veh/h			0	3456			0				
Through Movement Data											
Assigned Mvmt			2	8			6				
Mvmt Sat Flow, veh/h			3741	0			3741				
Right-Turn Movement Data											
Assigned Mvmt			12	18			16				
Mvmt Sat Flow, veh/h			0	1585			0				
Left Lane Group Data											
Assigned Mvmt		0	5	3	0	0	1	0	0		
Lane Assignment				L							

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

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Lanes in Grp	0	0	2	0	0	0	0	0
Grp Vol (v), veh/h	0	0	1200	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1728	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	10.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	10.2	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1728	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	8.0	0.0	0.0	0.0	8.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1508	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.80	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1891	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	10.1	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	358	0	0	0	579	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	2.9	0.0	0.0	0.0	5.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.9	0.0	0.0	0.0	5.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	832	0	0	0	832	0	0
V/C Ratio (X)	0.00	0.43	0.00	0.00	0.00	0.70	0.00	0.00
Avail Cap (c_a), veh/h	0	1066	0	0	0	1066	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.1	0.0	0.0	0.0	11.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	1.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.4	0.0	0.0	0.0	13.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	0.0	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.7	0.0	0.0	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment	R							
Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	37	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	692	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	867	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

8: Monterey Ave & I-10 EB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	1175	0	0	0	0	940	520	430	1420	0
Future Volume (veh/h)	60	0	1175	0	0	0	0	940	520	430	1420	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	42	0	1219				0	989	154	453	1495	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	726	0	1293				0	1571	488	513	1761	0
Arrive On Green	0.41	0.00	0.41				0.00	0.10	0.10	0.15	0.50	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	42	0	1219				0	989	154	453	1495	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	1.7	0.0	44.4				0.0	22.3	10.8	15.4	44.0	0.0
Cycle Q Clear(g_c), s	1.7	0.0	44.4				0.0	22.3	10.8	15.4	44.0	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	726	0	1293				0	1571	488	513	1761	0
V/C Ratio(X)	0.06	0.00	0.94				0.00	0.63	0.32	0.88	0.85	0.00
Avail Cap(c_a), veh/h	775	0	1379				0	1571	488	564	1761	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.89	0.89	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.5	0.0	34.2				0.0	47.3	42.2	50.1	26.4	0.0
Incr Delay (d2), s/veh	0.0	0.0	12.5				0.0	1.7	1.5	14.3	5.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	18.9				0.0	10.5	4.8	7.7	19.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	46.6				0.0	49.1	43.7	64.4	31.7	0.0
LnGrp LOS	C	A	D				A	D	D	E	C	A
Approach Vol, veh/h		1261						1143			1948	
Approach Delay, s/veh		45.8						48.3			39.3	
Approach LOS		D						D			D	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	22.5	42.7	54.7	65.3								
Change Period (Y+Rc), s	4.7	5.8	5.8	5.8								
Max Green Setting (Gmax), s	26	31.9	52.2	56.2								
Max Q Clear Time (g_c+117), s	117	24.3	46.4	46.0								
Green Ext Time (p_c), s	0.4	4.2	2.5	7.2								

Intersection Summary





















HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Monterey Ave & I-10 EB Ramps

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	1175	0	0	0	0	940	520	430	1420	0
Future Volume (veh/h)	60	0	1175	0	0	0	0	940	520	430	1420	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	42	0	1219				0	989	154	453	1495	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	726	0	1293				0	1571	488	513	1761	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.41	0.00	0.41				0.00	0.10	0.10	0.15	0.50	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	21.6	0.0	46.6				0.0	49.1	43.7	64.4	31.7	0.0
Ln Grp LOS	C	A	D				A	D	D	E	C	A
Approach Vol, veh/h		1261						1143			1948	
Approach Delay, s/veh		45.8						48.3			39.3	
Approach LOS		D						D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		22.5	42.7		54.7		65.3					
Change Period (Y+Rc), s		* 4.7	5.8		5.8		5.8					
Max Green (Gmax), s		* 20	31.9		52.2		56.2					
Max Allow Headway (MAH), s		3.8	5.1		3.5		5.2					
Max Q Clear (g_c+I1), s		17.4	24.3		46.4		46.0					
Green Ext Time (g_e), s		0.4	4.2		2.5		7.2					
Prob of Phs Call (p_c)		1.00	1.00		1.00		1.00					
Prob of Max Out (p_x)		1.00	0.00		0.62		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5274		0		3647					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 8: Monterey Ave & I-10 EB Ramps

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Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	453	0	0	42	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	15.4	0.0	0.0	1.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	15.4	0.0	0.0	1.7	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	36.9	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	513	0	0	726	0	0	0	0
V/C Ratio (X)	0.88	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	564	0	0	775	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	50.1	0.0	0.0	21.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.4	0.0	0.0	21.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	6.6	0.0	0.0	0.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	7.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.54	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	989	0	0	0	1495	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	22.3	0.0	0.0	0.0	44.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.3	0.0	0.0	0.0	44.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1571	0	0	0	1761	0	0
V/C Ratio (X)	0.00	0.63	0.00	0.00	0.00	0.85	0.00	0.00
Avail Cap (c_a), veh/h	0	1571	0	0	0	1761	0	0
Upstream Filter (I)	0.00	0.89	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	47.3	0.0	0.0	0.0	26.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	0.0	0.0	5.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	49.1	0.0	0.0	0.0	31.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	10.2	0.0	0.0	0.0	18.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	1.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 8: Monterey Ave & I-10 EB Ramps

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	10.5	0.0	0.0	0.0	19.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.00	0.00	1.33	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	154	0	1219	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	10.8	0.0	44.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.8	0.0	44.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	488	0	1293	0	0	0	0
V/C Ratio (X)	0.00	0.32	0.00	0.94	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	488	0	1379	0	0	0	0
Upstream Filter (I)	0.00	0.89	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	42.2	0.0	34.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	12.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	43.7	0.0	46.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	16.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	2.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	18.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.36	0.00	4.81	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 9: Monterey Ave & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔↔	↑↑↑		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	320	400	290	80	335	510	240	630	40	430	1560	610
Future Volume (veh/h)	320	400	290	80	335	510	240	630	40	430	1560	610
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	337	421	122	84	353	0	253	663	42	453	1642	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	415	496	221	216	425		307	2298	145	513	2698	
Arrive On Green	0.08	0.14	0.14	0.06	0.12	0.00	0.09	0.47	0.47	0.05	0.17	0.00
Sat Flow, veh/h	5023	3554	1585	3456	3554	1585	3456	4905	309	3456	5106	1585
Grp Volume(v), veh/h	337	421	122	84	353	0	253	459	246	453	1642	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585	1728	1777	1585	1728	1702	1809	1728	1702	1585
Q Serve(g_s), s	7.9	13.9	8.6	2.8	11.7	0.0	8.6	9.9	10.0	15.6	35.6	0.0
Cycle Q Clear(g_c), s	7.9	13.9	8.6	2.8	11.7	0.0	8.6	9.9	10.0	15.6	35.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	415	496	221	216	425		307	1595	848	513	2698	
V/C Ratio(X)	0.81	0.85	0.55	0.39	0.83		0.83	0.29	0.29	0.88	0.61	
Avail Cap(c_a), veh/h	419	1036	462	230	977		317	1595	848	662	2698	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.58	0.58	0.58	1.00	1.00	0.00	0.89	0.89	0.89	0.33	0.33	0.00
Uniform Delay (d), s/veh	54.1	50.4	48.1	54.0	51.7	0.0	53.8	19.6	19.6	56.0	38.1	0.0
Incr Delay (d2), s/veh	6.5	0.9	0.5	0.4	1.6	0.0	13.3	0.4	0.8	3.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	6.0	3.3	1.2	5.2	0.0	4.2	3.7	4.1	7.4	16.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	51.3	48.6	54.5	53.3	0.0	67.1	20.0	20.4	59.4	38.4	0.0
LnGrp LOS	E	D	D	D	D		E	B	C	E	D	
Approach Vol, veh/h		880			437	A		958			2095	A
Approach Delay, s/veh		54.5			53.5			32.5			43.0	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.5	22.4	15.6	69.4	14.9	20.0	22.8	62.2				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	35.0	35.0	11.0	44.3	10.0	33.0	23.0	32.3				
Max Q Clear Time (g_c+1/4), s	14.8	15.9	10.6	37.6	9.9	13.7	17.6	12.0				
Green Ext Time (p_c), s	0.0	0.8	0.0	2.6	0.0	0.7	0.2	1.2				

Intersection Summary

























HCM 6th Ctrl Delay	44.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	400	290	80	335	510	240	630	40	430	1560	610
Future Volume (veh/h)	320	400	290	80	335	510	240	630	40	430	1560	610
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	337	421	122	84	353	0	253	663	42	453	1642	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	415	496	221	216	425		307	2298	145	513	2698	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.08	0.14	0.14	0.06	0.12	0.00	0.09	0.47	0.47	0.05	0.17	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	60.6	51.3	48.6	54.5	53.3	0.0	67.1	20.0	20.4	59.4	38.4	0.0
Ln Grp LOS	E	D	D	D	D		E	B	C	E	D	
Approach Vol, veh/h		880			437			958			2095	
Approach Delay, s/veh		54.5			53.5			32.5			43.0	
Approach LOS		D			D			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		12.5	22.4	15.6	69.4	14.9	20.0	22.8	62.2			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		8.0	35.0	11.0	44.3	10.0	33.0	23.0	32.3			
Max Allow Headway (MAH), s		1.7	2.6	1.6	2.7	1.7	2.9	1.6	2.8			
Max Q Clear (g_c+I1), s		4.8	15.9	10.6	37.6	9.9	13.7	17.6	12.0			
Green Ext Time (g_e), s		0.0	0.8	0.0	2.6	0.0	0.7	0.2	1.2			
Prob of Phs Call (p_c)		0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.01	0.00	1.00	0.00	1.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		5023		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		4905			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		309			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

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Lanes in Grp	2	0	2	0	3	0	2	0
Grp Vol (v), veh/h	84	0	253	0	337	0	453	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1674	0	1728	0
Q Serve Time (g_s), s	2.8	0.0	8.6	0.0	7.9	0.0	15.6	0.0
Cycle Q Clear Time (g_c), s	2.8	0.0	8.6	0.0	7.9	0.0	15.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	216	0	307	0	415	0	513	0
V/C Ratio (X)	0.39	0.00	0.83	0.00	0.81	0.00	0.88	0.00
Avail Cap (c_a), veh/h	230	0	317	0	419	0	662	0
Upstream Filter (I)	1.00	0.00	0.89	0.00	0.58	0.00	0.33	0.00
Uniform Delay (d1), s/veh	54.0	0.0	53.8	0.0	54.1	0.0	56.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	13.3	0.0	6.5	0.0	3.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	54.5	0.0	67.1	0.0	60.6	0.0	59.4	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	3.6	0.0	3.2	0.0	7.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.6	0.0	0.2	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	4.2	0.0	3.5	0.0	7.4	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.40	0.00	0.32	0.00	1.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	421	0	1642	0	353	0	459
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	13.9	0.0	35.6	0.0	11.7	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	13.9	0.0	35.6	0.0	11.7	0.0	9.9
Lane Grp Cap (c), veh/h	0	496	0	2698	0	425	0	1595
V/C Ratio (X)	0.00	0.85	0.00	0.61	0.00	0.83	0.00	0.29
Avail Cap (c_a), veh/h	0	1036	0	2698	0	977	0	1595
Upstream Filter (I)	0.00	0.58	0.00	0.33	0.00	1.00	0.00	0.89
Uniform Delay (d1), s/veh	0.0	50.4	0.0	38.1	0.0	51.7	0.0	19.6
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.3	0.0	1.6	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	51.3	0.0	38.4	0.0	53.3	0.0	20.0
1st-Term Q (Q1), veh/ln	0.0	5.9	0.0	16.0	0.0	5.1	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.0	0.0	16.1	0.0	5.2	0.0	3.7
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.31	0.00	0.13	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	122	0	0	0	0	0	246
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1809
Q Serve Time (g_s), s	0.0	8.6	0.0	0.0	0.0	0.0	0.0	10.0
Cycle Q Clear Time (g_c), s	0.0	8.6	0.0	0.0	0.0	0.0	0.0	10.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.17
Lane Grp Cap (c), veh/h	0	221	0	837	0	189	0	848
V/C Ratio (X)	0.00	0.55	0.00	0.00	0.00	0.00	0.00	0.29
Avail Cap (c_a), veh/h	0	462	0	837	0	436	0	848
Upstream Filter (I)	0.00	0.58	0.00	0.00	0.00	0.00	0.00	0.89
Uniform Delay (d1), s/veh	0.0	48.1	0.0	0.0	0.0	0.0	0.0	19.6
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	48.6	0.0	0.0	0.0	0.0	0.0	20.4
1st-Term Q (Q1), veh/ln	0.0	3.3	0.0	0.0	0.0	0.0	0.0	3.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.3	0.0	0.0	0.0	0.0	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	44.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↘	↙	↗		↑↑↑	↗		↑↑↑	↗
Traffic Volume (veh/h)	0	0	0	230	0	120	0	340	100	0	450	100
Future Volume (veh/h)	0	0	0	230	0	120	0	340	100	0	450	100
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				242	0	25	0	358	59	0	474	59
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				511	0	227	0	2916	905	0	2916	905
Arrive On Green				0.14	0.00	0.14	0.00	0.57	0.57	0.00	0.57	0.57
Sat Flow, veh/h				3563	0	1585	0	5274	1585	0	5274	1585
Grp Volume(v), veh/h				242	0	25	0	358	59	0	474	59
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1702	1585	0	1702	1585
Q Serve(g_s), s				2.0	0.0	0.4	0.0	1.0	0.5	0.0	1.4	0.5
Cycle Q Clear(g_c), s				2.0	0.0	0.4	0.0	1.0	0.5	0.0	1.4	0.5
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				511	0	227	0	2916	905	0	2916	905
V/C Ratio(X)				0.47	0.00	0.11	0.00	0.12	0.07	0.00	0.16	0.07
Avail Cap(c_a), veh/h				2035	0	905	0	2916	905	0	2916	905
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				12.4	0.0	11.8	0.0	3.1	3.0	0.0	3.2	3.0
Incr Delay (d2), s/veh				0.7	0.0	0.2	0.0	0.1	0.1	0.0	0.1	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.6	0.0	0.1	0.0	0.1	0.1	0.0	0.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				13.1	0.0	12.0	0.0	3.2	3.1	0.0	3.3	3.1
LnGrp LOS				B	A	B	A	A	A	A	A	A
Approach Vol, veh/h					267			417			533	
Approach Delay, s/veh					13.0			3.2			3.3	
Approach LOS					B			A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		22.5				22.5		9.0				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		18.0				18.0		18.0				
Max Q Clear Time (g_c+I1), s		3.0				3.4		4.0				
Green Ext Time (p_c), s		2.2				2.9		0.8				

Intersection Summary




















HCM 6th Ctrl Delay	5.4
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	230	0	120	0	340	100	0	450	100
Future Volume (veh/h)	0	0	0	230	0	120	0	340	100	0	450	100
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				242	0	25	0	358	59	0	474	59
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Opposing Right Turn Influence				Yes			No			No		
Cap, veh/h				511	0	227	0	2916	905	0	2916	905
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.14	0.00	0.14	0.00	0.57	0.57	0.00	0.57	0.57
Unsig. Movement Delay												
Ln Grp Delay, s/veh				13.1	0.0	12.0	0.0	3.2	3.1	0.0	3.3	3.1
Ln Grp LOS				B	A	B	A	A	A	A	A	A
Approach Vol, veh/h					267			417			533	
Approach Delay, s/veh					13.0			3.2			3.3	
Approach LOS					B			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8			6					
Case No			7.0	9.0			7.0					
Phs Duration (G+Y+Rc), s			22.5	9.0			22.5					
Change Period (Y+Rc), s			4.5	4.5			4.5					
Max Green (Gmax), s			18.0	18.0			18.0					
Max Allow Headway (MAH), s			5.1	3.8			5.1					
Max Q Clear (g_c+I1), s			3.0	4.0			3.4					
Green Ext Time (g_e), s			2.2	0.8			2.9					
Prob of Phs Call (p_c)			1.00	0.90			1.00					
Prob of Max Out (p_x)			0.00	0.00			0.00					
Left-Turn Movement Data												
Assigned Mvmt			5	3			1					
Mvmt Sat Flow, veh/h			0	3563			0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			5274	0			5274					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			1585	1585			1585					
Left Lane Group Data												
Assigned Mvmt	0	5	3	0	0	1	0	0				
Lane Assignment			L									

HCM 6th Signalized Intersection Capacity Analysis
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019

Lanes in Grp	0	0	2	0	0	0	0	0
Grp Vol (v), veh/h	0	0	242	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	18.0	0.0	0.0	0.0	18.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	511	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	2035	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	13.1	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	358	0	0	0	474	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	1.0	0.0	0.0	0.0	1.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.0	0.0	0.0	0.0	1.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	2916	0	0	0	2916	0	0
V/C Ratio (X)	0.00	0.12	0.00	0.00	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	2916	0	0	0	2916	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.1	0.0	0.0	0.0	3.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.2	0.0	0.0	0.0	3.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R			R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	59	25	0	0	59	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.5	0.4	0.0	0.0	0.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.5	0.4	0.0	0.0	0.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	905	227	0	0	905	0	0
V/C Ratio (X)	0.00	0.07	0.11	0.00	0.00	0.07	0.00	0.00
Avail Cap (c_a), veh/h	0	905	905	0	0	905	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.0	11.8	0.0	0.0	3.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.1	12.0	0.0	0.0	3.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.4
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	0	170	0	0	0	0	270	560	100	540	40
Future Volume (veh/h)	170	0	170	0	0	0	0	270	560	100	540	40
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	0	179				0	284	270	105	568	42
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	2
Cap, veh/h	300	0	267				0	2492	774	136	3172	233
Arrive On Green	0.17	0.00	0.17				0.00	0.49	0.49	0.08	0.65	0.65
Sat Flow, veh/h	1781	0	1585				0	5274	1585	1781	4854	356
Grp Volume(v), veh/h	179	0	179				0	284	270	105	397	213
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1781	1702	1806
Q Serve(g_s), s	4.7	0.0	5.3				0.0	1.5	5.3	2.9	2.3	2.3
Cycle Q Clear(g_c), s	4.7	0.0	5.3				0.0	1.5	5.3	2.9	2.3	2.3
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	300	0	267				0	2492	774	136	2224	1180
V/C Ratio(X)	0.60	0.00	0.67				0.00	0.11	0.35	0.77	0.18	0.18
Avail Cap(c_a), veh/h	635	0	565				0	2492	774	265	2224	1180
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	0.0	19.7				0.0	7.0	8.0	22.9	3.4	3.4
Incr Delay (d2), s/veh	1.9	0.0	2.9				0.0	0.1	1.2	8.9	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9	0.0	2.0				0.0	0.5	1.7	1.5	0.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.3	0.0	22.6				0.0	7.1	9.2	31.8	3.6	3.8
LnGrp LOS	C	A	C				A	A	A	C	A	A
Approach Vol, veh/h	358						554			715		
Approach Delay, s/veh	22.0						8.1			7.8		
Approach LOS	C						A			A		
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	8.4	29.1	13.0	37.5								
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	5	21.0	18.0	33.0								
Max Q Clear Time (g_c+I), s	14.9	7.3	7.3	4.3								
Green Ext Time (p_c), s	0.1	2.4	1.2	4.3								

Intersection Summary




















HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	0	170	0	0	0	0	270	560	100	540	40
Future Volume (veh/h)	170	0	170	0	0	0	0	270	560	100	540	40
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	0	179				0	284	270	105	568	42
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	2
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	300	0	267				0	2492	774	136	3172	233
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.17	0.00	0.17				0.00	0.49	0.49	0.08	0.65	0.65
Unsig. Movement Delay												
Ln Grp Delay, s/veh	21.3	0.0	22.6				0.0	7.1	9.2	31.8	3.6	3.8
Ln Grp LOS	C	A	C				A	A	A	C	A	A
Approach Vol, veh/h		358						554			715	
Approach Delay, s/veh		22.0						8.1			7.8	
Approach LOS		C						A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		10.0		4.0					
Phs Duration (G+Y+Rc), s		8.4	29.1		13.0		37.5					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green (Gmax), s		7.5	21.0		18.0		33.0					
Max Allow Headway (MAH), s		3.8	4.6		4.7		5.3					
Max Q Clear (g_c+I1), s		4.9	7.3		7.3		4.3					
Green Ext Time (g_e), s		0.1	2.4		1.2		4.3					
Prob of Phs Call (p_c)		0.77	1.00		0.99		1.00					
Prob of Max Out (p_x)		1.00	0.00		0.09		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		1781	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5274		0		4854					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		1585		356					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019

Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	105	0	0	179	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	2.9	0.0	0.0	4.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	2.9	0.0	0.0	4.7	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	24.6	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	136	0	0	300	0	0	0	0
V/C Ratio (X)	0.77	0.00	0.00	0.60	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	265	0	0	635	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	22.9	0.0	0.0	19.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	8.9	0.0	0.0	1.9	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.8	0.0	0.0	21.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.1	0.0	0.0	1.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	0.0	1.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	284	0	0	0	397	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	1.5	0.0	0.0	0.0	2.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	0.0	0.0	2.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	2492	0	0	0	2224	0	0
V/C Ratio (X)	0.00	0.11	0.00	0.00	0.00	0.18	0.00	0.00
Avail Cap (c_a), veh/h	0	2492	0	0	0	2224	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.0	0.0	0.0	0.0	3.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.1	0.0	0.0	0.0	3.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.0	0.0	0.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		T+R		T+R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	270	0	179	0	213	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1806	0	0
Q Serve Time (g_s), s	0.0	5.3	0.0	5.3	0.0	2.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.3	0.0	5.3	0.0	2.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.20	0.00	0.00
Lane Grp Cap (c), veh/h	0	774	0	267	0	1180	0	0
V/C Ratio (X)	0.00	0.35	0.00	0.67	0.00	0.18	0.00	0.00
Avail Cap (c_a), veh/h	0	774	0	565	0	1180	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.0	0.0	19.7	0.0	3.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	2.9	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.2	0.0	22.6	0.0	3.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	1.8	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.7	0.0	2.0	0.0	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.42	0.00	0.08	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

12: Portola Rd & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	350	150	310	40	100	0	740	480	20	50	530	130
Future Volume (veh/h)	350	150	310	40	100	0	740	480	20	50	530	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	368	158	0	42	105	0	779	505	8	53	558	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	456	592		212	410	183	880	2109	655	152	836	
Arrive On Green	0.13	0.17	0.00	0.06	0.12	0.00	0.25	0.41	0.41	0.04	0.16	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	368	158	0	42	105	0	779	505	8	53	558	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	8.0	3.0	0.0	0.9	2.1	0.0	16.9	5.0	0.2	1.2	8.0	0.0
Cycle Q Clear(g_c), s	8.0	3.0	0.0	0.9	2.1	0.0	16.9	5.0	0.2	1.2	8.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	456	592		212	410	183	880	2109	655	152	836	
V/C Ratio(X)	0.81	0.27		0.20	0.26	0.00	0.88	0.24	0.01	0.35	0.67	
Avail Cap(c_a), veh/h	511	1966		489	2011	897	1089	4000	1242	249	2562	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.8	28.3	0.0	34.7	31.3	0.0	27.9	14.9	13.5	36.1	30.5	0.0
Incr Delay (d2), s/veh	8.5	0.1	0.0	0.2	0.1	0.0	6.6	0.0	0.0	1.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	1.2	0.0	0.4	0.8	0.0	7.0	1.7	0.1	0.5	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.3	28.3	0.0	34.8	31.5	0.0	34.5	14.9	13.5	37.5	30.9	0.0
LnGrp LOS	D	C		C	C	A	C	B	B	D	C	
Approach Vol, veh/h		526	A		147			1292			611	A
Approach Delay, s/veh		37.4			32.4			26.7			31.4	
Approach LOS		D			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	16.0	27.3	19.7	10.8	19.9	7.9	39.1				
Change Period (Y+Rc), s	4.5	7.0	7.5	7.0	6.0	7.0	4.5	7.0				
Max Green Setting (Gmax), s	5	44.0	24.5	39.0	11.0	43.0	5.6	60.9				
Max Q Clear Time (g_c+fl), s	4.1	18.9	10.0	2.9	5.0	3.2	7.0					
Green Ext Time (p_c), s	0.2	0.4	0.9	2.7	0.0	0.6	0.0	2.0				

Intersection Summary

HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

























Notes

- User approved ignoring U-Turning movement.
- Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

12: Portola Rd & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	150	310	40	100	0	740	480	20	50	530	130
Future Volume (veh/h)	350	150	310	40	100	0	740	480	20	50	530	130
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	368	158	0	42	105	0	779	505	8	53	558	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	456	592		212	410	183	880	2109	655	152	836	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.17	0.00	0.06	0.12	0.00	0.25	0.41	0.41	0.04	0.16	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	41.3	28.3	0.0	34.8	31.5	0.0	34.5	14.9	13.5	37.5	30.9	0.0
Ln Grp LOS	D	C		C	C	A	C	B	B	D	C	
Approach Vol, veh/h		526			147			1292			611	
Approach Delay, s/veh		37.4			32.4			26.7			31.4	
Approach LOS		D			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.7	16.0	27.3	19.7	10.8	19.9	7.9	39.1			
Change Period (Y+Rc), s		4.5	7.0	7.5	7.0	6.0	7.0	4.5	7.0			
Max Green (Gmax), s		11.5	44.0	24.5	39.0	11.0	43.0	5.6	60.9			
Max Allow Headway (MAH), s		3.7	3.9	2.7	4.2	2.7	3.9	3.8	3.8			
Max Q Clear (g_c+I1), s		10.0	4.1	18.9	10.0	2.9	5.0	3.2	7.0			
Green Ext Time (g_e), s		0.2	0.4	0.9	2.7	0.0	0.6	0.0	2.0			
Prob of Phs Call (p_c)		1.00	0.90	1.00	1.00	0.60	0.97	0.68	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.16	0.00	0.00	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	368	0	779	0	42	0	53	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	8.0	0.0	16.9	0.0	0.9	0.0	1.2	0.0
Cycle Q Clear Time (g_c), s	8.0	0.0	16.9	0.0	0.9	0.0	1.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	456	0	880	0	212	0	152	0
V/C Ratio (X)	0.81	0.00	0.88	0.00	0.20	0.00	0.35	0.00
Avail Cap (c_a), veh/h	511	0	1089	0	489	0	249	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	32.8	0.0	27.9	0.0	34.7	0.0	36.1	0.0
Incr Delay (d2), s/veh	8.5	0.0	6.6	0.0	0.2	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	41.3	0.0	34.5	0.0	34.8	0.0	37.5	0.0
1st-Term Q (Q1), veh/ln	3.1	0.0	6.2	0.0	0.4	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.8	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.7	0.0	7.0	0.0	0.4	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.64	0.00	0.05	0.00	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	3
Grp Vol (v), veh/h	0	105	0	558	0	158	0	505
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	2.1	0.0	8.0	0.0	3.0	0.0	5.0
Cycle Q Clear Time (g_c), s	0.0	2.1	0.0	8.0	0.0	3.0	0.0	5.0
Lane Grp Cap (c), veh/h	0	410	0	836	0	592	0	2109
V/C Ratio (X)	0.00	0.26	0.00	0.67	0.00	0.27	0.00	0.24
Avail Cap (c_a), veh/h	0	2011	0	2562	0	1966	0	4000
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	31.3	0.0	30.5	0.0	28.3	0.0	14.9
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.5	0.0	30.9	0.0	28.3	0.0	14.9
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	3.2	0.0	1.2	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	3.2	0.0	1.2	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.08	0.00	0.02	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	0	0	0	0	8
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	183	0	259	0	264	0	655
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Avail Cap (c_a), veh/h	0	897	0	795	0	877	0	1242
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 13: Date Palm Dr & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	210	30	300	180	180	30	530	400	380	835	110
Future Volume (veh/h)	50	210	30	300	180	180	30	530	400	380	835	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	221	32	252	278	38	32	558	215	400	879	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	231	33	313	329	279	49	1190	531	386	1654	218
Arrive On Green	0.07	0.07	0.07	0.18	0.18	0.18	0.03	0.33	0.33	0.22	0.52	0.52
Sat Flow, veh/h	1781	3121	446	1781	1870	1585	1781	3554	1585	1781	3156	416
Grp Volume(v), veh/h	53	125	128	252	278	38	32	558	215	400	495	500
Grp Sat Flow(s),veh/h/ln	1781	1777	1790	1781	1870	1585	1781	1777	1585	1781	1777	1795
Q Serve(g_s), s	3.4	8.4	8.6	16.3	17.3	2.4	2.1	14.9	12.5	26.0	22.0	22.0
Cycle Q Clear(g_c), s	3.4	8.4	8.6	16.3	17.3	2.4	2.1	14.9	12.5	26.0	22.0	22.0
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	132	132	133	313	329	279	49	1190	531	386	932	941
V/C Ratio(X)	0.40	0.94	0.97	0.80	0.84	0.14	0.66	0.47	0.41	1.04	0.53	0.53
Avail Cap(c_a), veh/h	132	132	133	460	483	409	89	1190	531	386	932	941
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	55.3	55.4	47.5	47.9	41.7	57.8	31.5	30.7	47.0	18.8	18.8
Incr Delay (d2), s/veh	2.0	61.5	67.9	5.6	7.8	0.2	5.5	1.3	2.3	55.5	2.2	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	6.0	6.4	7.5	8.5	1.0	1.0	6.5	5.0	17.2	9.1	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.0	116.8	123.3	53.1	55.7	41.9	63.3	32.8	33.0	102.5	21.0	21.0
LnGrp LOS	D	F	F	D	E	D	E	C	C	F	C	C
Approach Vol, veh/h		306			568			805			1395	
Approach Delay, s/veh		108.8			53.6			34.1			44.4	
Approach LOS		F			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	69.3		27.4	32.0	46.6		14.0				
Change Period (Y+Rc), s	6.0	6.4		6.3	6.0	6.4		5.1				
Max Green Setting (Gmax), s	6.0	50.3		31.0	26.0	30.3		8.9				
Max Q Clear Time (g_c+1/4), s	14.5	24.0		19.3	28.0	16.9		10.6				
Green Ext Time (p_c), s	0.0	12.6		1.8	0.0	6.1		0.0				

Intersection Summary
























HCM 6th Ctrl Delay	49.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	210	30	300	180	180	30	530	400	380	835	110
Future Volume (veh/h)	50	210	30	300	180	180	30	530	400	380	835	110
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	221	32	252	278	38	32	558	215	400	879	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	132	231	33	313	329	279	49	1190	531	386	1654	218
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.07	0.07	0.18	0.18	0.18	0.03	0.33	0.33	0.22	0.52	0.52
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.0	116.8	123.3	53.1	55.7	41.9	63.3	32.8	33.0	102.5	21.0	21.0
Ln Grp LOS	D	F	F	D	E	D	E	C	C	F	C	C
Approach Vol, veh/h		306			568			805			1395	
Approach Delay, s/veh		108.8			53.6			34.1			44.4	
Approach LOS		F			D			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	4.0	10.0	9.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		9.3	69.3	14.0	27.4	32.0	46.6					
Change Period (Y+Rc), s		6.0	6.4	5.1	6.3	6.0	6.4					
Max Green (Gmax), s		6.0	50.3	8.9	31.0	26.0	30.3					
Max Allow Headway (MAH), s		2.7	7.0	5.2	4.3	2.7	6.7					
Max Q Clear (g_c+I1), s		4.1	24.0	10.6	19.3	28.0	16.9					
Green Ext Time (g_e), s		0.0	12.6	0.0	1.8	0.0	6.1					
Prob of Phs Call (p_c)		0.66	1.00	1.00	1.00	1.00	1.00					
Prob of Max Out (p_x)		1.00	0.00	1.00	0.09	1.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		1781		1781	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3156	3121	1870		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			416	446	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

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Lanes in Grp	1	0	1	1	1	0	0	0
Grp Vol (v), veh/h	32	0	53	252	400	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	2.1	0.0	3.4	16.3	26.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	2.1	0.0	3.4	16.3	26.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	49	0	132	313	386	0	0	0
V/C Ratio (X)	0.66	0.00	0.40	0.80	1.04	0.00	0.00	0.00
Avail Cap (c_a), veh/h	89	0	132	460	386	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.87	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	57.8	0.0	53.0	47.5	47.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.5	0.0	2.0	5.6	55.5	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.3	0.0	55.0	53.1	102.5	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	1.5	7.0	11.2	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.5	6.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	1.6	7.5	17.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.31	0.00	0.41	1.90	2.66	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	3.5	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T	T		T		
Lanes in Grp	0	1	1	1	0	2	0	0
Grp Vol (v), veh/h	0	495	125	278	0	558	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	1777	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	22.0	8.4	17.3	0.0	14.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.0	8.4	17.3	0.0	14.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	932	132	329	0	1190	0	0
V/C Ratio (X)	0.00	0.53	0.94	0.84	0.00	0.47	0.00	0.00
Avail Cap (c_a), veh/h	0	932	132	483	0	1190	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.87	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	18.8	55.3	47.9	0.0	31.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.2	61.5	7.8	0.0	1.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.0	116.8	55.7	0.0	32.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.6	3.8	7.8	0.0	6.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	2.3	0.7	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	9.1	6.0	8.5	0.0	6.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.23	0.04	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	T+R	R		R		
Lanes in Grp	0	1	1	1	0	1	0	0
Grp Vol (v), veh/h	0	500	128	38	0	215	0	0
Grp Sat Flow (s), veh/h/ln	0	1795	1790	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	22.0	8.6	2.4	0.0	12.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.0	8.6	2.4	0.0	12.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.23	0.25	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	941	133	279	0	531	0	0
V/C Ratio (X)	0.00	0.53	0.97	0.14	0.00	0.41	0.00	0.00
Avail Cap (c_a), veh/h	0	941	133	409	0	531	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.87	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	18.8	55.4	41.7	0.0	30.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.1	67.9	0.2	0.0	2.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.0	123.3	41.9	0.0	33.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.7	3.9	1.0	0.0	4.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	2.5	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	9.2	6.4	1.0	0.0	5.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.19	0.24	0.00	0.00	1.50	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	49.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	40	710	240	90	470	110	80	368	90	210	785	110
Future Volume (veh/h)	40	710	240	90	470	110	80	368	90	210	785	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	747	253	95	495	116	84	387	22	221	826	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	854	289	119	1026	239	108	807	360	256	970	136
Arrive On Green	0.04	0.33	0.33	0.07	0.36	0.36	0.06	0.23	0.23	0.14	0.31	0.31
Sat Flow, veh/h	1781	2606	883	1781	2861	667	1781	3554	1585	1781	3129	439
Grp Volume(v), veh/h	42	509	491	95	306	305	84	387	22	221	469	473
Grp Sat Flow(s),veh/h/ln	1781	1777	1712	1781	1777	1750	1781	1777	1585	1781	1777	1791
Q Serve(g_s), s	2.1	24.2	24.2	4.7	12.0	12.1	4.2	8.5	1.0	10.9	22.2	22.2
Cycle Q Clear(g_c), s	2.1	24.2	24.2	4.7	12.0	12.1	4.2	8.5	1.0	10.9	22.2	22.2
Prop In Lane	1.00		0.52	1.00		0.38	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	64	583	561	119	637	628	108	807	360	256	551	556
V/C Ratio(X)	0.65	0.87	0.87	0.80	0.48	0.49	0.78	0.48	0.06	0.86	0.85	0.85
Avail Cap(c_a), veh/h	119	655	631	119	655	645	139	1032	460	279	655	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	28.3	28.4	41.2	22.2	22.3	41.5	30.0	27.1	37.5	28.9	28.9
Incr Delay (d2), s/veh	4.1	11.6	12.0	28.1	0.6	0.6	14.1	0.4	0.1	20.8	9.1	9.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	11.1	10.8	2.9	4.6	4.6	2.2	3.4	0.4	5.9	10.0	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	40.0	40.3	69.3	22.8	22.9	55.6	30.5	27.2	58.3	38.1	38.0
LnGrp LOS	D	D	D	E	C	C	E	C	C	E	D	D
Approach Vol, veh/h		1042			706			493			1163	
Approach Delay, s/veh		40.4			29.1			34.6			41.9	
Approach LOS		D			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	38.6	16.8	26.8	10.0	35.9	9.4	34.3				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	33.0	33.0	14.0	26.0	6.0	33.0	7.0	33.0				
Max Q Clear Time (g_c+14), s	14.1	14.1	12.9	10.5	6.7	26.2	6.2	24.2				
Green Ext Time (p_c), s	0.0	3.1	0.0	2.0	0.0	3.2	0.0	3.6				

Intersection Summary

HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	710	240	90	470	110	80	368	90	210	785	110
Future Volume (veh/h)	40	710	240	90	470	110	80	368	90	210	785	110
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	747	253	95	495	116	84	387	22	221	826	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	64	854	289	119	1026	239	108	807	360	256	970	136
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.33	0.33	0.07	0.36	0.36	0.06	0.23	0.23	0.14	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	46.7	40.0	40.3	69.3	22.8	22.9	55.6	30.5	27.2	58.3	38.1	38.0
Ln Grp LOS	D	D	D	E	C	C	E	C	C	E	D	D
Approach Vol, veh/h		1042			706			493			1163	
Approach Delay, s/veh		40.4			29.1			34.6			41.9	
Approach LOS		D			C			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		7.2	38.6	16.8	26.8	10.0	35.9	9.4	34.3			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		6.0	33.0	14.0	26.0	6.0	33.0	7.0	33.0			
Max Allow Headway (MAH), s		2.7	4.9	2.7	4.9	2.7	4.9	2.7	4.9			
Max Q Clear (g_c+I1), s		4.1	14.1	12.9	10.5	6.7	26.2	6.2	24.2			
Green Ext Time (g_e), s		0.0	3.1	0.0	2.0	0.0	3.2	0.0	3.6			
Prob of Phs Call (p_c)		0.65	1.00	1.00	1.00	0.91	1.00	0.88	1.00			
Prob of Max Out (p_x)		1.00	0.03	1.00	0.02	1.00	0.78	1.00	0.59			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2861		3554		2606		3129			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			667		1585		883		439			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	42	0	221	0	95	0	84	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.1	0.0	10.9	0.0	4.7	0.0	4.2	0.0
Cycle Q Clear Time (g_c), s	2.1	0.0	10.9	0.0	4.7	0.0	4.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	64	0	256	0	119	0	108	0
V/C Ratio (X)	0.65	0.00	0.86	0.00	0.80	0.00	0.78	0.00
Avail Cap (c_a), veh/h	119	0	279	0	119	0	139	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	42.6	0.0	37.5	0.0	41.2	0.0	41.5	0.0
Incr Delay (d2), s/veh	4.1	0.0	20.8	0.0	28.1	0.0	14.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	46.7	0.0	58.3	0.0	69.3	0.0	55.6	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	4.5	0.0	1.9	0.0	1.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	1.5	0.0	0.9	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.9	0.0	5.9	0.0	2.9	0.0	2.2	0.0
%ile Storage Ratio (RQ%)	0.14	0.00	1.08	0.00	0.70	0.00	0.28	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	306	0	387	0	509	0	469
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	12.0	0.0	8.5	0.0	24.2	0.0	22.2
Cycle Q Clear Time (g_c), s	0.0	12.0	0.0	8.5	0.0	24.2	0.0	22.2
Lane Grp Cap (c), veh/h	0	637	0	807	0	583	0	551
V/C Ratio (X)	0.00	0.48	0.00	0.48	0.00	0.87	0.00	0.85
Avail Cap (c_a), veh/h	0	655	0	1032	0	655	0	655
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.2	0.0	30.0	0.0	28.3	0.0	28.9
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.4	0.0	11.6	0.0	9.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.8	0.0	30.5	0.0	40.0	0.0	38.1
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	3.4	0.0	9.2	0.0	8.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	1.9	0.0	1.4

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.6	0.0	3.4	0.0	11.1	0.0	10.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.07	0.00	0.05	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	305	0	22	0	491	0	473
Grp Sat Flow (s), veh/h/ln	0	1750	0	1585	0	1712	0	1791
Q Serve Time (g_s), s	0.0	12.1	0.0	1.0	0.0	24.2	0.0	22.2
Cycle Q Clear Time (g_c), s	0.0	12.1	0.0	1.0	0.0	24.2	0.0	22.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.38	0.00	1.00	0.00	0.52	0.00	0.25
Lane Grp Cap (c), veh/h	0	628	0	360	0	561	0	556
V/C Ratio (X)	0.00	0.49	0.00	0.06	0.00	0.87	0.00	0.85
Avail Cap (c_a), veh/h	0	645	0	460	0	631	0	660
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.3	0.0	27.1	0.0	28.4	0.0	28.9
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.1	0.0	12.0	0.0	9.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.9	0.0	27.2	0.0	40.3	0.0	38.0
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	0.3	0.0	8.9	0.0	8.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	1.9	0.0	1.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.6	0.0	0.4	0.0	10.8	0.0	10.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.05	0.00	0.05	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
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






















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	100	655	260	130	500	130	60	610	40	90	1320	110
Future Volume (veh/h)	100	655	260	130	500	130	60	610	40	90	1320	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	689	166	137	526	37	63	642	17	95	1389	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	849	378	186	861	384	150	1457	650	170	1478	659
Arrive On Green	0.05	0.24	0.24	0.05	0.24	0.24	0.04	0.41	0.41	0.05	0.42	0.42
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	105	689	166	137	526	37	63	642	17	95	1389	47
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.8	17.0	8.3	3.6	12.2	1.7	1.6	12.1	0.6	2.5	34.7	1.7
Cycle Q Clear(g_c), s	2.8	17.0	8.3	3.6	12.2	1.7	1.6	12.1	0.6	2.5	34.7	1.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	174	849	378	186	861	384	150	1457	650	170	1478	659
V/C Ratio(X)	0.60	0.81	0.44	0.74	0.61	0.10	0.42	0.44	0.03	0.56	0.94	0.07
Avail Cap(c_a), veh/h	186	1073	479	186	1073	479	186	1457	650	224	1495	667
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	33.3	30.0	43.2	31.2	27.2	43.2	19.7	16.3	43.1	26.0	16.3
Incr Delay (d2), s/veh	3.1	3.8	0.8	12.4	0.7	0.1	0.7	1.0	0.1	1.1	11.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	7.2	3.0	1.8	4.9	0.6	0.7	4.6	0.2	1.0	15.2	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.2	37.2	30.8	55.6	31.9	27.3	43.9	20.7	16.4	44.1	37.7	16.3
LnGrp LOS	D	D	C	E	C	C	D	C	B	D	D	B
Approach Vol, veh/h		960			700			722			1531	
Approach Delay, s/veh		37.0			36.3			22.6			37.5	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	45.1	10.0	28.6	9.6	44.5	9.7	29.0				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5				
Max Green Setting (Gmax), s	5.0	39.0	5.0	28.0	6.0	38.0	5.0	28.0				
Max Q Clear Time (g_c+1), s	13.6	36.7	5.6	19.0	4.5	14.1	4.8	14.2				
Green Ext Time (p_c), s	0.0	1.7	0.0	3.2	0.0	3.8	0.0	2.7				
Intersection Summary												
HCM 6th Ctrl Delay											34.4	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	655	260	130	500	130	60	610	40	90	1320	110
Future Volume (veh/h)	100	655	260	130	500	130	60	610	40	90	1320	110
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	689	166	137	526	37	63	642	17	95	1389	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	174	849	378	186	861	384	150	1457	650	170	1478	659
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.24	0.24	0.05	0.24	0.24	0.04	0.41	0.41	0.05	0.42	0.42
Unsig. Movement Delay												
Ln Grp Delay, s/veh	46.2	37.2	30.8	55.6	31.9	27.3	43.9	20.7	16.4	44.1	37.7	16.3
Ln Grp LOS	D	D	C	E	C	C	D	C	B	D	D	B
Approach Vol, veh/h		960			700			722			1531	
Approach Delay, s/veh		37.0			36.3			22.6			37.5	
Approach LOS		D			D			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.0	45.1	10.0	28.6	9.6	44.5	9.7	29.0			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5			
Max Green (Gmax), s		5.0	39.0	5.0	28.0	6.0	38.0	5.0	28.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.6	2.7	4.7	2.7	4.8			
Max Q Clear (g_c+I1), s		3.6	36.7	5.6	19.0	4.5	14.1	4.8	14.2			
Green Ext Time (g_e), s		0.0	1.7	0.0	3.2	0.0	3.8	0.0	2.7			
Prob of Phs Call (p_c)		0.80	1.00	0.97	1.00	0.91	1.00	0.93	1.00			
Prob of Max Out (p_x)		1.00	1.00	1.00	0.42	1.00	0.00	1.00	0.07			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	63	0	137	0	95	0	105	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	1.6	0.0	3.6	0.0	2.5	0.0	2.8	0.0
Cycle Q Clear Time (g_c), s	1.6	0.0	3.6	0.0	2.5	0.0	2.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	150	0	186	0	170	0	174	0
V/C Ratio (X)	0.42	0.00	0.74	0.00	0.56	0.00	0.60	0.00
Avail Cap (c_a), veh/h	186	0	186	0	224	0	186	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	43.2	0.0	43.2	0.0	43.1	0.0	43.1	0.0
Incr Delay (d2), s/veh	0.7	0.0	12.4	0.0	1.1	0.0	3.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	43.9	0.0	55.6	0.0	44.1	0.0	46.2	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	1.5	0.0	1.0	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	1.8	0.0	1.0	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.20	0.00	0.12	0.00	0.14	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1389	0	689	0	642	0	526
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	34.7	0.0	17.0	0.0	12.1	0.0	12.2
Cycle Q Clear Time (g_c), s	0.0	34.7	0.0	17.0	0.0	12.1	0.0	12.2
Lane Grp Cap (c), veh/h	0	1478	0	849	0	1457	0	861
V/C Ratio (X)	0.00	0.94	0.00	0.81	0.00	0.44	0.00	0.61
Avail Cap (c_a), veh/h	0	1495	0	1073	0	1457	0	1073
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.0	0.0	33.3	0.0	19.7	0.0	31.2
Incr Delay (d2), s/veh	0.0	11.8	0.0	3.8	0.0	1.0	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	37.7	0.0	37.2	0.0	20.7	0.0	31.9
1st-Term Q (Q1), veh/ln	0.0	12.8	0.0	6.8	0.0	4.4	0.0	4.9
2nd-Term Q (Q2), veh/ln	0.0	2.4	0.0	0.5	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	15.2	0.0	7.2	0.0	4.6	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.02	0.00	0.05	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	47	0	166	0	17	0	37
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.7	0.0	8.3	0.0	0.6	0.0	1.7
Cycle Q Clear Time (g_c), s	0.0	1.7	0.0	8.3	0.0	0.6	0.0	1.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	659	0	378	0	650	0	384
V/C Ratio (X)	0.00	0.07	0.00	0.44	0.00	0.03	0.00	0.10
Avail Cap (c_a), veh/h	0	667	0	479	0	650	0	479
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.3	0.0	30.0	0.0	16.3	0.0	27.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.3	0.0	30.8	0.0	16.4	0.0	27.3
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	2.9	0.0	0.2	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	3.0	0.0	0.2	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.55	0.00	0.03	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 16: Monterey Ave & Gerald Ford Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↔		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	80	530	180	175	505	190	120	740	100	370	1350	130
Future Volume (veh/h)	80	530	180	175	505	190	120	740	100	370	1350	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	558	53	184	532	52	126	779	105	389	1421	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	673	300	240	781	348	178	1884	252	449	2513	
Arrive On Green	0.04	0.19	0.19	0.07	0.22	0.22	0.10	0.83	0.83	0.13	0.49	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4555	610	3456	5106	1585
Grp Volume(v), veh/h	84	558	53	184	532	52	126	581	303	389	1421	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1761	1728	1702	1585
Q Serve(g_s), s	2.9	18.1	3.4	6.3	16.5	3.2	4.2	5.4	5.4	13.2	23.5	0.0
Cycle Q Clear(g_c), s	2.9	18.1	3.4	6.3	16.5	3.2	4.2	5.4	5.4	13.2	23.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	135	673	300	240	781	348	178	1408	728	449	2513	
V/C Ratio(X)	0.62	0.83	0.18	0.77	0.68	0.15	0.71	0.41	0.42	0.87	0.57	
Avail Cap(c_a), veh/h	173	927	413	317	1075	479	230	1408	728	576	2513	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.90	0.90	0.90	0.96	0.96	0.96	0.71	0.71	0.00
Uniform Delay (d), s/veh	56.8	46.8	40.8	54.9	43.0	37.8	53.0	6.5	6.5	51.2	21.4	0.0
Incr Delay (d2), s/veh	1.7	4.6	0.3	4.8	1.0	0.2	3.8	0.9	1.7	6.7	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	8.1	1.3	2.8	7.0	1.2	1.8	1.6	1.8	5.9	8.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	51.4	41.1	59.7	43.9	37.9	56.8	7.4	8.2	57.9	22.1	0.0
LnGrp LOS	E	D	D	E	D	D	E	A	A	E	C	
Approach Vol, veh/h		695			768			1010			1810	A
Approach Delay, s/veh		51.4			47.3			13.8			29.8	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	66.1	9.7	33.1	20.6	56.6	13.3	29.4				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.7	5.0	7.0	5.0	6.7				
Max Green Setting (Gmax), s	46.0	46.0	6.0	36.3	20.0	34.0	11.0	31.3				
Max Q Clear Time (g_c+1), s	10.2	25.5	4.9	18.5	15.2	7.4	8.3	20.1				
Green Ext Time (p_c), s	0.0	10.7	0.0	3.0	0.3	6.5	0.1	2.6				

Intersection Summary
































HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	 	
Traffic Volume (veh/h)	80	530	180	175	505	190	120	740	100	370	1350	130
Future Volume (veh/h)	80	530	180	175	505	190	120	740	100	370	1350	130
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	558	53	184	532	52	126	779	105	389	1421	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	135	673	300	240	781	348	178	1884	252	449	2513	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.19	0.19	0.07	0.22	0.22	0.10	0.83	0.83	0.13	0.49	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.5	51.4	41.1	59.7	43.9	37.9	56.8	7.4	8.2	57.9	22.1	0.0
Ln Grp LOS	E	D	D	E	D	D	E	A	A	E	C	
Approach Vol, veh/h		695			768			1010			1810	
Approach Delay, s/veh		51.4			47.3			13.8			29.8	
Approach LOS		D			D			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		11.2	66.1	9.7	33.1	20.6	56.6	13.3	29.4			
Change Period (Y+Rc), s		5.0	7.0	5.0	6.7	5.0	7.0	5.0	6.7			
Max Green (Gmax), s		8.0	46.0	6.0	36.3	20.0	34.0	11.0	31.3			
Max Allow Headway (MAH), s		2.6	5.2	2.7	4.7	2.6	5.3	2.6	4.7			
Max Q Clear (g_c+I1), s		6.2	25.5	4.9	18.5	15.2	7.4	8.3	20.1			
Green Ext Time (g_e), s		0.0	10.7	0.0	3.0	0.3	6.5	0.1	2.6			
Prob of Phs Call (p_c)		0.99	1.00	0.94	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.02	0.11	0.00	0.89	0.17			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4555		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		610		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	126	0	84	0	389	0	184	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	4.2	0.0	2.9	0.0	13.2	0.0	6.3	0.0
Cycle Q Clear Time (g_c), s	4.2	0.0	2.9	0.0	13.2	0.0	6.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	178	0	135	0	449	0	240	0
V/C Ratio (X)	0.71	0.00	0.62	0.00	0.87	0.00	0.77	0.00
Avail Cap (c_a), veh/h	230	0	173	0	576	0	317	0
Upstream Filter (I)	0.96	0.00	1.00	0.00	0.71	0.00	0.90	0.00
Uniform Delay (d1), s/veh	53.0	0.0	56.8	0.0	51.2	0.0	54.9	0.0
Incr Delay (d2), s/veh	3.8	0.0	1.7	0.0	6.7	0.0	4.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	56.8	0.0	58.5	0.0	57.9	0.0	59.7	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	1.2	0.0	5.5	0.0	2.6	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.4	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	1.2	0.0	5.9	0.0	2.8	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.19	0.00	0.75	0.00	0.38	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1421	0	532	0	581	0	558
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	23.5	0.0	16.5	0.0	5.4	0.0	18.1
Cycle Q Clear Time (g_c), s	0.0	23.5	0.0	16.5	0.0	5.4	0.0	18.1
Lane Grp Cap (c), veh/h	0	2513	0	781	0	1408	0	673
V/C Ratio (X)	0.00	0.57	0.00	0.68	0.00	0.41	0.00	0.83
Avail Cap (c_a), veh/h	0	2513	0	1075	0	1408	0	927
Upstream Filter (I)	0.00	0.71	0.00	0.90	0.00	0.96	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.4	0.0	43.0	0.0	6.5	0.0	46.8
Incr Delay (d2), s/veh	0.0	0.7	0.0	1.0	0.0	0.9	0.0	4.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.1	0.0	43.9	0.0	7.4	0.0	51.4
1st-Term Q (Q1), veh/ln	0.0	8.5	0.0	6.9	0.0	1.4	0.0	7.7
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.4

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.6	0.0	7.0	0.0	1.6	0.0	8.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.03	0.00	0.03	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	52	0	303	0	53
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1761	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	3.2	0.0	5.4	0.0	3.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.2	0.0	5.4	0.0	3.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.35	0.00	1.00
Lane Grp Cap (c), veh/h	0	780	0	348	0	728	0	300
V/C Ratio (X)	0.00	0.00	0.00	0.15	0.00	0.42	0.00	0.18
Avail Cap (c_a), veh/h	0	780	0	479	0	728	0	413
Upstream Filter (I)	0.00	0.00	0.00	0.90	0.00	0.96	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	37.8	0.0	6.5	0.0	40.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	1.7	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	37.9	0.0	8.2	0.0	41.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.2	0.0	1.5	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.2	0.0	1.8	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.03	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	32.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖↗	↖	↖↗	↖↗	↖	↖↗	↖↗	↖
Traffic Volume (veh/h)	70	610	320	100	730	340	120	830	100	80	780	20
Future Volume (veh/h)	70	610	320	100	730	340	120	830	100	80	780	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	642	337	105	768	0	126	874	27	84	821	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	714	375	311	1603		323	1074	334	291	1027	
Arrive On Green	0.08	0.32	0.32	0.09	0.31	0.00	0.09	0.21	0.21	0.08	0.20	0.00
Sat Flow, veh/h	1781	2252	1182	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	74	507	472	105	768	0	126	874	27	84	821	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1658	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	3.2	21.9	21.9	2.3	9.8	0.0	2.8	13.1	1.1	1.8	12.3	0.0
Cycle Q Clear(g_c), s	3.2	21.9	21.9	2.3	9.8	0.0	2.8	13.1	1.1	1.8	12.3	0.0
Prop In Lane	1.00		0.71	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	143	563	525	311	1603		323	1074	334	291	1027	
V/C Ratio(X)	0.52	0.90	0.90	0.34	0.48		0.39	0.81	0.08	0.29	0.80	
Avail Cap(c_a), veh/h	222	928	866	344	2540		344	2413	749	344	2413	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.5	26.2	26.2	34.3	22.3	0.0	34.3	30.2	25.5	34.5	30.6	0.0
Incr Delay (d2), s/veh	1.1	4.3	4.6	0.2	0.1	0.0	0.3	0.6	0.0	0.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	8.6	8.1	0.9	3.5	0.0	1.1	4.8	0.4	0.7	4.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.5	30.5	30.8	34.6	22.4	0.0	34.6	30.8	25.5	34.8	31.1	0.0
LnGrp LOS	D	C	C	C	C		C	C	C	C	C	
Approach Vol, veh/h		1053			873	A		1027			905	A
Approach Delay, s/veh		31.1			23.8			31.1			31.5	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	1.8	23.9	12.2	32.5	12.5	23.2	12.5	32.2				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7				
Max Green Setting (Gmax), s	3.0	38.0	8.0	42.0	8.0	38.0	10.0	* 40				
Max Q Clear Time (g_c+1), s	1.0	15.1	4.3	23.9	4.8	14.3	5.2	11.8				
Green Ext Time (p_c), s	0.0	1.8	0.0	1.6	0.0	1.8	0.0	1.7				

Intersection Summary

HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
17: Portola Rd & Gerald Ford Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	610	320	100	730	340	120	830	100	80	780	20
Future Volume (veh/h)	70	610	320	100	730	340	120	830	100	80	780	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	642	337	105	768	0	126	874	27	84	821	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	143	714	375	311	1603		323	1074	334	291	1027	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.32	0.32	0.09	0.31	0.00	0.09	0.21	0.21	0.08	0.20	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	36.5	30.5	30.8	34.6	22.4	0.0	34.6	30.8	25.5	34.8	31.1	0.0
Ln Grp LOS	D	C	C	C	C		C	C	C	C	C	
Approach Vol, veh/h		1053			873			1027			905	
Approach Delay, s/veh		31.1			23.8			31.1			31.5	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		11.8	23.9	12.2	32.5	12.5	23.2	12.5	32.2			
Change Period (Y+Rc), s		5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7			
Max Green (Gmax), s		8.0	38.0	8.0	42.0	8.0	38.0	10.0	* 40			
Max Allow Headway (MAH), s		1.7	2.7	1.7	2.8	1.6	2.8	1.6	2.8			
Max Q Clear (g_c+I1), s		3.8	15.1	4.3	23.9	4.8	14.3	5.2	11.8			
Green Ext Time (g_e), s		0.0	1.8	0.0	1.6	0.0	1.8	0.0	1.7			
Prob of Phs Call (p_c)		0.85	1.00	0.90	1.00	0.94	1.00	0.81	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		2252		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1182		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	1	0
Grp Vol (v), veh/h	84	0	105	0	126	0	74	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1781	0
Q Serve Time (g_s), s	1.8	0.0	2.3	0.0	2.8	0.0	3.2	0.0
Cycle Q Clear Time (g_c), s	1.8	0.0	2.3	0.0	2.8	0.0	3.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	291	0	311	0	323	0	143	0
V/C Ratio (X)	0.29	0.00	0.34	0.00	0.39	0.00	0.52	0.00
Avail Cap (c_a), veh/h	344	0	344	0	344	0	222	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	34.5	0.0	34.3	0.0	34.3	0.0	35.5	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.2	0.0	0.3	0.0	1.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	34.8	0.0	34.6	0.0	34.6	0.0	36.5	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.9	0.0	1.1	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	0.9	0.0	1.1	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.09	0.00	0.11	0.00	0.20	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	3	0	3
Grp Vol (v), veh/h	0	874	0	507	0	821	0	768
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1702
Q Serve Time (g_s), s	0.0	13.1	0.0	21.9	0.0	12.3	0.0	9.8
Cycle Q Clear Time (g_c), s	0.0	13.1	0.0	21.9	0.0	12.3	0.0	9.8
Lane Grp Cap (c), veh/h	0	1074	0	563	0	1027	0	1603
V/C Ratio (X)	0.00	0.81	0.00	0.90	0.00	0.80	0.00	0.48
Avail Cap (c_a), veh/h	0	2413	0	928	0	2413	0	2540
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.2	0.0	26.2	0.0	30.6	0.0	22.3
Incr Delay (d2), s/veh	0.0	0.6	0.0	4.3	0.0	0.6	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.8	0.0	30.5	0.0	31.1	0.0	22.4
1st-Term Q (Q1), veh/ln	0.0	4.8	0.0	8.0	0.0	4.6	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.7	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	8.6	0.0	4.6	0.0	3.5
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.04	0.00	0.09	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	27	0	472	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1658	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.1	0.0	21.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	21.9	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.71	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	334	0	525	0	319	0	498
V/C Ratio (X)	0.00	0.08	0.00	0.90	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	749	0	866	0	749	0	789
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	25.5	0.0	26.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.5	0.0	30.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	7.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	8.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

18: Cook St & I-10 WB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕	↗		↕	↗		↕	↗
Traffic Volume (veh/h)	0	0	0	870	0	120	0	670	370	0	570	50
Future Volume (veh/h)	0	0	0	870	0	120	0	670	370	0	570	50
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No				No
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				916	0	113	0	705	0	0	600	53
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				988	0	879	0	1228		0	1652	145
Arrive On Green				0.55	0.00	0.55	0.00	0.11	0.00	0.00	0.35	0.35
Sat Flow, veh/h				1781	0	1585	0	3647	1585	0	4949	419
Grp Volume(v), veh/h				916	0	113	0	705	0	0	426	227
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1777	1585	0	1702	1795
Q Serve(g_s), s				51.9	0.0	3.8	0.0	20.7	0.0	0.0	10.3	10.4
Cycle Q Clear(g_c), s				51.9	0.0	3.8	0.0	20.7	0.0	0.0	10.3	10.4
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.23
Lane Grp Cap(c), veh/h				988	0	879	0	1228		0	1176	620
V/C Ratio(X)				0.93	0.00	0.13	0.00	0.57		0.00	0.36	0.37
Avail Cap(c_a), veh/h				1134	0	1009	0	1228		0	1176	620
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.76	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				22.5	0.0	11.8	0.0	41.1	0.0	0.0	26.9	27.0
Incr Delay (d2), s/veh				11.9	0.0	0.1	0.0	1.5	0.0	0.0	0.9	1.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				23.5	0.0	1.3	0.0	10.1	0.0	0.0	4.0	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				34.4	0.0	11.8	0.0	42.5	0.0	0.0	27.8	28.6
LnGrp LOS				C	A	B	A	D		A	C	C
Approach Vol, veh/h					1029			705	A		653	
Approach Delay, s/veh					31.9			42.5			28.1	
Approach LOS					C			D			C	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		44.0				44.0		66.0				
Change Period (Y+Rc), s		6.0				6.0		5.0				
Max Green Setting (Gmax), s		29.0				29.0		70.0				
Max Q Clear Time (g_c+11), s		22.7				12.4		53.9				
Green Ext Time (p_c), s		2.5				3.2		7.1				

Intersection Summary



















HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	870	0	120	0	670	370	0	570	50
Future Volume (veh/h)	0	0	0	870	0	120	0	670	370	0	570	50
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				916	0	113	0	705	0	0	600	53
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Opposing Right Turn Influence				Yes			No			No		
Cap, veh/h				988	0	879	0	1228		0	1652	145
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green				0.55	0.00	0.55	0.00	0.11	0.00	0.00	0.35	0.35
Unsig. Movement Delay												
Ln Grp Delay, s/veh				34.4	0.0	11.8	0.0	42.5	0.0	0.0	27.8	28.6
Ln Grp LOS				C	A	B	A	D		A	C	C
Approach Vol, veh/h					1029			705			653	
Approach Delay, s/veh					31.9			42.5			28.1	
Approach LOS					C			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8			6					
Case No			7.0	11.0			8.0					
Phs Duration (G+Y+Rc), s			44.0	66.0			44.0					
Change Period (Y+Rc), s			6.0	5.0			6.0					
Max Green (Gmax), s			29.0	70.0			29.0					
Max Allow Headway (MAH), s			5.2	5.2			4.8					
Max Q Clear (g_c+I1), s			22.7	53.9			12.4					
Green Ext Time (g_e), s			2.5	7.1			3.2					
Prob of Phs Call (p_c)			1.00	1.00			1.00					
Prob of Max Out (p_x)			0.00	0.38			0.00					
Left-Turn Movement Data												
Assigned Mvmt			5	3			1					
Mvmt Sat Flow, veh/h			0	1781			0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			3647	0			4949					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			1585	1585			419					
Left Lane Group Data												
Assigned Mvmt	0	5	3	0	0	1	0	0				
Lane Assignment			L+T									

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

07/11/2019

Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	916	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	51.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	51.9	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	38.0	0.0	0.0	0.0	38.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	988	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.93	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1134	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	22.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	34.4	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	20.3	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	3.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	23.5	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.68	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	705	0	0	0	426	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	20.7	0.0	0.0	0.0	10.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	20.7	0.0	0.0	0.0	10.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	1228	0	0	0	1176	0	0
V/C Ratio (X)	0.00	0.57	0.00	0.00	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	1228	0	0	0	1176	0	0
Upstream Filter (I)	0.00	0.76	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	41.1	0.0	0.0	0.0	26.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	0.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	42.5	0.0	0.0	0.0	27.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	9.9	0.0	0.0	0.0	3.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	10.1	0.0	0.0	0.0	4.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	0.00	0.00	0.29	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	113	0	0	227	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1795	0	0
Q Serve Time (g_s), s	0.0	0.0	3.8	0.0	0.0	10.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	3.8	0.0	0.0	10.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.23	0.00	0.00
Lane Grp Cap (c), veh/h	0	548	879	0	0	620	0	0
V/C Ratio (X)	0.00	0.00	0.13	0.00	0.00	0.37	0.00	0.00
Avail Cap (c_a), veh/h	0	548	1009	0	0	620	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	11.8	0.0	0.0	27.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.0	0.0	1.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	11.8	0.0	0.0	28.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.3	0.0	0.0	4.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.3	0.0	0.0	4.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.04	0.00	0.00	0.32	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 19: Cook St & I-10 EB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	220	0	1135	0	0	0	0	820	370	80	1360	0	
Future Volume (veh/h)	220	0	1135	0	0	0	0	820	370	80	1360	0	
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0	
Adj Flow Rate, veh/h	232	0	1153				0	863	389	84	1432	0	
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0	
Cap, veh/h	719	0	1280				0	1361	612	107	2534	0	
Arrive On Green	0.40	0.00	0.40				0.00	0.39	0.39	0.02	0.16	0.00	
Sat Flow, veh/h	1781	0	3170				0	3615	1549	1781	5274	0	
Grp Volume(v), veh/h	232	0	1153				0	852	400	84	1432	0	
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1592	1781	1702	0	
Q Serve(g_s), s	9.8	0.0	37.5				0.0	22.2	22.3	5.2	28.4	0.0	
Cycle Q Clear(g_c), s	9.8	0.0	37.5				0.0	22.2	22.3	5.2	28.4	0.0	
Prop In Lane	1.00		1.00				0.00		0.97	1.00		0.00	
Lane Grp Cap(c), veh/h	719	0	1280				0	1345	629	107	2534	0	
V/C Ratio(X)	0.32	0.00	0.90				0.00	0.63	0.64	0.78	0.57	0.00	
Avail Cap(c_a), veh/h	826	0	1470				0	1345	629	154	2534	0	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00	
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.87	0.87	0.90	0.90	0.00	
Uniform Delay (d), s/veh	22.5	0.0	30.7				0.0	26.9	26.9	53.2	35.1	0.0	
Incr Delay (d2), s/veh	0.3	0.0	7.3				0.0	2.0	4.2	8.2	0.8	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.1	0.0	15.2				0.0	8.6	8.5	2.6	13.2	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	22.7	0.0	38.0				0.0	28.8	31.1	61.4	35.9	0.0	
LnGrp LOS	C	A	D				A	C	C	E	D	A	
Approach Vol, veh/h		1385						1252			1516		
Approach Delay, s/veh		35.4						29.6			37.3		
Approach LOS		D						C			D		
Timer - Assigned Phs	1	2	4	6									
Phs Duration (G+Y+Rc), s	11.1	49.4	49.4	60.6									
Change Period (Y+Rc), s	4.5	6.0	5.0	6.0									
Max Green Setting (Gmax), s	9.5	34.0	51.0	48.0									
Max Q Clear Time (g_c+1), s	17.2	24.3	39.5	30.4									
Green Ext Time (p_c), s	0.0	5.0	4.9	9.9									

Intersection Summary

HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	0	1135	0	0	0	0	820	370	80	1360	0
Future Volume (veh/h)	220	0	1135	0	0	0	0	820	370	80	1360	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	232	0	1153				0	863	389	84	1432	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	719	0	1280				0	1361	612	107	2534	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Prop Arrive On Green	0.40	0.00	0.40				0.00	0.39	0.39	0.02	0.16	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	22.7	0.0	38.0				0.0	28.8	31.1	61.4	35.9	0.0
Ln Grp LOS	C	A	D				A	C	C	E	D	A
Approach Vol, veh/h		1385						1252			1516	
Approach Delay, s/veh		35.4						29.6			37.3	
Approach LOS		D						C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	8.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		11.1	49.4		49.4		60.6					
Change Period (Y+Rc), s		4.5	6.0		5.0		6.0					
Max Green (Gmax), s		9.5	34.0		51.0		48.0					
Max Allow Headway (MAH), s		2.8	4.8		4.0		5.2					
Max Q Clear (g_c+I1), s		7.2	24.3		39.5		30.4					
Green Ext Time (g_e), s		0.0	5.0		4.9		9.9					
Prob of Phs Call (p_c)		0.92	1.00		1.00		1.00					
Prob of Max Out (p_x)		1.00	0.00		0.36		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		1781	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			3615		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1549		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

07/11/2019

Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	84	0	0	232	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	5.2	0.0	0.0	9.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	5.2	0.0	0.0	9.8	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	43.4	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	107	0	0	719	0	0	0	0
V/C Ratio (X)	0.78	0.00	0.00	0.32	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	154	0	0	826	0	0	0	0
Upstream Filter (I)	0.90	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	53.2	0.0	0.0	22.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	8.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	61.4	0.0	0.0	22.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	2.4	0.0	0.0	4.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	2.6	0.0	0.0	4.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.00	0.14	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	3	0	0
Grp Vol (v), veh/h	0	852	0	0	0	1432	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	22.2	0.0	0.0	0.0	28.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.2	0.0	0.0	0.0	28.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	1345	0	0	0	2534	0	0
V/C Ratio (X)	0.00	0.63	0.00	0.00	0.00	0.57	0.00	0.00
Avail Cap (c_a), veh/h	0	1345	0	0	0	2534	0	0
Upstream Filter (I)	0.00	0.87	0.00	0.00	0.00	0.90	0.00	0.00
Uniform Delay (d1), s/veh	0.0	26.9	0.0	0.0	0.0	35.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.8	0.0	0.0	0.0	35.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.2	0.0	0.0	0.0	13.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	8.6	0.0	0.0	0.0	13.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.00	0.00	0.70	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	400	0	1153	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1592	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	22.3	0.0	37.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.3	0.0	37.5	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.97	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	629	0	1280	0	0	0	0
V/C Ratio (X)	0.00	0.64	0.00	0.90	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	629	0	1470	0	0	0	0
Upstream Filter (I)	0.00	0.87	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	26.9	0.0	30.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.2	0.0	7.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.1	0.0	38.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.7	0.0	13.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.7	0.0	1.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	8.5	0.0	15.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.93	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
20: Cook St & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	360	210	220	50	230	160	370	670	40	250	1670	570
Future Volume (veh/h)	360	210	220	50	230	160	370	670	40	250	1670	570
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	379	221	0	53	242	17	389	705	19	263	1758	428
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	449	620		166	329	147	459	2166	672	335	1983	616
Arrive On Green	0.13	0.17	0.00	0.05	0.09	0.09	0.13	0.42	0.42	0.10	0.39	0.39
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	379	221	0	53	242	17	389	705	19	263	1758	428
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.0	5.1	0.0	1.4	6.2	0.9	10.2	8.6	0.6	6.9	29.8	21.0
Cycle Q Clear(g_c), s	10.0	5.1	0.0	1.4	6.2	0.9	10.2	8.6	0.6	6.9	29.8	21.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	449	620		166	329	147	459	2166	672	335	1983	616
V/C Ratio(X)	0.84	0.36		0.32	0.74	0.12	0.85	0.33	0.03	0.78	0.89	0.70
Avail Cap(c_a), veh/h	584	1786		223	1415	631	595	2555	793	632	2610	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	33.8	0.0	42.7	41.0	38.7	39.4	17.9	15.6	41.0	26.5	23.8
Incr Delay (d2), s/veh	7.0	0.1	0.0	0.4	1.2	0.1	7.2	0.0	0.0	1.5	2.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	2.1	0.0	0.6	2.6	0.3	4.5	3.0	0.2	2.8	11.0	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.5	33.9	0.0	43.2	42.2	38.8	46.5	17.9	15.6	42.5	29.2	24.7
LnGrp LOS	D	C		D	D	D	D	B	B	D	C	C
Approach Vol, veh/h	600		A	312			1113			2449		
Approach Delay, s/veh	41.8			42.2			27.9			29.8		
Approach LOS	D			D			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.0	46.2	10.0	21.7	18.3	42.9	17.6	14.1				
Change Period (Y+Rc), s	6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5				
Max Green Setting (Gmax), s	46.5	6.0	46.7	16.0	47.5	15.7	37.0					
Max Q Clear Time (g_c+1), s	10.6	3.4	7.1	12.2	31.8	12.0	8.2					
Green Ext Time (p_c), s	0.1	1.4	0.0	0.4	0.1	4.3	0.1	0.4				

Intersection Summary



































HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	360	210	220	50	230	160	370	670	40	250	1670	570
Future Volume (veh/h)	360	210	220	50	230	160	370	670	40	250	1670	570
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	379	221	0	53	242	17	389	705	19	263	1758	428
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	449	620		166	329	147	459	2166	672	335	1983	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.17	0.00	0.05	0.09	0.09	0.13	0.42	0.42	0.10	0.39	0.39
Unsig. Movement Delay												
Ln Grp Delay, s/veh	46.5	33.9	0.0	43.2	42.2	38.8	46.5	17.9	15.6	42.5	29.2	24.7
Ln Grp LOS	D	C		D	D	D	D	B	B	D	C	C
Approach Vol, veh/h		600			312			1113			2449	
Approach Delay, s/veh		41.8			42.2			27.9			29.8	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.0	46.2	10.0	21.7	18.3	42.9	17.6	14.1			
Change Period (Y+Rc), s		6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5			
Max Green (Gmax), s		17.0	46.5	6.0	46.7	16.0	47.5	15.7	37.0			
Max Allow Headway (MAH), s		1.6	2.7	1.7	2.8	1.6	2.6	1.7	2.8			
Max Q Clear (g_c+I1), s		8.9	10.6	3.4	7.1	12.2	31.8	12.0	8.2			
Green Ext Time (g_e), s		0.1	1.4	0.0	0.4	0.1	4.3	0.1	0.4			
Prob of Phs Call (p_c)		1.00	1.00	0.75	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.02	0.00	0.01	0.07	0.02	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 20: Cook St & Gerald Ford Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	263	0	53	0	389	0	379	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	6.9	0.0	1.4	0.0	10.2	0.0	10.0	0.0
Cycle Q Clear Time (g_c), s	6.9	0.0	1.4	0.0	10.2	0.0	10.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	335	0	166	0	459	0	449	0
V/C Ratio (X)	0.78	0.00	0.32	0.00	0.85	0.00	0.84	0.00
Avail Cap (c_a), veh/h	632	0	223	0	595	0	584	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	41.0	0.0	42.7	0.0	39.4	0.0	39.5	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.4	0.0	7.2	0.0	7.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	42.5	0.0	43.2	0.0	46.5	0.0	46.5	0.0
1st-Term Q (Q1), veh/ln	2.7	0.0	0.6	0.0	4.0	0.0	4.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.5	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.8	0.0	0.6	0.0	4.5	0.0	4.4	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.09	0.00	0.54	0.00	0.50	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	705	0	221	0	1758	0	242
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	8.6	0.0	5.1	0.0	29.8	0.0	6.2
Cycle Q Clear Time (g_c), s	0.0	8.6	0.0	5.1	0.0	29.8	0.0	6.2
Lane Grp Cap (c), veh/h	0	2166	0	620	0	1983	0	329
V/C Ratio (X)	0.00	0.33	0.00	0.36	0.00	0.89	0.00	0.74
Avail Cap (c_a), veh/h	0	2555	0	1786	0	2610	0	1415
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.9	0.0	33.8	0.0	26.5	0.0	41.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	2.7	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.9	0.0	33.9	0.0	29.2	0.0	42.2
1st-Term Q (Q1), veh/ln	0.0	3.0	0.0	2.1	0.0	10.5	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	2.1	0.0	11.0	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.07	0.00	0.19	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	19	0	0	0	428	0	17
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.6	0.0	0.0	0.0	21.0	0.0	0.9
Cycle Q Clear Time (g_c), s	0.0	0.6	0.0	0.0	0.0	21.0	0.0	0.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	672	0	277	0	616	0	147
V/C Ratio (X)	0.00	0.03	0.00	0.00	0.00	0.70	0.00	0.12
Avail Cap (c_a), veh/h	0	793	0	797	0	810	0	631
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.6	0.0	0.0	0.0	23.8	0.0	38.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.6	0.0	0.0	0.0	24.7	0.0	38.8
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.0	0.0	7.0	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	7.2	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	1.04	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 21: SR-111 & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖↗↘↙	↖	↖	↖↗	↖↗↘↙	↖
Traffic Volume (veh/h)	30	48	30	480	70	495	30	1145	320	410	1370	40
Future Volume (veh/h)	30	48	30	480	70	495	30	1145	320	410	1370	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	51	32	505	74	0	32	1205	0	432	1442	17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	101	64	607	455		48	1537		416	2015	625
Arrive On Green	0.03	0.09	0.09	0.18	0.24	0.00	0.03	0.30	0.00	0.12	0.39	0.39
Sat Flow, veh/h	1781	1075	674	3456	1870	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	32	0	83	505	74	0	32	1205	0	432	1442	17
Grp Sat Flow(s),veh/h/ln	1781	0	1749	1728	1870	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	1.2	0.0	3.0	9.4	2.1	0.0	1.2	14.3	0.0	8.0	15.8	0.4
Cycle Q Clear(g_c), s	1.2	0.0	3.0	9.4	2.1	0.0	1.2	14.3	0.0	8.0	15.8	0.4
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	0	165	607	455		48	1537		416	2015	625
V/C Ratio(X)	0.67	0.00	0.50	0.83	0.16		0.67	0.78		1.04	0.72	0.03
Avail Cap(c_a), veh/h	107	0	250	781	577		134	2460		416	2691	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	0.0	28.6	26.4	19.8	0.0	32.0	21.2	0.0	29.2	17.0	12.3
Incr Delay (d2), s/veh	5.9	0.0	2.4	4.9	0.2	0.0	5.9	0.3	0.0	54.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.3	3.8	0.8	0.0	0.5	4.8	0.0	6.2	5.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	0.0	30.9	31.3	20.0	0.0	37.9	21.6	0.0	83.4	17.3	12.3
LnGrp LOS	D	A	C	C	B		D	C		F	B	B
Approach Vol, veh/h		115			579	A		1237	A		1891	
Approach Delay, s/veh		32.9			29.9			22.0			32.4	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	13.3	5.8	31.7	5.8	23.1	12.0	25.5				
Change Period (Y+Rc), s	4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5				
Max Green Setting (Gmax), s	15.0	9.5	5.0	35.0	4.0	20.5	8.0	32.0				
Max Q Clear Time (g_c+I1), s	11.4	5.0	3.2	17.8	3.2	4.1	10.0	16.3				
Green Ext Time (p_c), s	0.3	0.1	0.0	5.2	0.0	0.2	0.0	3.6				

Intersection Summary






























HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 21: SR-111 & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  		 	  	
Traffic Volume (veh/h)	30	48	30	480	70	495	30	1145	320	410	1370	40
Future Volume (veh/h)	30	48	30	480	70	495	30	1145	320	410	1370	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	51	32	505	74	0	32	1205	0	432	1442	17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	48	101	64	607	455		48	1537		416	2015	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.18	0.24	0.00	0.03	0.30	0.00	0.12	0.39	0.39
Unsig. Movement Delay												
Ln Grp Delay, s/veh	37.9	0.0	30.9	31.3	20.0	0.0	37.9	21.6	0.0	83.4	17.3	12.3
Ln Grp LOS	D	A	C	C	B		D	C		F	B	B
Approach Vol, veh/h		115			579			1237			1891	
Approach Delay, s/veh		32.9			29.9			22.0			32.4	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.7	13.3	5.8	31.7	5.8	23.1	12.0	25.5			
Change Period (Y+Rc), s		4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5			
Max Green (Gmax), s		15.0	9.5	5.0	35.0	4.0	20.5	8.0	32.0			
Max Allow Headway (MAH), s		2.2	5.0	2.2	3.5	2.2	4.8	2.2	3.3			
Max Q Clear (g_c+I1), s		11.4	5.0	3.2	17.8	3.2	4.1	10.0	16.3			
Green Ext Time (g_e), s		0.3	0.1	0.0	5.2	0.0	0.2	0.0	3.6			
Prob of Phs Call (p_c)		1.00	0.78	0.45	1.00	0.45	0.74	1.00	1.00			
Prob of Max Out (p_x)		0.18	1.00	1.00	0.08	1.00	0.00	1.00	0.04			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		1781		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1075		5106		1870		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			674		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	1	0	1	0	2	0
Grp Vol (v), veh/h	505	0	32	0	32	0	432	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	9.4	0.0	1.2	0.0	1.2	0.0	8.0	0.0
Cycle Q Clear Time (g_c), s	9.4	0.0	1.2	0.0	1.2	0.0	8.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	607	0	48	0	48	0	416	0
V/C Ratio (X)	0.83	0.00	0.67	0.00	0.67	0.00	1.04	0.00
Avail Cap (c_a), veh/h	781	0	134	0	107	0	416	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.4	0.0	32.0	0.0	32.0	0.0	29.2	0.0
Incr Delay (d2), s/veh	4.9	0.0	5.9	0.0	5.9	0.0	54.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.3	0.0	37.9	0.0	37.9	0.0	83.4	0.0
1st-Term Q (Q1), veh/ln	3.4	0.0	0.5	0.0	0.5	0.0	3.0	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.1	0.0	0.1	0.0	3.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.8	0.0	0.5	0.0	0.5	0.0	6.2	0.0
%ile Storage Ratio (RQ%)	0.77	0.00	0.09	0.00	0.03	0.00	0.49	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	3	0	1	0	3
Grp Vol (v), veh/h	0	0	0	1442	0	74	0	1205
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	15.8	0.0	2.1	0.0	14.3
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	15.8	0.0	2.1	0.0	14.3
Lane Grp Cap (c), veh/h	0	0	0	2015	0	455	0	1537
V/C Ratio (X)	0.00	0.00	0.00	0.72	0.00	0.16	0.00	0.78
Avail Cap (c_a), veh/h	0	0	0	2691	0	577	0	2460
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	17.0	0.0	19.8	0.0	21.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	17.3	0.0	20.0	0.0	21.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	5.2	0.0	0.8	0.0	4.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	5.3	0.0	0.8	0.0	4.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	83	0	17	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1749	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	3.0	0.0	0.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.0	0.0	0.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.39	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	165	0	625	0	385	0	477
V/C Ratio (X)	0.00	0.50	0.00	0.03	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	250	0	835	0	489	0	764
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	28.6	0.0	12.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.9	0.0	12.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	0.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 22: Morningside Dr & Frank Sinatra Dr























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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↑	↖↗	↖	↖↗	
Traffic Volume (veh/h)	20	564	300	60	810	40	150	20	40	20	30	50
Future Volume (veh/h)	20	564	300	60	810	40	150	20	40	20	30	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	594	316	63	853	42	158	21	17	21	32	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	250	931	495	236	1432	70	609	748	634	649	711	634
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	622	2241	1192	613	3447	170	1313	1870	1585	1370	1777	1585
Grp Volume(v), veh/h	21	471	439	63	440	455	158	21	17	21	32	53
Grp Sat Flow(s),veh/h/ln	622	1777	1656	613	1777	1840	1313	1870	1585	1370	1777	1585
Q Serve(g_s), s	1.8	13.7	13.7	5.9	12.5	12.5	5.5	0.4	0.4	0.6	0.7	1.3
Cycle Q Clear(g_c), s	14.3	13.7	13.7	19.6	12.5	12.5	6.9	0.4	0.4	1.1	0.7	1.3
Prop In Lane	1.00		0.72	1.00		0.09	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	250	738	688	236	738	764	609	748	634	649	711	634
V/C Ratio(X)	0.08	0.64	0.64	0.27	0.60	0.60	0.26	0.03	0.03	0.03	0.05	0.08
Avail Cap(c_a), veh/h	250	738	688	236	738	764	609	748	634	649	711	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	15.1	15.1	22.9	14.8	14.8	14.2	11.8	11.8	12.2	11.9	12.1
Incr Delay (d2), s/veh	0.7	4.2	4.5	2.8	3.5	3.4	1.0	0.1	0.1	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.3	5.0	1.0	5.2	5.4	1.5	0.2	0.1	0.2	0.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.0	19.3	19.6	25.7	18.3	18.2	15.3	11.9	11.9	12.2	11.9	12.2
LnGrp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		931		958		196		106				
Approach Delay, s/veh		19.5		18.7		14.6		12.1				
Approach LOS		B		B		B		B				
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.5		31.5		33.5		31.5				
Change Period (Y+Rc), s		6.5		5.5		6.5		5.5				
Max Green Setting (Gmax), s		27.0		26.0		27.0		26.0				
Max Q Clear Time (g_c+I1), s		16.3		3.3		21.6		8.9				
Green Ext Time (p_c), s		4.2		0.5		2.8		0.5				
Intersection Summary												
HCM 6th Ctrl Delay				18.4								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Capacity Analysis
 22: Morningside Dr & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	564	300	60	810	40	150	20	40	20	30	50
Future Volume (veh/h)	20	564	300	60	810	40	150	20	40	20	30	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	594	316	63	853	42	158	21	17	21	32	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	250	931	495	236	1432	70	609	748	634	649	711	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.40	0.40	0.40	0.40	0.40	0.40
Unsig. Movement Delay												
Ln Grp Delay, s/veh	21.0	19.3	19.6	25.7	18.3	18.2	15.3	11.9	11.9	12.2	11.9	12.2
Ln Grp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		931			958			196			106	
Approach Delay, s/veh		19.5			18.7			14.6			12.1	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		5.0			
Phs Duration (G+Y+Rc), s			33.5		31.5		33.5		31.5			
Change Period (Y+Rc), s			6.5		5.5		6.5		5.5			
Max Green (Gmax), s			27.0		26.0		27.0		26.0			
Max Allow Headway (MAH), s			5.1		5.1		5.4		4.0			
Max Q Clear (g_c+I1), s			16.3		3.3		21.6		8.9			
Green Ext Time (g_e), s			4.2		0.5		2.8		0.5			
Prob of Phs Call (p_c)			1.00		0.85		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.00		0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			622		1370		613		1313			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2241		1777		3447		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1192		1585		170		1585			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	21	0	21	0	63	0	158
Grp Sat Flow (s), veh/h/ln	0	622	0	1370	0	613	0	1313
Q Serve Time (g_s), s	0.0	1.8	0.0	0.6	0.0	5.9	0.0	5.5
Cycle Q Clear Time (g_c), s	0.0	14.3	0.0	1.1	0.0	19.6	0.0	6.9
Perm LT Sat Flow (s_l), veh/h/ln	0	622	0	1370	0	613	0	1313
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	27.0	0.0	26.0	0.0	27.0	0.0	26.0
Perm LT Serve Time (g_u), s	0.0	14.5	0.0	25.6	0.0	13.3	0.0	24.7
Perm LT Q Serve Time (g_ps), s	0.0	1.8	0.0	0.6	0.0	5.9	0.0	5.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	250	0	649	0	236	0	609
V/C Ratio (X)	0.00	0.08	0.00	0.03	0.00	0.27	0.00	0.26
Avail Cap (c_a), veh/h	0	250	0	649	0	236	0	609
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.3	0.0	12.2	0.0	22.9	0.0	14.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	2.8	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.0	0.0	12.2	0.0	25.7	0.0	15.3
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.8	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	0.2	0.0	1.0	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.05	0.00	0.19	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	471	0	32	0	440	0	21
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1870
Q Serve Time (g_s), s	0.0	13.7	0.0	0.7	0.0	12.5	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	13.7	0.0	0.7	0.0	12.5	0.0	0.4
Lane Grp Cap (c), veh/h	0	738	0	711	0	738	0	748
V/C Ratio (X)	0.00	0.64	0.00	0.05	0.00	0.60	0.00	0.03
Avail Cap (c_a), veh/h	0	738	0	711	0	738	0	748
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.1	0.0	11.9	0.0	14.8	0.0	11.8
Incr Delay (d2), s/veh	0.0	4.2	0.0	0.0	0.0	3.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.3	0.0	11.9	0.0	18.3	0.0	11.9
1st-Term Q (Q1), veh/ln	0.0	4.5	0.0	0.3	0.0	4.5	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	0.0	0.0	0.7	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.3	0.0	0.3	0.0	5.2	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	439	0	53	0	455	0	17
Grp Sat Flow (s), veh/h/ln	0	1656	0	1585	0	1840	0	1585
Q Serve Time (g_s), s	0.0	13.7	0.0	1.3	0.0	12.5	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	13.7	0.0	1.3	0.0	12.5	0.0	0.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.72	0.00	1.00	0.00	0.09	0.00	1.00
Lane Grp Cap (c), veh/h	0	688	0	634	0	764	0	634
V/C Ratio (X)	0.00	0.64	0.00	0.08	0.00	0.60	0.00	0.03
Avail Cap (c_a), veh/h	0	688	0	634	0	764	0	634
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.1	0.0	12.1	0.0	14.8	0.0	11.8
Incr Delay (d2), s/veh	0.0	4.5	0.0	0.1	0.0	3.4	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.6	0.0	12.2	0.0	18.2	0.0	11.9
1st-Term Q (Q1), veh/ln	0.0	4.2	0.0	0.4	0.0	4.6	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	0.0	0.0	0.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.0	0.0	0.4	0.0	5.4	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	18.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

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





























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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↓		↖↗	↑↑	↖	↖↗	↑↑↑		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	50	285	315	380	610	80	125	565	130	140	1340	195
Future Volume (veh/h)	50	285	315	380	610	80	125	565	130	140	1340	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	300	332	400	642	27	132	595	137	147	1411	107
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	430	377	467	1205	538	192	1496	337	210	1867	579
Arrive On Green	0.04	0.24	0.24	0.14	0.34	0.34	0.06	0.36	0.36	0.06	0.37	0.37
Sat Flow, veh/h	3456	1777	1559	3456	3554	1585	3456	4152	937	3456	5106	1585
Grp Volume(v), veh/h	53	300	332	400	642	27	132	486	246	147	1411	107
Grp Sat Flow(s),veh/h/ln	1728	1777	1559	1728	1777	1585	1728	1702	1685	1728	1702	1585
Q Serve(g_s), s	1.6	16.0	21.3	11.8	15.1	1.2	3.9	11.1	11.4	4.3	25.2	4.8
Cycle Q Clear(g_c), s	1.6	16.0	21.3	11.8	15.1	1.2	3.9	11.1	11.4	4.3	25.2	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.56	1.00		1.00
Lane Grp Cap(c), veh/h	130	430	377	467	1205	538	192	1226	607	210	1867	579
V/C Ratio(X)	0.41	0.70	0.88	0.86	0.53	0.05	0.69	0.40	0.41	0.70	0.76	0.18
Avail Cap(c_a), veh/h	166	496	435	532	1367	610	199	1226	607	299	1867	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.9	35.9	38.0	44.0	27.7	23.1	48.2	24.8	24.9	47.9	28.9	22.4
Incr Delay (d2), s/veh	1.5	3.6	16.9	11.4	0.4	0.0	8.4	1.0	2.0	3.1	2.9	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	7.0	9.5	5.5	6.0	0.4	1.8	4.4	4.6	1.9	9.9	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.4	39.5	54.8	55.4	28.1	23.1	56.6	25.8	26.9	51.0	31.8	23.1
LnGrp LOS	D	D	D	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		685			1069			864			1665	
Approach Delay, s/veh		47.8			38.2			30.8			33.0	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	44.5	18.0	31.6	10.3	44.0	7.9	41.8				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	30.0	38.0	16.0	29.0	9.0	35.0	5.0	40.0				
Max Q Clear Time (g_c+1/3), s	11.9	27.2	13.8	23.3	6.3	13.4	3.6	17.1				
Green Ext Time (p_c), s	0.0	6.5	0.3	1.8	0.1	4.4	0.0	4.0				
Intersection Summary												
HCM 6th Ctrl Delay											36.2	
HCM 6th LOS											D	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  	 	
Traffic Volume (veh/h)	50	285	315	380	610	80	125	565	130	140	1340	195
Future Volume (veh/h)	50	285	315	380	610	80	125	565	130	140	1340	195
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	300	332	400	642	27	132	595	137	147	1411	107
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	130	430	377	467	1205	538	192	1496	337	210	1867	579
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.24	0.24	0.14	0.34	0.34	0.06	0.36	0.36	0.06	0.37	0.37
Unsig. Movement Delay												
Ln Grp Delay, s/veh	50.4	39.5	54.8	55.4	28.1	23.1	56.6	25.8	26.9	51.0	31.8	23.1
Ln Grp LOS	D	D	D	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		685			1069			864			1665	
Approach Delay, s/veh		47.8			38.2			30.8			33.0	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.8	44.5	18.0	31.6	10.3	44.0	7.9	41.8			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		6.0	38.0	16.0	29.0	9.0	35.0	5.0	40.0			
Max Allow Headway (MAH), s		3.2	4.8	3.2	5.1	3.2	5.0	3.2	4.8			
Max Q Clear (g_c+I1), s		5.9	27.2	13.8	23.3	6.3	13.4	3.6	17.1			
Green Ext Time (g_e), s		0.0	6.5	0.3	1.8	0.1	4.4	0.0	4.0			
Prob of Phs Call (p_c)		0.98	1.00	1.00	1.00	0.99	1.00	0.78	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.89	1.00	0.00	1.00	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		1777		4152		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1559		937		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	132	0	400	0	147	0	53	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	3.9	0.0	11.8	0.0	4.3	0.0	1.6	0.0
Cycle Q Clear Time (g_c), s	3.9	0.0	11.8	0.0	4.3	0.0	1.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	192	0	467	0	210	0	130	0
V/C Ratio (X)	0.69	0.00	0.86	0.00	0.70	0.00	0.41	0.00
Avail Cap (c_a), veh/h	199	0	532	0	299	0	166	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	48.2	0.0	44.0	0.0	47.9	0.0	48.9	0.0
Incr Delay (d2), s/veh	8.4	0.0	11.4	0.0	3.1	0.0	1.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	56.6	0.0	55.4	0.0	51.0	0.0	50.4	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	4.8	0.0	1.8	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.7	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	5.5	0.0	1.9	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.14	0.00	1.13	0.00	0.15	0.00	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	2	0	2
Grp Vol (v), veh/h	0	1411	0	300	0	486	0	642
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	25.2	0.0	16.0	0.0	11.1	0.0	15.1
Cycle Q Clear Time (g_c), s	0.0	25.2	0.0	16.0	0.0	11.1	0.0	15.1
Lane Grp Cap (c), veh/h	0	1867	0	430	0	1226	0	1205
V/C Ratio (X)	0.00	0.76	0.00	0.70	0.00	0.40	0.00	0.53
Avail Cap (c_a), veh/h	0	1867	0	496	0	1226	0	1367
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.9	0.0	35.9	0.0	24.8	0.0	27.7
Incr Delay (d2), s/veh	0.0	2.9	0.0	3.6	0.0	1.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.8	0.0	39.5	0.0	25.8	0.0	28.1
1st-Term Q (Q1), veh/ln	0.0	9.4	0.0	6.6	0.0	4.2	0.0	6.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.4	0.0	0.2	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.9	0.0	7.0	0.0	4.4	0.0	6.0
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.03	0.00	0.07	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	107	0	332	0	246	0	27
Grp Sat Flow (s), veh/h/ln	0	1585	0	1559	0	1685	0	1585
Q Serve Time (g_s), s	0.0	4.8	0.0	21.3	0.0	11.4	0.0	1.2
Cycle Q Clear Time (g_c), s	0.0	4.8	0.0	21.3	0.0	11.4	0.0	1.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.56	0.00	1.00
Lane Grp Cap (c), veh/h	0	579	0	377	0	607	0	538
V/C Ratio (X)	0.00	0.18	0.00	0.88	0.00	0.41	0.00	0.05
Avail Cap (c_a), veh/h	0	579	0	435	0	607	0	610
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.4	0.0	38.0	0.0	24.9	0.0	23.1
Incr Delay (d2), s/veh	0.0	0.7	0.0	16.9	0.0	2.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.1	0.0	54.8	0.0	26.9	0.0	23.1
1st-Term Q (Q1), veh/ln	0.0	1.7	0.0	7.7	0.0	4.3	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.8	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.8	0.0	9.5	0.0	4.6	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.30	0.00	0.05	0.00	0.08	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	36.2
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↔		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	40	350	145	200	810	120	80	810	160	65	1485	175
Future Volume (veh/h)	40	350	145	200	810	120	80	810	160	65	1485	175
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	368	45	211	853	126	84	853	168	68	1563	110
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	821	366	266	983	438	135	2073	406	129	2461	764
Arrive On Green	0.03	0.23	0.23	0.08	0.28	0.28	0.04	0.48	0.48	0.04	0.48	0.48
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4284	839	3456	5106	1585
Grp Volume(v), veh/h	42	368	45	211	853	126	84	677	344	68	1563	110
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1719	1728	1702	1585
Q Serve(g_s), s	1.4	10.7	2.7	7.2	27.4	7.5	2.9	15.4	15.5	2.3	27.4	4.6
Cycle Q Clear(g_c), s	1.4	10.7	2.7	7.2	27.4	7.5	2.9	15.4	15.5	2.3	27.4	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	108	821	366	266	983	438	135	1647	832	129	2461	764
V/C Ratio(X)	0.39	0.45	0.12	0.79	0.87	0.29	0.62	0.41	0.41	0.53	0.64	0.14
Avail Cap(c_a), veh/h	144	1036	462	346	1273	568	173	1647	832	144	2461	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.63	0.63	0.63	0.89	0.89	0.89	0.89	0.89	0.89
Uniform Delay (d), s/veh	57.0	39.6	36.5	54.4	41.3	34.1	56.8	20.0	20.0	56.7	23.2	17.3
Incr Delay (d2), s/veh	0.8	0.1	0.1	4.4	2.8	0.1	1.5	0.7	1.4	1.1	1.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	4.5	1.0	3.3	12.3	2.8	1.2	5.7	6.0	1.0	10.2	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.8	39.7	36.6	58.8	44.1	34.2	58.3	20.6	21.3	57.8	24.3	17.7
LnGrp LOS	E	D	D	E	D	C	E	C	C	E	C	B
Approach Vol, veh/h		455			1190			1105			1741	
Approach Delay, s/veh		41.1			45.7			23.7			25.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	64.3	7.8	39.2	8.5	64.6	13.2	33.7				
Change Period (Y+Rc), s	4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0				
Max Green Setting (Gmax), s	6.0	46.5	5.0	* 43	5.0	47.5	12.0	35.0				
Max Q Clear Time (g_c+14), s	14.5	29.4	3.4	29.4	4.3	17.5	9.2	12.7				
Green Ext Time (p_c), s	0.0	6.6	0.0	3.8	0.0	3.9	0.0	1.3				

Intersection Summary

HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	350	145	200	810	120	80	810	160	65	1485	175
Future Volume (veh/h)	40	350	145	200	810	120	80	810	160	65	1485	175
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	368	45	211	853	126	84	853	168	68	1563	110
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	108	821	366	266	983	438	135	2073	406	129	2461	764
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.23	0.23	0.08	0.28	0.28	0.04	0.48	0.48	0.04	0.48	0.48
Unsig. Movement Delay												
Ln Grp Delay, s/veh	57.8	39.7	36.6	58.8	44.1	34.2	58.3	20.6	21.3	57.8	24.3	17.7
Ln Grp LOS	E	D	D	E	D	C	E	C	C	E	C	B
Approach Vol, veh/h	455			1190			1105			1741		
Approach Delay, s/veh	41.1			45.7			23.7			25.2		
Approach LOS	D			D			C			C		
Timer:												
	1	2	3	4	5	6	7	8				
Assigned Phs												
Case No												
Phs Duration (G+Y+Rc), s												
Change Period (Y+Rc), s												
Max Green (Gmax), s												
Max Allow Headway (MAH), s												
Max Q Clear (g_c+I1), s												
Green Ext Time (g_e), s												
Prob of Phs Call (p_c)												
Prob of Max Out (p_x)												
Left-Turn Movement Data												
Assigned Mvmt												
Mvmt Sat Flow, veh/h												
Through Movement Data												
Assigned Mvmt												
Mvmt Sat Flow, veh/h												
Right-Turn Movement Data												
Assigned Mvmt												
Mvmt Sat Flow, veh/h												
Left Lane Group Data												
Assigned Mvmt												
Lane Assignment												

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	84	0	42	0	68	0	211	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	2.9	0.0	1.4	0.0	2.3	0.0	7.2	0.0
Cycle Q Clear Time (g_c), s	2.9	0.0	1.4	0.0	2.3	0.0	7.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	135	0	108	0	129	0	266	0
V/C Ratio (X)	0.62	0.00	0.39	0.00	0.53	0.00	0.79	0.00
Avail Cap (c_a), veh/h	173	0	144	0	144	0	346	0
Upstream Filter (I)	0.89	0.00	1.00	0.00	0.89	0.00	0.63	0.00
Uniform Delay (d1), s/veh	56.8	0.0	57.0	0.0	56.7	0.0	54.4	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.8	0.0	1.1	0.0	4.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	58.3	0.0	57.8	0.0	57.8	0.0	58.8	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	0.6	0.0	1.0	0.0	3.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	0.6	0.0	1.0	0.0	3.3	0.0
%ile Storage Ratio (RQ%)	0.13	0.00	0.10	0.00	0.13	0.00	0.60	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1563	0	853	0	677	0	368
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	27.4	0.0	27.4	0.0	15.4	0.0	10.7
Cycle Q Clear Time (g_c), s	0.0	27.4	0.0	27.4	0.0	15.4	0.0	10.7
Lane Grp Cap (c), veh/h	0	2461	0	983	0	1647	0	821
V/C Ratio (X)	0.00	0.64	0.00	0.87	0.00	0.41	0.00	0.45
Avail Cap (c_a), veh/h	0	2461	0	1273	0	1647	0	1036
Upstream Filter (I)	0.00	0.89	0.00	0.63	0.00	0.89	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.2	0.0	41.3	0.0	20.0	0.0	39.6
Incr Delay (d2), s/veh	0.0	1.1	0.0	2.8	0.0	0.7	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.3	0.0	44.1	0.0	20.6	0.0	39.7
1st-Term Q (Q1), veh/ln	0.0	9.9	0.0	11.9	0.0	5.6	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.4	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.2	0.0	12.3	0.0	5.7	0.0	4.5
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.05	0.00	0.03	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	110	0	126	0	344	0	45
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1719	0	1585
Q Serve Time (g_s), s	0.0	4.6	0.0	7.5	0.0	15.5	0.0	2.7
Cycle Q Clear Time (g_c), s	0.0	4.6	0.0	7.5	0.0	15.5	0.0	2.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.49	0.00	1.00
Lane Grp Cap (c), veh/h	0	764	0	438	0	832	0	366
V/C Ratio (X)	0.00	0.14	0.00	0.29	0.00	0.41	0.00	0.12
Avail Cap (c_a), veh/h	0	764	0	568	0	832	0	462
Upstream Filter (I)	0.00	0.89	0.00	0.63	0.00	0.89	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.3	0.0	34.1	0.0	20.0	0.0	36.5
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.1	0.0	1.4	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.7	0.0	34.2	0.0	21.3	0.0	36.6
1st-Term Q (Q1), veh/ln	0.0	1.6	0.0	2.8	0.0	5.7	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.7	0.0	2.8	0.0	6.0	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.24	0.00	0.51	0.00	0.03	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

25: Portola Rd & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	415	140	220	840	90	130	700	105	60	690	40
Future Volume (veh/h)	40	415	140	220	840	90	130	700	105	60	690	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	437	40	232	884	32	137	737	111	63	726	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	778	347	244	1033	461	199	981	147	148	940	54
Arrive On Green	0.07	0.22	0.22	0.14	0.29	0.29	0.11	0.22	0.22	0.08	0.19	0.19
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	4484	670	1781	4939	284
Grp Volume(v), veh/h	42	437	40	232	884	32	137	558	290	63	499	269
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1702	1750	1781	1702	1819
Q Serve(g_s), s	1.5	7.2	1.3	8.5	15.4	1.0	4.9	10.1	10.2	2.2	9.2	9.2
Cycle Q Clear(g_c), s	1.5	7.2	1.3	8.5	15.4	1.0	4.9	10.1	10.2	2.2	9.2	9.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		0.16
Lane Grp Cap(c), veh/h	116	778	347	244	1033	461	199	745	383	148	648	346
V/C Ratio(X)	0.36	0.56	0.12	0.95	0.86	0.07	0.69	0.75	0.76	0.43	0.77	0.78
Avail Cap(c_a), veh/h	217	1729	771	244	1783	795	217	1734	891	217	1734	927
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.4	22.9	20.6	28.2	22.0	16.9	28.1	24.0	24.1	28.7	25.3	25.3
Incr Delay (d2), s/veh	0.7	0.2	0.1	43.9	0.8	0.0	6.2	0.6	1.2	0.7	0.7	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.6	0.4	6.1	5.4	0.3	2.2	3.5	3.7	0.9	3.2	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	23.1	20.6	72.1	22.8	16.9	34.3	24.6	25.2	29.4	26.0	26.7
LnGrp LOS	C	C	C	E	C	B	C	C	C	C	C	C
Approach Vol, veh/h		519			1148			985			831	
Approach Delay, s/veh		23.5			32.6			26.1			26.5	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	20.9	14.0	20.4	12.3	19.0	9.3	25.1				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0				
Max Green Setting (Gmax), s	33.5	33.5	9.0	32.0	8.0	33.5	8.0	33.0				
Max Q Clear Time (g_c+1/2), s	14.2	12.2	10.5	9.2	6.9	11.2	3.5	17.4				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.8	0.0	1.3	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay											28.0	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
 25: Portola Rd & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗	↙	↑↑↗		↙	↑↑↗	
Traffic Volume (veh/h)	40	415	140	220	840	90	130	700	105	60	690	40
Future Volume (veh/h)	40	415	140	220	840	90	130	700	105	60	690	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	437	40	232	884	32	137	737	111	63	726	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	116	778	347	244	1033	461	199	981	147	148	940	54
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.22	0.22	0.14	0.29	0.29	0.11	0.22	0.22	0.08	0.19	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	30.1	23.1	20.6	72.1	22.8	16.9	34.3	24.6	25.2	29.4	26.0	26.7
Ln Grp LOS	C	C	C	E	C	B	C	C	C	C	C	C
Approach Vol, veh/h		519			1148			985			831	
Approach Delay, s/veh		23.5			32.6			26.1			26.5	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.5	20.9	14.0	20.4	12.3	19.0	9.3	25.1			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0			
Max Green (Gmax), s		8.0	33.5	9.0	32.0	8.0	33.5	8.0	33.0			
Max Allow Headway (MAH), s		1.6	2.8	1.6	2.7	1.6	2.7	1.6	2.7			
Max Q Clear (g_c+I1), s		4.2	12.2	10.5	9.2	6.9	11.2	3.5	17.4			
Green Ext Time (g_e), s		0.0	1.5	0.0	0.8	0.0	1.3	0.0	1.7			
Prob of Phs Call (p_c)		0.68	1.00	0.99	1.00	0.92	1.00	0.54	1.00			
Prob of Max Out (p_x)		0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			4484		3554		4939		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			670		1585		284		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	63	0	232	0	137	0	42	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.2	0.0	8.5	0.0	4.9	0.0	1.5	0.0
Cycle Q Clear Time (g_c), s	2.2	0.0	8.5	0.0	4.9	0.0	1.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	148	0	244	0	199	0	116	0
V/C Ratio (X)	0.43	0.00	0.95	0.00	0.69	0.00	0.36	0.00
Avail Cap (c_a), veh/h	217	0	244	0	217	0	217	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	28.7	0.0	28.2	0.0	28.1	0.0	29.4	0.0
Incr Delay (d2), s/veh	0.7	0.0	43.9	0.0	6.2	0.0	0.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	29.4	0.0	72.1	0.0	34.3	0.0	30.1	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	3.1	0.0	1.8	0.0	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	3.0	0.0	0.3	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.9	0.0	6.1	0.0	2.2	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.12	0.00	1.07	0.00	0.21	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	558	0	437	0	499	0	884
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	10.1	0.0	7.2	0.0	9.2	0.0	15.4
Cycle Q Clear Time (g_c), s	0.0	10.1	0.0	7.2	0.0	9.2	0.0	15.4
Lane Grp Cap (c), veh/h	0	745	0	778	0	648	0	1033
V/C Ratio (X)	0.00	0.75	0.00	0.56	0.00	0.77	0.00	0.86
Avail Cap (c_a), veh/h	0	1734	0	1729	0	1734	0	1783
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.0	0.0	22.9	0.0	25.3	0.0	22.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.2	0.0	0.7	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.6	0.0	23.1	0.0	26.0	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	3.4	0.0	2.5	0.0	3.1	0.0	5.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.5	0.0	2.6	0.0	3.2	0.0	5.4
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.01	0.00	0.02	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	290	0	40	0	269	0	32
Grp Sat Flow (s), veh/h/ln	0	1750	0	1585	0	1819	0	1585
Q Serve Time (g_s), s	0.0	10.2	0.0	1.3	0.0	9.2	0.0	1.0
Cycle Q Clear Time (g_c), s	0.0	10.2	0.0	1.3	0.0	9.2	0.0	1.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.38	0.00	1.00	0.00	0.16	0.00	1.00
Lane Grp Cap (c), veh/h	0	383	0	347	0	346	0	461
V/C Ratio (X)	0.00	0.76	0.00	0.12	0.00	0.78	0.00	0.07
Avail Cap (c_a), veh/h	0	891	0	771	0	927	0	795
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.1	0.0	20.6	0.0	25.3	0.0	16.9
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.1	0.0	1.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.2	0.0	20.6	0.0	26.7	0.0	16.9
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	0.4	0.0	3.4	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.7	0.0	0.4	0.0	3.5	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.05	0.00	0.02	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 26: Cook St & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	250	280	140	50	460	280	310	810	30	360	1440	430
Future Volume (veh/h)	250	280	140	50	460	280	310	810	30	360	1440	430
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	295	29	53	484	123	326	853	32	379	1516	279
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	332	691	308	235	591	264	403	1213	45	374	1730	537
Arrive On Green	0.10	0.19	0.19	0.07	0.17	0.17	0.12	0.35	0.35	0.11	0.34	0.34
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3493	131	3456	5106	1585
Grp Volume(v), veh/h	263	295	29	53	484	123	326	434	451	379	1516	279
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1847	1728	1702	1585
Q Serve(g_s), s	6.2	6.1	1.2	1.2	10.9	5.8	7.7	17.6	17.6	9.0	23.2	11.8
Cycle Q Clear(g_c), s	6.2	6.1	1.2	1.2	10.9	5.8	7.7	17.6	17.6	9.0	23.2	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	332	691	308	235	591	264	403	617	641	374	1730	537
V/C Ratio(X)	0.79	0.43	0.09	0.23	0.82	0.47	0.81	0.70	0.70	1.01	0.88	0.52
Avail Cap(c_a), veh/h	332	1601	714	332	1601	714	457	790	821	374	2147	666
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.8	29.5	27.5	36.7	33.5	31.4	35.9	23.5	23.5	37.1	25.9	22.1
Incr Delay (d2), s/veh	11.4	0.2	0.0	0.2	1.1	0.5	8.2	1.2	1.1	50.3	3.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.4	0.4	0.5	4.4	2.1	3.4	6.6	6.8	6.1	8.6	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.2	29.6	27.6	36.9	34.6	31.8	44.1	24.6	24.6	87.4	29.1	22.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	F	C	C
Approach Vol, veh/h		587			660			1211			2174	
Approach Delay, s/veh		37.8			34.3			29.9			38.4	
Approach LOS		D			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	23.2	14.7	34.7	13.0	20.8	14.0	35.4				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5				
Max Green Setting (Gmax), s	30.0	37.5	11.0	35.0	8.0	37.5	9.0	37.0				
Max Q Clear Time (g_c+1/3), s	13.2	8.1	9.7	25.2	8.2	12.9	11.0	19.6				
Green Ext Time (p_c), s	0.0	0.5	0.0	3.0	0.0	0.9	0.0	1.3				

Intersection Summary

































HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 26: Cook St & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	  	
Traffic Volume (veh/h)	250	280	140	50	460	280	310	810	30	360	1440	430
Future Volume (veh/h)	250	280	140	50	460	280	310	810	30	360	1440	430
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	263	295	29	53	484	123	326	853	32	379	1516	279
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	332	691	308	235	591	264	403	1213	45	374	1730	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.19	0.19	0.07	0.17	0.17	0.12	0.35	0.35	0.11	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	48.2	29.6	27.6	36.9	34.6	31.8	44.1	24.6	24.6	87.4	29.1	22.4
Ln Grp LOS	D	C	C	D	C	C	D	C	C	F	C	C
Approach Vol, veh/h		587			660			1211			2174	
Approach Delay, s/veh		37.8			34.3			29.9			38.4	
Approach LOS		D			C			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		10.7	23.2	14.7	34.7	13.0	20.8	14.0	35.4			
Change Period (Y+Rc), s		5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5			
Max Green (Gmax), s		8.0	37.5	11.0	35.0	8.0	37.5	9.0	37.0			
Max Allow Headway (MAH), s		1.6	2.7	1.6	2.6	1.6	2.6	1.6	2.7			
Max Q Clear (g_c+I1), s		3.2	8.1	9.7	25.2	8.2	12.9	11.0	19.6			
Green Ext Time (g_e), s		0.0	0.5	0.0	3.0	0.0	0.9	0.0	1.3			
Prob of Phs Call (p_c)		0.71	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	1.00	0.15	1.00	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		3493			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		131			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	53	0	326	0	263	0	379	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	1.2	0.0	7.7	0.0	6.2	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	1.2	0.0	7.7	0.0	6.2	0.0	9.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	235	0	403	0	332	0	374	0
V/C Ratio (X)	0.23	0.00	0.81	0.00	0.79	0.00	1.01	0.00
Avail Cap (c_a), veh/h	332	0	457	0	332	0	374	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	36.7	0.0	35.9	0.0	36.8	0.0	37.1	0.0
Incr Delay (d2), s/veh	0.2	0.0	8.2	0.0	11.4	0.0	50.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	36.9	0.0	44.1	0.0	48.2	0.0	87.4	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	3.0	0.0	2.4	0.0	3.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.5	0.0	0.5	0.0	2.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.5	0.0	3.4	0.0	2.9	0.0	6.1	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.62	0.00	0.53	0.00	0.74	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	1.4	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	1
Grp Vol (v), veh/h	0	295	0	1516	0	484	0	434
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1777
Q Serve Time (g_s), s	0.0	6.1	0.0	23.2	0.0	10.9	0.0	17.6
Cycle Q Clear Time (g_c), s	0.0	6.1	0.0	23.2	0.0	10.9	0.0	17.6
Lane Grp Cap (c), veh/h	0	691	0	1730	0	591	0	617
V/C Ratio (X)	0.00	0.43	0.00	0.88	0.00	0.82	0.00	0.70
Avail Cap (c_a), veh/h	0	1601	0	2147	0	1601	0	790
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.5	0.0	25.9	0.0	33.5	0.0	23.5
Incr Delay (d2), s/veh	0.0	0.2	0.0	3.2	0.0	1.1	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.6	0.0	29.1	0.0	34.6	0.0	24.6
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	8.1	0.0	4.3	0.0	6.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.5	0.0	0.1	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	8.6	0.0	4.4	0.0	6.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.07	0.00	0.06	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	29	0	279	0	123	0	451
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1847
Q Serve Time (g_s), s	0.0	1.2	0.0	11.8	0.0	5.8	0.0	17.6
Cycle Q Clear Time (g_c), s	0.0	1.2	0.0	11.8	0.0	5.8	0.0	17.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.07
Lane Grp Cap (c), veh/h	0	308	0	537	0	264	0	641
V/C Ratio (X)	0.00	0.09	0.00	0.52	0.00	0.47	0.00	0.70
Avail Cap (c_a), veh/h	0	714	0	666	0	714	0	821
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.5	0.0	22.1	0.0	31.4	0.0	23.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.5	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.6	0.0	22.4	0.0	31.8	0.0	24.6
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	3.8	0.0	2.0	0.0	6.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	3.9	0.0	2.1	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.45	0.00	0.13	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary

27: Bob Hope Dr & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	650	180	270	600	360	95	330	120	465	1340	180
Future Volume (veh/h)	140	650	180	270	600	360	95	330	120	465	1340	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	684	54	284	632	252	100	347	39	489	1411	189
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	718	320	290	957	427	131	1139	508	544	1385	184
Arrive On Green	0.10	0.20	0.20	0.16	0.27	0.27	0.04	0.32	0.32	0.16	0.44	0.44
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3148	417
Grp Volume(v), veh/h	147	684	54	284	632	252	100	347	39	489	790	810
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1788
Q Serve(g_s), s	11.4	26.6	3.9	22.2	22.1	19.3	4.0	10.3	2.4	19.4	61.6	61.6
Cycle Q Clear(g_c), s	11.4	26.6	3.9	22.2	22.1	19.3	4.0	10.3	2.4	19.4	61.6	61.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	170	718	320	290	957	427	131	1139	508	544	782	787
V/C Ratio(X)	0.86	0.95	0.17	0.98	0.66	0.59	0.76	0.30	0.08	0.90	1.01	1.03
Avail Cap(c_a), veh/h	202	718	320	290	957	427	131	1139	508	694	782	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.4	55.2	46.1	58.4	45.4	44.4	66.7	35.8	33.1	57.9	39.2	39.2
Incr Delay (d2), s/veh	23.9	22.5	0.2	46.8	1.6	1.9	21.1	0.1	0.0	10.9	34.8	39.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	13.9	1.6	13.5	9.7	7.7	2.1	4.4	0.9	9.1	32.7	34.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.3	77.6	46.3	105.1	47.0	46.3	87.8	35.9	33.2	68.8	74.0	79.0
LnGrp LOS	F	E	D	F	D	D	F	D	C	E	F	F
Approach Vol, veh/h		885			1168			486			2089	
Approach Delay, s/veh		77.2			61.0			46.4			74.8	
Approach LOS		E			E			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	68.1	17.9	44.2	26.5	51.4	27.3	34.8				
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5				
Max Green Setting (Gmax), s	5.3	61.6	15.9	35.2	28.1	38.8	22.8	28.3				
Max Q Clear Time (g_c+10), s	10.0	63.6	13.4	24.1	21.4	12.3	24.2	28.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.9	0.6	1.7	0.0	0.0				

Intersection Summary

























HCM 6th Ctrl Delay	68.8
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	650	180	270	600	360	95	330	120	465	1340	180
Future Volume (veh/h)	140	650	180	270	600	360	95	330	120	465	1340	180
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	684	54	284	632	252	100	347	39	489	1411	189
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	170	718	320	290	957	427	131	1139	508	544	1385	184
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.20	0.20	0.16	0.27	0.27	0.04	0.32	0.32	0.16	0.44	0.44
Unsig. Movement Delay												
Ln Grp Delay, s/veh	86.3	77.6	46.3	105.1	47.0	46.3	87.8	35.9	33.2	68.8	74.0	79.0
Ln Grp LOS	F	E	D	F	D	D	F	D	C	E	F	F
Approach Vol, veh/h		885			1168			486			2089	
Approach Delay, s/veh		77.2			61.0			46.4			74.8	
Approach LOS		E			E			D			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.8	68.1	17.9	44.2	26.5	51.4	27.3	34.8			
Change Period (Y+Rc), s		4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5			
Max Green (Gmax), s		5.3	61.6	15.9	35.2	28.1	38.8	22.8	28.3			
Max Allow Headway (MAH), s		2.7	4.4	2.7	4.1	2.7	4.3	2.7	4.3			
Max Q Clear (g_c+I1), s		6.0	63.6	13.4	24.1	21.4	12.3	24.2	28.6			
Green Ext Time (g_e), s		0.0	0.0	0.0	2.9	0.6	1.7	0.0	0.0			
Prob of Phs Call (p_c)		0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	1.00	1.00	0.17	0.03	0.00	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3148		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			417		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
27: Bob Hope Dr & Country Club Dr

07/11/2019

Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	100	0	147	0	489	0	284	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	4.0	0.0	11.4	0.0	19.4	0.0	22.2	0.0
Cycle Q Clear Time (g_c), s	4.0	0.0	11.4	0.0	19.4	0.0	22.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	131	0	170	0	544	0	290	0
V/C Ratio (X)	0.76	0.00	0.86	0.00	0.90	0.00	0.98	0.00
Avail Cap (c_a), veh/h	131	0	202	0	694	0	290	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	66.7	0.0	62.4	0.0	57.9	0.0	58.4	0.0
Incr Delay (d2), s/veh	21.1	0.0	23.9	0.0	10.9	0.0	46.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	87.8	0.0	86.3	0.0	68.8	0.0	105.1	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	5.1	0.0	8.3	0.0	9.7	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	1.1	0.0	0.8	0.0	3.8	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	6.2	0.0	9.1	0.0	13.5	0.0
%ile Storage Ratio (RQ%)	0.60	0.00	1.01	0.00	1.00	0.00	1.14	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	2	0	2
Grp Vol (v), veh/h	0	790	0	632	0	347	0	684
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	61.6	0.0	22.1	0.0	10.3	0.0	26.6
Cycle Q Clear Time (g_c), s	0.0	61.6	0.0	22.1	0.0	10.3	0.0	26.6
Lane Grp Cap (c), veh/h	0	782	0	957	0	1139	0	718
V/C Ratio (X)	0.00	1.01	0.00	0.66	0.00	0.30	0.00	0.95
Avail Cap (c_a), veh/h	0	782	0	957	0	1139	0	718
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	39.2	0.0	45.4	0.0	35.8	0.0	55.2
Incr Delay (d2), s/veh	0.0	34.8	0.0	1.6	0.0	0.1	0.0	22.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	74.0	0.0	47.0	0.0	35.9	0.0	77.6
1st-Term Q (Q1), veh/ln	0.0	25.1	0.0	9.5	0.0	4.4	0.0	11.6
2nd-Term Q (Q2), veh/ln	0.0	7.6	0.0	0.2	0.0	0.0	0.0	2.2

HCM 6th Signalized Intersection Capacity Analysis

27: Bob Hope Dr & Country Club Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	32.7	0.0	9.7	0.0	4.4	0.0	13.9
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.05	0.00	0.02	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	810	0	252	0	39	0	54
Grp Sat Flow (s), veh/h/ln	0	1788	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	61.6	0.0	19.3	0.0	2.4	0.0	3.9
Cycle Q Clear Time (g_c), s	0.0	61.6	0.0	19.3	0.0	2.4	0.0	3.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.23	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	787	0	427	0	508	0	320
V/C Ratio (X)	0.00	1.03	0.00	0.59	0.00	0.08	0.00	0.17
Avail Cap (c_a), veh/h	0	787	0	427	0	508	0	320
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	39.2	0.0	44.4	0.0	33.1	0.0	46.1
Incr Delay (d2), s/veh	0.0	39.8	0.0	1.9	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	79.0	0.0	46.3	0.0	33.2	0.0	46.3
1st-Term Q (Q1), veh/ln	0.0	25.3	0.0	7.4	0.0	0.9	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.0	8.7	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	34.0	0.0	7.7	0.0	0.9	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.24	0.00	2.29	0.00	0.15	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	68.8
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 28: Monterey Ave & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	180	755	200	180	1150	180	390	690	240	190	1300	210
Future Volume (veh/h)	180	755	200	180	1150	180	390	690	240	190	1300	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	795	0	189	1211	0	411	726	129	200	1368	103
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	1296		243	1315		461	1963	609	255	1659	515
Arrive On Green	0.07	0.25	0.00	0.07	0.26	0.00	0.04	0.13	0.13	0.07	0.32	0.32
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	189	795	0	189	1211	0	411	726	129	200	1368	103
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	6.5	16.5	0.0	6.5	27.7	0.0	14.2	15.6	8.8	6.8	29.6	5.6
Cycle Q Clear(g_c), s	6.5	16.5	0.0	6.5	27.7	0.0	14.2	15.6	8.8	6.8	29.6	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	1296		243	1315		461	1963	609	255	1659	515
V/C Ratio(X)	0.82	0.61		0.78	0.92		0.89	0.37	0.21	0.78	0.82	0.20
Avail Cap(c_a), veh/h	230	1362		259	1404		461	1963	609	346	1659	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.43	0.43	0.00	0.21	0.21	0.00	0.88	0.88	0.88	0.74	0.74	0.74
Uniform Delay (d), s/veh	55.3	39.6	0.0	54.9	43.4	0.0	56.5	39.1	36.1	54.6	37.4	29.2
Incr Delay (d2), s/veh	9.2	0.2	0.0	2.6	2.3	0.0	16.9	0.5	0.7	4.1	3.6	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	6.6	0.0	2.8	11.4	0.0	7.6	7.2	3.6	3.0	12.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.5	39.8	0.0	57.5	45.7	0.0	73.4	39.5	36.8	58.7	41.0	29.9
LnGrp LOS	E	D		E	D		E	D	D	E	D	C
Approach Vol, veh/h		984	A		1400	A		1266			1671	
Approach Delay, s/veh		44.5			47.3			50.2			42.4	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	53.5	14.4	37.2	22.0	46.4	14.0	37.6				
Change Period (Y+Rc), s	6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7				
Max Green Setting (Gmax), s	12.0	40.9	9.0	32.0	16.0	36.9	8.0	33.0				
Max Q Clear Time (g_c+1), s	10.8	17.6	8.5	18.5	16.2	31.6	8.5	29.7				
Green Ext Time (p_c), s	0.0	1.6	0.0	1.6	0.0	1.9	0.0	1.2				

Intersection Summary

























HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 28: Monterey Ave & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	180	755	200	180	1150	180	390	690	240	190	1300	210
Future Volume (veh/h)	180	755	200	180	1150	180	390	690	240	190	1300	210
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	795	0	189	1211	0	411	726	129	200	1368	103
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	230	1296		243	1315		461	1963	609	255	1659	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.25	0.00	0.07	0.26	0.00	0.04	0.13	0.13	0.07	0.32	0.32
Unsig. Movement Delay												
Ln Grp Delay, s/veh	64.5	39.8	0.0	57.5	45.7	0.0	73.4	39.5	36.8	58.7	41.0	29.9
Ln Grp LOS	E	D		E	D		E	D	D	E	D	C
Approach Vol, veh/h	984			1400			1266			1671		
Approach Delay, s/veh	44.5			47.3			50.2			42.4		
Approach LOS	D			D			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	14.9	53.5	14.4	37.2	22.0	46.4	14.0	37.6				
Change Period (Y+Rc), s	6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7				
Max Green (Gmax), s	12.0	40.9	9.0	32.0	16.0	36.9	8.0	33.0				
Max Allow Headway (MAH), s	1.6	2.7	1.7	2.8	1.7	2.7	1.7	2.8				
Max Q Clear (g_c+I1), s	8.8	17.6	8.5	18.5	16.2	31.6	8.5	29.7				
Green Ext Time (g_e), s	0.0	1.6	0.0	1.6	0.0	1.9	0.0	1.2				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.02	0.00	1.00	0.00	1.00	0.00	1.00	0.83				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	3456		3456		3456		3456					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		5106		5106		5106		5106				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1585		1585		1585		1585				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)		L (Prot)		L (Prot)		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	200	0	189	0	411	0	189	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	6.8	0.0	6.5	0.0	14.2	0.0	6.5	0.0
Cycle Q Clear Time (g_c), s	6.8	0.0	6.5	0.0	14.2	0.0	6.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	255	0	243	0	461	0	230	0
V/C Ratio (X)	0.78	0.00	0.78	0.00	0.89	0.00	0.82	0.00
Avail Cap (c_a), veh/h	346	0	259	0	461	0	230	0
Upstream Filter (I)	0.74	0.00	0.21	0.00	0.88	0.00	0.43	0.00
Uniform Delay (d1), s/veh	54.6	0.0	54.9	0.0	56.5	0.0	55.3	0.0
Incr Delay (d2), s/veh	4.1	0.0	2.6	0.0	16.9	0.0	9.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	58.7	0.0	57.5	0.0	73.4	0.0	64.5	0.0
1st-Term Q (Q1), veh/ln	2.9	0.0	2.7	0.0	6.5	0.0	2.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	1.1	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.0	0.0	2.8	0.0	7.6	0.0	3.0	0.0
%ile Storage Ratio (RQ%)	0.01	0.00	0.32	0.00	0.76	0.00	0.55	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	3	0	3
Grp Vol (v), veh/h	0	726	0	795	0	1368	0	1211
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	15.6	0.0	16.5	0.0	29.6	0.0	27.7
Cycle Q Clear Time (g_c), s	0.0	15.6	0.0	16.5	0.0	29.6	0.0	27.7
Lane Grp Cap (c), veh/h	0	1963	0	1296	0	1659	0	1315
V/C Ratio (X)	0.00	0.37	0.00	0.61	0.00	0.82	0.00	0.92
Avail Cap (c_a), veh/h	0	1963	0	1362	0	1659	0	1404
Upstream Filter (I)	0.00	0.88	0.00	0.43	0.00	0.74	0.00	0.21
Uniform Delay (d1), s/veh	0.0	39.1	0.0	39.6	0.0	37.4	0.0	43.4
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.2	0.0	3.6	0.0	2.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	39.5	0.0	39.8	0.0	41.0	0.0	45.7
1st-Term Q (Q1), veh/ln	0.0	7.1	0.0	6.6	0.0	11.5	0.0	11.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.6	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.2	0.0	6.6	0.0	12.1	0.0	11.4
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.03	0.00	0.06	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	129	0	0	0	103	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	8.8	0.0	0.0	0.0	5.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.8	0.0	0.0	0.0	5.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	609	0	402	0	515	0	408
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.20	0.00	0.00
Avail Cap (c_a), veh/h	0	609	0	423	0	515	0	436
Upstream Filter (I)	0.00	0.88	0.00	0.00	0.00	0.74	0.00	0.00
Uniform Delay (d1), s/veh	0.0	36.1	0.0	0.0	0.0	29.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	36.8	0.0	0.0	0.0	29.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.5	0.0	0.0	0.0	2.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.6	0.0	0.0	0.0	2.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.47	0.00	0.00	0.00	0.12	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 29: Portola Ave & Country Club Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	560	270	180	1140	80	280	810	190	140	820	60
Future Volume (veh/h)	70	560	270	180	1140	80	280	810	190	140	820	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	589	156	189	1200	29	295	853	106	147	863	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	1079	481	212	1260	562	297	1153	514	170	851	62
Arrive On Green	0.07	0.30	0.30	0.12	0.35	0.35	0.17	0.32	0.32	0.10	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3358	245
Grp Volume(v), veh/h	74	589	156	189	1200	29	295	853	106	147	457	469
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1826
Q Serve(g_s), s	5.6	19.1	10.5	14.4	45.4	1.7	22.8	29.5	6.7	11.2	35.0	35.0
Cycle Q Clear(g_c), s	5.6	19.1	10.5	14.4	45.4	1.7	22.8	29.5	6.7	11.2	35.0	35.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	121	1079	481	212	1260	562	297	1153	514	170	450	463
V/C Ratio(X)	0.61	0.55	0.32	0.89	0.95	0.05	0.99	0.74	0.21	0.86	1.01	1.01
Avail Cap(c_a), veh/h	129	1079	481	310	1294	577	297	1153	514	193	450	463
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.6	40.1	37.1	59.9	43.4	29.3	57.5	41.5	33.8	61.6	51.5	51.5
Incr Delay (d2), s/veh	4.8	0.3	0.1	14.9	14.6	0.0	50.6	2.3	0.1	26.2	46.0	45.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	8.1	4.0	7.2	21.6	0.6	14.1	12.8	2.5	6.2	20.6	21.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	40.5	37.3	74.8	58.0	29.3	108.1	43.7	33.8	87.7	97.5	97.0
LnGrp LOS	E	D	D	E	E	C	F	D	C	F	F	F
Approach Vol, veh/h		819			1418			1254			1073	
Approach Delay, s/veh		42.3			59.7			58.0			95.9	
Approach LOS		D			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.4	54.7	28.0	41.0	21.5	47.6	18.2	50.8				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	10.0	50.3	23.0	35.0	24.0	36.3	15.0	43.0				
Max Q Clear Time (g_c+1), s	17.6	47.4	24.8	37.0	16.4	21.1	13.2	31.5				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	2.2	0.0	2.9				

Intersection Summary

























HCM 6th Ctrl Delay	64.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	560	270	180	1140	80	280	810	190	140	820	60
Future Volume (veh/h)	70	560	270	180	1140	80	280	810	190	140	820	60
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	589	156	189	1200	29	295	853	106	147	863	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	121	1079	481	212	1260	562	297	1153	514	170	851	62
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.30	0.30	0.12	0.35	0.35	0.17	0.32	0.32	0.10	0.25	0.25
Unsig. Movement Delay												
Ln Grp Delay, s/veh	67.4	40.5	37.3	74.8	58.0	29.3	108.1	43.7	33.8	87.7	97.5	97.0
Ln Grp LOS	E	D	D	E	E	C	F	D	C	F	F	F
Approach Vol, veh/h		819			1418			1254			1073	
Approach Delay, s/veh		42.3			59.7			58.0			95.9	
Approach LOS		D			E			E			F	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.4	54.7	28.0	41.0	21.5	47.6	18.2	50.8			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		10.0	50.3	23.0	35.0	24.0	36.3	15.0	43.0			
Max Allow Headway (MAH), s		1.7	3.8	1.7	3.8	1.7	3.6	1.6	3.7			
Max Q Clear (g_c+I1), s		7.6	47.4	24.8	37.0	16.4	21.1	13.2	31.5			
Green Ext Time (g_e), s		0.0	1.5	0.0	0.0	0.0	2.2	0.0	2.9			
Prob of Phs Call (p_c)		0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.15	1.00	1.00	1.00	0.00	0.01	0.78	0.12			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3358		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		245		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

07/11/2019

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	74	0	295	0	189	0	147	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.6	0.0	22.8	0.0	14.4	0.0	11.2	0.0
Cycle Q Clear Time (g_c), s	5.6	0.0	22.8	0.0	14.4	0.0	11.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	121	0	297	0	212	0	170	0
V/C Ratio (X)	0.61	0.00	0.99	0.00	0.89	0.00	0.86	0.00
Avail Cap (c_a), veh/h	129	0	297	0	310	0	193	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	62.6	0.0	57.5	0.0	59.9	0.0	61.6	0.0
Incr Delay (d2), s/veh	4.8	0.0	50.6	0.0	14.9	0.0	26.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	67.4	0.0	108.1	0.0	74.8	0.0	87.7	0.0
1st-Term Q (Q1), veh/ln	2.5	0.0	10.0	0.0	6.3	0.0	4.9	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	4.2	0.0	0.9	0.0	1.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.6	0.0	14.1	0.0	7.2	0.0	6.2	0.0
%ile Storage Ratio (RQ%)	0.33	0.00	2.24	0.00	1.02	0.00	0.80	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	1200	0	457	0	589	0	853
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	45.4	0.0	35.0	0.0	19.1	0.0	29.5
Cycle Q Clear Time (g_c), s	0.0	45.4	0.0	35.0	0.0	19.1	0.0	29.5
Lane Grp Cap (c), veh/h	0	1260	0	450	0	1079	0	1153
V/C Ratio (X)	0.00	0.95	0.00	1.01	0.00	0.55	0.00	0.74
Avail Cap (c_a), veh/h	0	1294	0	450	0	1079	0	1153
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	43.4	0.0	51.5	0.0	40.1	0.0	41.5
Incr Delay (d2), s/veh	0.0	14.6	0.0	46.0	0.0	0.3	0.0	2.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	58.0	0.0	97.5	0.0	40.5	0.0	43.7
1st-Term Q (Q1), veh/ln	0.0	19.0	0.0	14.9	0.0	8.1	0.0	12.4
2nd-Term Q (Q2), veh/ln	0.0	2.6	0.0	5.8	0.0	0.0	0.0	0.4

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	21.6	0.0	20.6	0.0	8.1	0.0	12.8
%ile Storage Ratio (RQ%)	0.00	0.53	0.00	0.61	0.00	0.04	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	29	0	469	0	156	0	106
Grp Sat Flow (s), veh/h/ln	0	1585	0	1826	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.7	0.0	35.0	0.0	10.5	0.0	6.7
Cycle Q Clear Time (g_c), s	0.0	1.7	0.0	35.0	0.0	10.5	0.0	6.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.13	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	562	0	463	0	481	0	514
V/C Ratio (X)	0.00	0.05	0.00	1.01	0.00	0.32	0.00	0.21
Avail Cap (c_a), veh/h	0	577	0	463	0	481	0	514
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.3	0.0	51.5	0.0	37.1	0.0	33.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	45.4	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.3	0.0	97.0	0.0	37.3	0.0	33.8
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	15.3	0.0	4.0	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	5.8	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	21.1	0.0	4.0	0.0	2.5
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.63	0.00	1.01	0.00	0.40
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	64.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 30: Monterey Ave & Hovley Ln W

07/11/2019


























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	20	150	10	190	20	1120	110	250	1300	10
Future Volume (veh/h)	10	10	20	150	10	190	20	1120	110	250	1300	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	21	158	11	29	21	1179	116	263	1368	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	85	162	240	276	234	52	2639	260	291	3616	29
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.03	0.56	0.56	0.11	0.46	0.46
Sat Flow, veh/h	1367	575	1098	1377	1870	1585	1781	4726	465	1781	5225	42
Grp Volume(v), veh/h	11	0	32	158	11	29	21	849	446	263	891	488
Grp Sat Flow(s),veh/h/ln	1367	0	1673	1377	1870	1585	1781	1702	1787	1781	1702	1863
Q Serve(g_s), s	0.8	0.0	2.0	13.5	0.6	1.9	1.4	17.6	17.6	17.5	20.4	20.4
Cycle Q Clear(g_c), s	1.4	0.0	2.0	15.5	0.6	1.9	1.4	17.6	17.6	17.5	20.4	20.4
Prop In Lane	1.00		0.66	1.00		1.00	1.00		0.26	1.00		0.02
Lane Grp Cap(c), veh/h	255	0	247	240	276	234	52	1901	998	291	2356	1289
V/C Ratio(X)	0.04	0.00	0.13	0.66	0.04	0.12	0.40	0.45	0.45	0.90	0.38	0.38
Avail Cap(c_a), veh/h	406	0	432	393	483	409	104	1901	998	430	2356	1289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.68	0.68	0.68	0.55	0.55	0.55
Uniform Delay (d), s/veh	44.5	0.0	44.4	51.2	43.8	44.4	57.2	15.6	15.6	52.5	15.4	15.4
Incr Delay (d2), s/veh	0.0	0.0	0.1	1.1	0.0	0.1	1.2	0.5	1.0	7.8	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.8	4.6	0.3	0.7	0.6	6.3	6.8	8.6	8.4	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	0.0	44.5	52.3	43.9	44.5	58.5	16.1	16.6	60.3	15.6	15.9
LnGrp LOS	D	A	D	D	D	D	E	B	B	E	B	B
Approach Vol, veh/h	43			198			1316			1642		
Approach Delay, s/veh	44.5			50.7			16.9			22.9		
Approach LOS	D			D			B			C		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	24.6	72.7	22.7		8.5	88.8	22.7					
Change Period (Y+Rc), s	5.0	5.7	5.0		5.0	5.7	5.0					
Max Green Setting (Gmax), s	29.6	44.3	31.0		7.0	66.3	31.0					
Max Q Clear Time (g_c+19.5), s	19.5	19.6	4.0		3.4	22.4	17.5					
Green Ext Time (p_c), s	0.1	5.3	0.0		0.0	2.8	0.2					

Intersection Summary

HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	20	150	10	190	20	1120	110	250	1300	10
Future Volume (veh/h)	10	10	20	150	10	190	20	1120	110	250	1300	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	21	158	11	29	21	1179	116	263	1368	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	255	85	162	240	276	234	52	2639	260	291	3616	29
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Prop Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.03	0.56	0.56	0.11	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	44.5	0.0	44.5	52.3	43.9	44.5	58.5	16.1	16.6	60.3	15.6	15.9
Ln Grp LOS	D	A	D	D	D	D	E	B	B	E	B	B
Approach Vol, veh/h	43		198				1316			1642		
Approach Delay, s/veh	44.5		50.7				16.9			22.9		
Approach LOS	D		D				B			C		
Timer:	1		2		3		4		5		6	
Assigned Phs	1		2		4		5		6		8	
Case No	2.0		4.0		6.0		2.0		4.0		5.0	
Phs Duration (G+Y+Rc), s	24.6		72.7		22.7		8.5		88.8		22.7	
Change Period (Y+Rc), s	5.0		5.7		5.0		5.0		5.7		5.0	
Max Green (Gmax), s	29.0		44.3		31.0		7.0		66.3		31.0	
Max Allow Headway (MAH), s	1.7		3.8		3.1		1.7		2.8		2.8	
Max Q Clear (g_c+I1), s	19.5		19.6		4.0		3.4		22.4		17.5	
Green Ext Time (g_e), s	0.1		5.3		0.0		0.0		2.8		0.2	
Prob of Phs Call (p_c)	1.00		1.00		1.00		0.50		1.00		1.00	
Prob of Max Out (p_x)	0.00		0.00		0.00		0.00		0.00		0.00	
Left-Turn Movement Data												
Assigned Mvmt	1		7				5			3		
Mvmt Sat Flow, veh/h	1781		1367				1781			1377		
Through Movement Data												
Assigned Mvmt	2		4				6			8		
Mvmt Sat Flow, veh/h	4726		575				5225			1870		
Right-Turn Movement Data												
Assigned Mvmt	12		14				16			18		
Mvmt Sat Flow, veh/h	465		1098				42			1585		
Left Lane Group Data												
Assigned Mvmt	1		0		0		7		5		0	
Lane Assignment	L (Prot)		L L (Prot)				L			L		

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

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Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	263	0	0	11	21	0	0	158
Grp Sat Flow (s), veh/h/ln	1781	0	0	1367	1781	0	0	1377
Q Serve Time (g_s), s	17.5	0.0	0.0	0.8	1.4	0.0	0.0	13.5
Cycle Q Clear Time (g_c), s	17.5	0.0	0.0	1.4	1.4	0.0	0.0	15.5
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1367	0	0	0	1377
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	17.7	0.0	0.0	0.0	17.7
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	17.1	0.0	0.0	0.0	15.7
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	13.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	291	0	0	255	52	0	0	240
V/C Ratio (X)	0.90	0.00	0.00	0.04	0.40	0.00	0.00	0.66
Avail Cap (c_a), veh/h	430	0	0	406	104	0	0	393
Upstream Filter (I)	0.55	0.00	0.00	1.00	0.68	0.00	0.00	1.00
Uniform Delay (d1), s/veh	52.5	0.0	0.0	44.5	57.2	0.0	0.0	51.2
Incr Delay (d2), s/veh	7.8	0.0	0.0	0.0	1.2	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.3	0.0	0.0	44.5	58.5	0.0	0.0	52.3
1st-Term Q (Q1), veh/ln	7.9	0.0	0.0	0.3	0.6	0.0	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	8.6	0.0	0.0	0.3	0.6	0.0	0.0	4.6
%ile Storage Ratio (RQ%)	1.09	0.00	0.00	0.01	0.17	0.00	0.00	1.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	2	0	0	0	2	0	1
Grp Vol (v), veh/h	0	849	0	0	0	891	0	11
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	17.6	0.0	0.0	0.0	20.4	0.0	0.6
Cycle Q Clear Time (g_c), s	0.0	17.6	0.0	0.0	0.0	20.4	0.0	0.6
Lane Grp Cap (c), veh/h	0	1901	0	0	0	2356	0	276
V/C Ratio (X)	0.00	0.45	0.00	0.00	0.00	0.38	0.00	0.04
Avail Cap (c_a), veh/h	0	1901	0	0	0	2356	0	483
Upstream Filter (I)	0.00	0.68	0.00	0.00	0.00	0.55	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.6	0.0	0.0	0.0	15.4	0.0	43.8
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.1	0.0	0.0	0.0	15.6	0.0	43.9
1st-Term Q (Q1), veh/ln	0.0	6.2	0.0	0.0	0.0	8.3	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

30: Monterey Ave & Hovley Ln W

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.3	0.0	0.0	0.0	8.4	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.11	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	446	0	32	0	488	0	29
Grp Sat Flow (s), veh/h/ln	0	1787	0	1673	0	1863	0	1585
Q Serve Time (g_s), s	0.0	17.6	0.0	2.0	0.0	20.4	0.0	1.9
Cycle Q Clear Time (g_c), s	0.0	17.6	0.0	2.0	0.0	20.4	0.0	1.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.26	0.00	0.66	0.00	0.02	0.00	1.00
Lane Grp Cap (c), veh/h	0	998	0	247	0	1289	0	234
V/C Ratio (X)	0.00	0.45	0.00	0.13	0.00	0.38	0.00	0.12
Avail Cap (c_a), veh/h	0	998	0	432	0	1289	0	409
Upstream Filter (I)	0.00	0.68	0.00	1.00	0.00	0.55	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.6	0.0	44.4	0.0	15.4	0.0	44.4
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.1	0.0	0.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.6	0.0	44.5	0.0	15.9	0.0	44.5
1st-Term Q (Q1), veh/ln	0.0	6.5	0.0	0.8	0.0	9.1	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.8	0.0	0.8	0.0	9.2	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.04	0.00	0.12	0.00	0.17
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	22.4
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 31: Monterey Ave & Fred Waring Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑		↔↔	↑↑↑	↔	↔↔	↑↑↑		↔↔	↑↑↑	↔
Traffic Volume (veh/h)	190	420	50	390	880	360	60	750	210	270	820	180
Future Volume (veh/h)	190	420	50	390	880	360	60	750	210	270	820	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	442	53	411	926	0	63	789	221	284	863	80
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	1420	167	466	1877		202	1101	306	339	1617	502
Arrive On Green	0.07	0.31	0.31	0.13	0.37	0.00	0.06	0.28	0.28	0.10	0.32	0.32
Sat Flow, veh/h	3456	4630	546	3456	5106	1585	3456	3973	1103	3456	5106	1585
Grp Volume(v), veh/h	200	323	172	411	926	0	63	675	335	284	863	80
Grp Sat Flow(s),veh/h/ln	1728	1702	1772	1728	1702	1585	1728	1702	1672	1728	1702	1585
Q Serve(g_s), s	6.8	8.7	8.9	14.0	16.8	0.0	2.1	21.5	21.7	9.7	16.7	4.4
Cycle Q Clear(g_c), s	6.8	8.7	8.9	14.0	16.8	0.0	2.1	21.5	21.7	9.7	16.7	4.4
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.66	1.00		1.00
Lane Grp Cap(c), veh/h	255	1044	543	466	1877		202	943	463	339	1617	502
V/C Ratio(X)	0.78	0.31	0.32	0.88	0.49		0.31	0.72	0.72	0.84	0.53	0.16
Avail Cap(c_a), veh/h	346	1044	543	605	1877		230	943	463	461	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	54.6	31.9	31.9	51.0	29.3	0.0	54.2	39.1	39.2	53.2	33.7	29.5
Incr Delay (d2), s/veh	5.5	0.8	1.5	10.0	0.9	0.0	0.3	4.6	9.4	6.7	1.2	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	3.6	4.0	6.5	6.8	0.0	0.9	9.3	9.8	4.4	6.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.1	32.6	33.5	61.0	30.2	0.0	54.5	43.8	48.7	59.9	34.9	30.1
LnGrp LOS	E	C	C	E	C		D	D	D	E	C	C
Approach Vol, veh/h		695			1337	A		1073			1227	
Approach Delay, s/veh		40.7			39.7			45.9			40.3	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	50.1	12.0	44.0	21.2	42.8	16.8	39.2				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0				
Max Green Setting (Gmax), s	12.0	40.0	8.0	38.0	21.0	31.0	16.0	30.0				
Max Q Clear Time (g_c+1), s	19.8	18.8	4.1	18.7	16.0	10.9	11.7	23.7				
Green Ext Time (p_c), s	0.0	2.2	0.0	1.9	0.2	0.9	0.1	1.5				

Intersection Summary



































HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 31: Monterey Ave & Fred Waring Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		  	 	
Traffic Volume (veh/h)	190	420	50	390	880	360	60	750	210	270	820	180
Future Volume (veh/h)	190	420	50	390	880	360	60	750	210	270	820	180
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	442	53	411	926	0	63	789	221	284	863	80
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	255	1420	167	466	1877		202	1101	306	339	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.31	0.31	0.13	0.37	0.00	0.06	0.28	0.28	0.10	0.32	0.32
Unsig. Movement Delay												
Ln Grp Delay, s/veh	60.1	32.6	33.5	61.0	30.2	0.0	54.5	43.8	48.7	59.9	34.9	30.1
Ln Grp LOS	E	C	C	E	C		D	D	D	E	C	C
Approach Vol, veh/h		695			1337			1073			1227	
Approach Delay, s/veh		40.7			39.7			45.9			40.3	
Approach LOS		D			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		13.9	50.1	12.0	44.0	21.2	42.8	16.8	39.2			
Change Period (Y+Rc), s		5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0			
Max Green (Gmax), s		12.0	40.0	8.0	38.0	21.0	31.0	16.0	30.0			
Max Allow Headway (MAH), s		1.7	2.9	1.7	2.7	1.7	2.9	1.7	3.0			
Max Q Clear (g_c+I1), s		8.8	18.8	4.1	18.7	16.0	10.9	11.7	23.7			
Green Ext Time (g_e), s		0.0	2.2	0.0	1.9	0.2	0.9	0.1	1.5			
Prob of Phs Call (p_c)		1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		4630		3973			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		546		1103			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 31: Monterey Ave & Fred Waring Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	200	0	63	0	411	0	284	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	6.8	0.0	2.1	0.0	14.0	0.0	9.7	0.0
Cycle Q Clear Time (g_c), s	6.8	0.0	2.1	0.0	14.0	0.0	9.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	255	0	202	0	466	0	339	0
V/C Ratio (X)	0.78	0.00	0.31	0.00	0.88	0.00	0.84	0.00
Avail Cap (c_a), veh/h	346	0	230	0	605	0	461	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.91	0.00
Uniform Delay (d1), s/veh	54.6	0.0	54.2	0.0	51.0	0.0	53.2	0.0
Incr Delay (d2), s/veh	5.5	0.0	0.3	0.0	10.0	0.0	6.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.1	0.0	54.5	0.0	61.0	0.0	59.9	0.0
1st-Term Q (Q1), veh/ln	2.9	0.0	0.9	0.0	5.9	0.0	4.1	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.6	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.1	0.0	0.9	0.0	6.5	0.0	4.4	0.0
%ile Storage Ratio (RQ%)	0.58	0.00	0.13	0.00	0.95	0.00	0.82	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	2	0	2
Grp Vol (v), veh/h	0	926	0	863	0	323	0	675
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	16.8	0.0	16.7	0.0	8.7	0.0	21.5
Cycle Q Clear Time (g_c), s	0.0	16.8	0.0	16.7	0.0	8.7	0.0	21.5
Lane Grp Cap (c), veh/h	0	1877	0	1617	0	1044	0	943
V/C Ratio (X)	0.00	0.49	0.00	0.53	0.00	0.31	0.00	0.72
Avail Cap (c_a), veh/h	0	1877	0	1617	0	1044	0	943
Upstream Filter (I)	0.00	1.00	0.00	0.91	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.3	0.0	33.7	0.0	31.9	0.0	39.1
Incr Delay (d2), s/veh	0.0	0.9	0.0	1.2	0.0	0.8	0.0	4.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.2	0.0	34.9	0.0	32.6	0.0	43.8
1st-Term Q (Q1), veh/ln	0.0	6.6	0.0	6.6	0.0	3.5	0.0	8.7
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	0.1	0.0	0.6

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.8	0.0	6.7	0.0	3.6	0.0	9.3
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.02	0.00	0.03	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	80	0	172	0	335
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1772	0	1672
Q Serve Time (g_s), s	0.0	0.0	0.0	4.4	0.0	8.9	0.0	21.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.4	0.0	8.9	0.0	21.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.31	0.00	0.66
Lane Grp Cap (c), veh/h	0	583	0	502	0	543	0	463
V/C Ratio (X)	0.00	0.00	0.00	0.16	0.00	0.32	0.00	0.72
Avail Cap (c_a), veh/h	0	583	0	502	0	543	0	463
Upstream Filter (I)	0.00	0.00	0.00	0.91	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	29.5	0.0	31.9	0.0	39.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	1.5	0.0	9.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	30.1	0.0	33.5	0.0	48.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.6	0.0	3.7	0.0	8.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	1.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.7	0.0	4.0	0.0	9.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.58	0.00	0.04	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	41.6
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

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






























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	130	870	230	280	890	180	260	720	200	340	700	170
Future Volume (veh/h)	130	870	230	280	890	180	260	720	200	340	700	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	916	85	295	937	124	274	758	100	358	737	43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	594	1659	515	594	1659	515	338	841	375	317	819	365
Arrive On Green	0.17	0.32	0.32	0.17	0.32	0.32	0.10	0.24	0.24	0.09	0.23	0.23
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	137	916	85	295	937	124	274	758	100	358	737	43
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	4.1	17.7	4.6	9.3	18.2	6.9	9.3	24.8	6.2	11.0	24.2	2.6
Cycle Q Clear(g_c), s	4.1	17.7	4.6	9.3	18.2	6.9	9.3	24.8	6.2	11.0	24.2	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	594	1659	515	594	1659	515	338	841	375	317	819	365
V/C Ratio(X)	0.23	0.55	0.17	0.50	0.56	0.24	0.81	0.90	0.27	1.13	0.90	0.12
Avail Cap(c_a), veh/h	594	1659	515	594	1659	515	338	1185	528	317	1185	528
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.9	33.3	28.9	45.0	33.5	29.7	53.1	44.5	37.3	54.5	44.8	36.5
Incr Delay (d2), s/veh	0.1	1.3	0.7	0.2	1.4	1.1	13.0	5.9	0.1	90.5	5.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.2	1.8	3.9	7.5	2.7	4.6	11.2	2.4	8.6	10.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.9	34.6	29.6	45.2	34.9	30.8	66.0	50.3	37.5	145.0	50.2	36.6
LnGrp LOS	D	C	C	D	C	C	E	D	D	F	D	D
Approach Vol, veh/h		1138			1356			1132			1138	
Approach Delay, s/veh		35.3			36.8			53.0			79.5	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.6	45.0	16.7	32.7	25.6	45.0	16.0	33.4				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	39.0	39.0	11.0	40.0	9.0	39.0	11.0	40.0				
Max Q Clear Time (g_c+I1), s	19.7	19.7	11.3	26.2	6.1	20.2	13.0	26.8				
Green Ext Time (p_c), s	0.0	2.1	0.0	1.5	0.0	2.2	0.0	1.5				

Intersection Summary

HCM 6th Ctrl Delay	50.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 		
Traffic Volume (veh/h)	130	870	230	280	890	180	260	720	200	340	700	170
Future Volume (veh/h)	130	870	230	280	890	180	260	720	200	340	700	170
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	916	85	295	937	124	274	758	100	358	737	43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	594	1659	515	594	1659	515	338	841	375	317	819	365
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.17	0.32	0.32	0.17	0.32	0.32	0.10	0.24	0.24	0.09	0.23	0.23
Unsig. Movement Delay												
Ln Grp Delay, s/veh	42.9	34.6	29.6	45.2	34.9	30.8	66.0	50.3	37.5	145.0	50.2	36.6
Ln Grp LOS	D	C	C	D	C	C	E	D	D	F	D	D
Approach Vol, veh/h		1138			1356			1132			1138	
Approach Delay, s/veh		35.3			36.8			53.0			79.5	
Approach LOS		D			D			D			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	4	3	6	5	8	7			
Case No		3.0	2.0	3.0	2.0	3.0	2.0	3.0	2.0			
Phs Duration (G+Y+Rc), s		45.0	25.6	32.7	16.7	45.0	25.6	33.4	16.0			
Change Period (Y+Rc), s		6.0	5.0	5.0	5.0	6.0	5.0	5.0	5.0			
Max Green (Gmax), s		39.0	9.0	40.0	11.0	39.0	9.0	40.0	11.0			
Max Allow Headway (MAH), s		2.8	1.7	2.9	1.7	2.8	1.7	2.8	1.7			
Max Q Clear (g_c+I1), s		19.7	11.3	26.2	11.3	20.2	6.1	26.8	13.0			
Green Ext Time (g_e), s		2.1	0.0	1.5	0.0	2.2	0.0	1.5	0.0			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00			
Prob of Max Out (p_x)		0.00	1.00	0.00	1.00	0.00	0.03	0.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt			1		3		5		7			
Mvmt Sat Flow, veh/h			3456		3456		3456		3456			
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		5106		3554		5106		3554				
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		0	1	0	3	0	5	0	7			
Lane Assignment			L (Prot)		L (Prot)		L (Prot)		L (Prot)			

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Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	295	0	274	0	137	0	358
Grp Sat Flow (s), veh/h/ln	0	1728	0	1728	0	1728	0	1728
Q Serve Time (g_s), s	0.0	9.3	0.0	9.3	0.0	4.1	0.0	11.0
Cycle Q Clear Time (g_c), s	0.0	9.3	0.0	9.3	0.0	4.1	0.0	11.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	594	0	338	0	594	0	317
V/C Ratio (X)	0.00	0.50	0.00	0.81	0.00	0.23	0.00	1.13
Avail Cap (c_a), veh/h	0	594	0	338	0	594	0	317
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	45.0	0.0	53.1	0.0	42.9	0.0	54.5
Incr Delay (d2), s/veh	0.0	0.2	0.0	13.0	0.0	0.1	0.0	90.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	45.2	0.0	66.0	0.0	42.9	0.0	145.0
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	3.9	0.0	1.7	0.0	4.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	4.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.9	0.0	4.6	0.0	1.7	0.0	8.6
%ile Storage Ratio (RQ%)	0.00	0.53	0.00	1.29	0.00	0.17	0.00	1.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.3
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Middle Lane Group Data								
Assigned Mvmt	2	0	4	0	6	0	8	0
Lane Assignment	T		T		T		T	
Lanes in Grp	3	0	2	0	3	0	2	0
Grp Vol (v), veh/h	916	0	737	0	937	0	758	0
Grp Sat Flow (s), veh/h/ln	1702	0	1777	0	1702	0	1777	0
Q Serve Time (g_s), s	17.7	0.0	24.2	0.0	18.2	0.0	24.8	0.0
Cycle Q Clear Time (g_c), s	17.7	0.0	24.2	0.0	18.2	0.0	24.8	0.0
Lane Grp Cap (c), veh/h	1659	0	819	0	1659	0	841	0
V/C Ratio (X)	0.55	0.00	0.90	0.00	0.56	0.00	0.90	0.00
Avail Cap (c_a), veh/h	1659	0	1185	0	1659	0	1185	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	33.3	0.0	44.8	0.0	33.5	0.0	44.5	0.0
Incr Delay (d2), s/veh	1.3	0.0	5.4	0.0	1.4	0.0	5.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	34.6	0.0	50.2	0.0	34.9	0.0	50.3	0.0
1st-Term Q (Q1), veh/ln	7.0	0.0	10.3	0.0	7.2	0.0	10.5	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.6	0.0	0.2	0.0	0.7	0.0

HCM 6th Signalized Intersection Capacity Analysis
 32: Monterey Ave & SR-111

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	7.2	0.0	10.9	0.0	7.5	0.0	11.2	0.0
%ile Storage Ratio (RQ%)	0.15	0.00	0.23	0.00	0.08	0.00	0.23	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	12	0	14	0	16	0	18	0
Lane Assignment	R		R		R		R	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	85	0	43	0	124	0	100	0
Grp Sat Flow (s), veh/h/ln	1585	0	1585	0	1585	0	1585	0
Q Serve Time (g_s), s	4.6	0.0	2.6	0.0	6.9	0.0	6.2	0.0
Cycle Q Clear Time (g_c), s	4.6	0.0	2.6	0.0	6.9	0.0	6.2	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	515	0	365	0	515	0	375	0
V/C Ratio (X)	0.17	0.00	0.12	0.00	0.24	0.00	0.27	0.00
Avail Cap (c_a), veh/h	515	0	528	0	515	0	528	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	28.9	0.0	36.5	0.0	29.7	0.0	37.3	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.1	0.0	1.1	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	29.6	0.0	36.6	0.0	30.8	0.0	37.5	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	1.0	0.0	2.5	0.0	2.3	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	1.0	0.0	2.7	0.0	2.4	0.0
%ile Storage Ratio (RQ%)	0.11	0.00	0.02	0.00	1.06	0.00	0.46	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	50.5
HCM 6th LOS	D

HCM 6th TWSC
33: Gerald Ford Dr & Oasis Way

07/11/2019

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↗↗	↗↗	↘	↘	↘
Traffic Vol, veh/h	30	760	700	60	30	40
Future Vol, veh/h	30	760	700	60	30	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	130	-	-	145	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	32	800	737	63	32	42

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	800	0	-	0	1201 369
Stage 1	-	-	-	-	737 -
Stage 2	-	-	-	-	464 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	819	-	-	-	177 628
Stage 1	-	-	-	-	434 -
Stage 2	-	-	-	-	599 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	819	-	-	-	170 628
Mov Cap-2 Maneuver	-	-	-	-	170 -
Stage 1	-	-	-	-	417 -
Stage 2	-	-	-	-	599 -

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	19.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	819	-	-	-	170	628
HCM Lane V/C Ratio	0.039	-	-	-	0.186	0.067
HCM Control Delay (s)	9.6	-	-	-	30.9	11.1
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7	0.2

HCM 6th Signalized Intersection Summary
 34: Monterey Ave & Shadow Ridge Rd













07/11/2019



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↑↑↑	↷	↶	↑↑↑
Traffic Volume (veh/h)	50	80	1080	40	30	1675
Future Volume (veh/h)	50	80	1080	40	30	1675
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	77	1137	16	32	1763
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	158	140	3124	970	74	3718
Arrive On Green	0.09	0.09	0.61	0.61	0.05	0.97
Sat Flow, veh/h	1781	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	53	77	1137	16	32	1763
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1585	1781	1702
Q Serve(g_s), s	1.7	2.8	6.7	0.2	1.0	1.2
Cycle Q Clear(g_c), s	1.7	2.8	6.7	0.2	1.0	1.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	158	140	3124	970	74	3718
V/C Ratio(X)	0.34	0.55	0.36	0.02	0.43	0.47
Avail Cap(c_a), veh/h	238	211	3124	970	223	3718
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.92	0.92	0.76	0.76
Uniform Delay (d), s/veh	25.7	26.2	5.8	4.6	27.7	0.3
Incr Delay (d2), s/veh	0.5	1.2	0.3	0.0	1.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.5	1.3	0.0	0.4	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.1	27.4	6.1	4.6	28.8	0.6
LnGrp LOS	C	C	A	A	C	A
Approach Vol, veh/h	130		1153			1795
Approach Delay, s/veh	26.9		6.1			1.1
Approach LOS	C		A			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		50.7		9.3	7.0	43.7
Change Period (Y+Rc), s		7.0		4.0	4.5	7.0
Max Green Setting (Gmax), s		41.0		8.0	7.5	29.0
Max Q Clear Time (g_c+I1), s		3.2		4.8	3.0	8.7
Green Ext Time (p_c), s		4.6		0.0	0.0	2.4
Intersection Summary						
HCM 6th Ctrl Delay			4.1			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

07/11/2019

									
Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations									
Traffic Volume (veh/h)	50	80	1080	40	30	1675			
Future Volume (veh/h)	50	80	1080	40	30	1675			
Number	7	14	6	16	5	2			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00		1.00	1.00				
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No		No			No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	53	77	1137	16	32	1763			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	158	140	3124	970	74	3718			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33			
Prop Arrive On Green	0.09	0.09	0.61	0.61	0.05	0.97			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	26.1	27.4	6.1	4.6	28.8	0.6			
Ln Grp LOS	C	C	A	A	C	A			
Approach Vol, veh/h	130		1153			1795			
Approach Delay, s/veh	26.9		6.1			1.1			
Approach LOS	C		A			A			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4	5	6		
Case No			4.0		9.0	2.0	7.0		
Phs Duration (G+Y+Rc), s			50.7		9.3	7.0	43.7		
Change Period (Y+Rc), s			7.0		4.0	4.5	7.0		
Max Green (Gmax), s			41.0		8.0	7.5	29.0		
Max Allow Headway (MAH), s			2.7		2.0	1.6	2.7		
Max Q Clear (g_c+I1), s			3.2		4.8	3.0	8.7		
Green Ext Time (g_e), s			4.6		0.0	0.0	2.4		
Prob of Phs Call (p_c)			1.00		0.89	0.41	1.00		
Prob of Max Out (p_x)			0.00		0.09	0.00	0.00		
Left-Turn Movement Data									
Assigned Mvmt					7	5	1		
Mvmt Sat Flow, veh/h					1781	1781	0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			5274		0		5274		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	0	0	7	5	1	0	0
Lane Assignment					L	L (Prot)			

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

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Lanes in Grp	0	0	0	1	1	0	0	0
Grp Vol (v), veh/h	0	0	0	53	32	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	1.7	1.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.7	1.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	36.7	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	158	74	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.34	0.43	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	238	223	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.76	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	25.7	27.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	1.1	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	26.1	28.8	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.7	0.4	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.7	0.4	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.07	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	1763	0	0	0	1137	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	1.2	0.0	0.0	0.0	6.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.2	0.0	0.0	0.0	6.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	3718	0	0	0	3124	0	0
V/C Ratio (X)	0.00	0.47	0.00	0.00	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	3718	0	0	0	3124	0	0
Upstream Filter (I)	0.00	0.76	0.00	0.00	0.00	0.92	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.3	0.0	0.0	0.0	5.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.6	0.0	0.0	0.0	6.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	77	0	16	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	2.8	0.0	0.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.8	0.0	0.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	140	0	970	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.55	0.00	0.02	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	211	0	970	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.92	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	26.2	0.0	4.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	27.4	0.0	4.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.07	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	4.1
HCM 6th LOS	A

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↖	↕	↕	
Traffic Vol, veh/h	0	10	10	695	1700	10
Future Vol, veh/h	0	10	10	695	1700	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	40	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	11	732	1789	11

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	900	1800	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	282	339	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	282	339	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.3	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	339	-	282	-	-
HCM Lane V/C Ratio	0.031	-	0.037	-	-
HCM Control Delay (s)	16	-	18.3	-	-
HCM Lane LOS	C	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	525	10	10	1070	10	10
Future Vol, veh/h	525	10	10	1070	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	95	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	553	11	11	1126	11	11

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	0	564	0	1144 282
Stage 1	-	-	-	-	559 -
Stage 2	-	-	-	-	585 -
Critical Hdwy	-	-	4.14	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	-	-	2.22	-	3.52 3.32
Pot Cap-1 Maneuver	-	-	1004	-	193 715
Stage 1	-	-	-	-	536 -
Stage 2	-	-	-	-	520 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1004	-	191 715
Mov Cap-2 Maneuver	-	-	-	-	191 -
Stage 1	-	-	-	-	536 -
Stage 2	-	-	-	-	514 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	17.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	301	-	-	1004	-
HCM Lane V/C Ratio	0.07	-	-	0.01	-
HCM Control Delay (s)	17.9	-	-	8.6	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

HCM 6th Signalized Intersection Summary
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↖	↗	↘↙	↕↖↗			↕↘↙	↗
Traffic Volume (veh/h)	0	0	0	1060	0	190	930	450	0	0	455	430
Future Volume (veh/h)	0	0	0	1060	0	190	930	450	0	0	455	430
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No				No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1116	0	0	979	474	0	0	479	82
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				1250	0		1074	2625	0	0	751	233
Arrive On Green				0.35	0.00	0.00	0.31	0.51	0.00	0.00	0.15	0.15
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1585
Grp Volume(v), veh/h				1116	0	0	979	474	0	0	479	82
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1585
Q Serve(g_s), s				21.1	0.0	0.0	19.4	3.5	0.0	0.0	6.3	3.3
Cycle Q Clear(g_c), s				21.1	0.0	0.0	19.4	3.5	0.0	0.0	6.3	3.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1250	0		1074	2625	0	0	751	233
V/C Ratio(X)				0.89	0.00		0.91	0.18	0.00	0.00	0.64	0.35
Avail Cap(c_a), veh/h				1413	0		1167	3749	0	0	1738	540
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				21.8	0.0	0.0	23.6	9.3	0.0	0.0	28.5	27.3
Incr Delay (d2), s/veh				6.8	0.0	0.0	9.8	0.0	0.0	0.0	0.7	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.3	0.0	0.0	8.0	1.0	0.0	0.0	2.3	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				28.6	0.0	0.0	33.3	9.3	0.0	0.0	29.2	27.9
LnGrp LOS				C	A		C	A	A	A	C	C
Approach Vol, veh/h					1116	A		1453			561	
Approach Delay, s/veh					28.6			25.5			29.0	
Approach LOS					C			C			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		41.4			26.1	15.3		29.7				
Change Period (Y+Rc), s		4.8			4.0	4.8		4.8				
Max Green Setting (Gmax), s		52.2			24.0	24.2		28.2				
Max Q Clear Time (g_c+I1), s		5.5			21.4	8.3		23.1				
Green Ext Time (p_c), s		2.4			0.7	2.2		1.9				

Intersection Summary

HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1060	0	190	930	450	0	0	455	430
Future Volume (veh/h)	0	0	0	1060	0	190	930	450	0	0	455	430
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No				No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1116	0	0	979	474	0	0	479	82
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Opposing Right Turn Influence				Yes			Yes			No		
Cap, veh/h				1250	0		1074	2625	0	0	751	233
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.35	0.00	0.00	0.31	0.51	0.00	0.00	0.15	0.15
Unsig. Movement Delay												
Ln Grp Delay, s/veh				28.6	0.0	0.0	33.3	9.3	0.0	0.0	29.2	27.9
Ln Grp LOS				C	A		C	A	A	A	C	C
Approach Vol, veh/h					1116			1453			561	
Approach Delay, s/veh					28.6			25.5			29.0	
Approach LOS					C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8		5	6					
Case No			4.0	9.0		2.0	7.0					
Phs Duration (G+Y+Rc), s			41.4	29.7		26.1	15.3					
Change Period (Y+Rc), s			4.8	4.8		4.0	4.8					
Max Green (Gmax), s			52.2	28.2		24.0	24.2					
Max Allow Headway (MAH), s			4.2	3.3		2.6	4.1					
Max Q Clear (g_c+I1), s			5.5	23.1		21.4	8.3					
Green Ext Time (g_e), s			2.4	1.9		0.7	2.2					
Prob of Phs Call (p_c)			1.00	1.00		1.00	1.00					
Prob of Max Out (p_x)			0.00	0.59		1.00	0.01					
Left-Turn Movement Data												
Assigned Mvmt				3		5	1					
Mvmt Sat Flow, veh/h				3563		3456	0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			5274	0			5274					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			0	1585			1585					
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	0	0				
Lane Assignment			L		L (Prot)							

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

Lanes in Grp	0	0	2	0	2	0	0	0
Grp Vol (v), veh/h	0	0	1116	0	979	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1728	0	0	0
Q Serve Time (g_s), s	0.0	0.0	21.1	0.0	19.4	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	21.1	0.0	19.4	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1250	0	1074	0	0	0
V/C Ratio (X)	0.00	0.00	0.89	0.00	0.91	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1413	0	1167	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	21.8	0.0	23.6	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.8	0.0	9.8	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	28.6	0.0	33.3	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	8.1	0.0	6.6	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.2	0.0	1.5	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	9.3	0.0	8.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.26	0.00	0.95	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	474	0	0	0	479	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	3.5	0.0	0.0	0.0	6.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	0.0	0.0	6.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	2625	0	0	0	751	0	0
V/C Ratio (X)	0.00	0.18	0.00	0.00	0.00	0.64	0.00	0.00
Avail Cap (c_a), veh/h	0	3749	0	0	0	1738	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.3	0.0	0.0	0.0	28.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.3	0.0	0.0	0.0	29.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.0	0.0	2.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.0	0.0	0.0	0.0	2.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	82	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	3.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	556	0	0	233	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00
Avail Cap (c_a), veh/h	0	0	629	0	0	540	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	27.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	27.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	27.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	0	850	0	0	0	0	1120	90	240	1275	0
Future Volume (veh/h)	260	0	850	0	0	0	0	1120	90	240	1275	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No					No		No			
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	183	0	902				0	1179	37	253	1342	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	541	0	962				0	1676	474	369	2508	0
Arrive On Green	0.30	0.00	0.30				0.00	0.30	0.30	0.11	0.49	0.00
Sat Flow, veh/h	1781	0	3170				0	5611	1585	3456	5274	0
Grp Volume(v), veh/h	183	0	902				0	1179	37	253	1342	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1870	1585	1728	1702	0
Q Serve(g_s), s	3.7	0.0	13.0				0.0	8.7	0.8	3.3	8.5	0.0
Cycle Q Clear(g_c), s	3.7	0.0	13.0				0.0	8.7	0.8	3.3	8.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	541	0	962				0	1676	474	369	2508	0
V/C Ratio(X)	0.34	0.00	0.94				0.00	0.70	0.08	0.68	0.54	0.00
Avail Cap(c_a), veh/h	541	0	962				0	2063	583	369	2860	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	12.6	0.0	15.9				0.0	14.6	11.8	20.1	8.2	0.0
Incr Delay (d2), s/veh	0.3	0.0	16.0				0.0	0.7	0.1	4.3	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3	0.0	6.0				0.0	2.6	0.2	1.3	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.9	0.0	31.8				0.0	15.3	11.8	24.4	8.3	0.0
LnGrp LOS	B	A	C				A	B	B	C	A	A
Approach Vol, veh/h		1085						1216			1595	
Approach Delay, s/veh		28.6						15.2			10.9	
Approach LOS		C						B			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	9.0	18.8	19.0	27.8								
Change Period (Y+Rc), s	4.0	4.8	4.8	4.8								
Max Green Setting (Gmax), s	5.0	17.2	14.2	26.2								
Max Q Clear Time (g_c+I), s	15.3	10.7	15.0	10.5								
Green Ext Time (p_c), s	0.0	3.3	0.0	6.3								

Intersection Summary





















HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Ramp/I-10 EB On Ramp

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	0	850	0	0	0	0	1120	90	240	1275	0
Future Volume (veh/h)	260	0	850	0	0	0	0	1120	90	240	1275	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	183	0	902				0	1179	37	253	1342	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	541	0	962				0	1676	474	369	2508	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.30	0.00	0.30				0.00	0.30	0.30	0.11	0.49	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	12.9	0.0	31.8				0.0	15.3	11.8	24.4	8.3	0.0
Ln Grp LOS	B	A	C				A	B	B	C	A	A
Approach Vol, veh/h		1085						1216			1595	
Approach Delay, s/veh		28.6						15.2			10.9	
Approach LOS		C						B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		9.0	18.8		19.0		27.8					
Change Period (Y+Rc), s		4.0	4.8		4.8		4.8					
Max Green (Gmax), s		5.0	17.2		14.2		26.2					
Max Allow Headway (MAH), s		2.6	4.2		3.5		4.2					
Max Q Clear (g_c+I1), s		5.3	10.7		15.0		10.5					
Green Ext Time (g_e), s		0.0	3.3		0.0		6.3					
Prob of Phs Call (p_c)		0.96	1.00		1.00		1.00					
Prob of Max Out (p_x)		1.00	0.70		1.00		0.22					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5611		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	253	0	0	183	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	3.3	0.0	0.0	3.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	0.0	3.7	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	14.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	369	0	0	541	0	0	0	0
V/C Ratio (X)	0.68	0.00	0.00	0.34	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	369	0	0	541	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	20.1	0.0	0.0	12.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.4	0.0	0.0	12.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.3	0.0	0.0	1.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.13	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	1179	0	0	0	1342	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	8.7	0.0	0.0	0.0	8.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.7	0.0	0.0	0.0	8.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	1676	0	0	0	2508	0	0
V/C Ratio (X)	0.00	0.70	0.00	0.00	0.00	0.54	0.00	0.00
Avail Cap (c_a), veh/h	0	2063	0	0	0	2860	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.6	0.0	0.0	0.0	8.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.3	0.0	0.0	0.0	8.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.0	0.0	1.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	0.0	0.0	1.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	37	0	902	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.8	0.0	13.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.8	0.0	13.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	474	0	962	0	0	0	0
V/C Ratio (X)	0.00	0.08	0.00	0.94	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	583	0	962	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	15.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	16.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	31.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	3.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	6.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	1.18	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

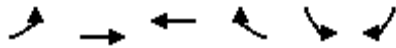
Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: Ramon Rd & Rattler Rd

07/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖↖	↑↑↑	↑↑↑	↘	↙↙	↘	
Traffic Volume (veh/h)	100	1495	1610	130	180	150	
Future Volume (veh/h)	100	1495	1610	130	180	150	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	105	1574	1695	105	189	64	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	247	3700	2884	1052	351	156	
Arrive On Green	0.07	0.72	0.56	0.56	0.10	0.10	
Sat Flow, veh/h	3456	5274	5274	1585	3563	1585	
Grp Volume(v), veh/h	105	1574	1695	105	189	64	
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1585	1781	1585	
Q Serve(g_s), s	1.6	6.9	12.2	1.4	2.9	2.1	
Cycle Q Clear(g_c), s	1.6	6.9	12.2	1.4	2.9	2.1	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	247	3700	2884	1052	351	156	
V/C Ratio(X)	0.43	0.43	0.59	0.10	0.54	0.41	
Avail Cap(c_a), veh/h	305	3700	2884	1052	2141	953	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	25.2	3.1	8.0	3.4	24.3	24.0	
Incr Delay (d2), s/veh	1.2	0.4	0.9	0.2	1.3	1.7	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.6	0.4	2.6	0.4	1.1	2.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	26.3	3.5	8.9	3.6	25.6	25.7	
LnGrp LOS	C	A	A	A	C	C	
Approach Vol, veh/h		1679	1800		253		
Approach Delay, s/veh		4.9	8.6		25.6		
Approach LOS		A	A		C		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				46.0	10.6	9.0	37.0
Change Period (Y+Rc), s				5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s				41.0	34.0	5.0	31.0
Max Q Clear Time (g_c+1), s				8.9	4.9	3.6	14.2
Green Ext Time (p_c), s				12.8	0.8	0.0	10.2
Intersection Summary							
HCM 6th Ctrl Delay			8.1				
HCM 6th LOS			A				
Notes							
User approved volume balancing among the lanes for turning movement.							

HCM 6th Signalized Intersection Capacity Analysis

3: Ramon Rd & Rattler Rd

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Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖↖	↑↑↑	↗↗↗	↗	↘↘↘	↘			
Traffic Volume (veh/h)	100	1495	1610	130	180	150			
Future Volume (veh/h)	100	1495	1610	130	180	150			
Number	7	4	8	18	1	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	105	1574	1695	105	189	64			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	247	3700	2884	1052	351	156			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.07	0.72	0.56	0.56	0.10	0.10			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	26.3	3.5	8.9	3.6	25.6	25.7			
Ln Grp LOS	C	A	A	A	C	C			
Approach Vol, veh/h		1679	1800		253				
Approach Delay, s/veh		4.9	8.6		25.6				
Approach LOS		A	A		C				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		6			4			7	8
Case No		9.0			4.0			2.0	7.0
Phs Duration (G+Y+Rc), s		10.6			46.0			9.0	37.0
Change Period (Y+Rc), s		5.0			5.0			5.0	5.0
Max Green (Gmax), s		34.0			41.0			5.0	31.0
Max Allow Headway (MAH), s		3.8			4.7			3.6	4.7
Max Q Clear (g_c+I1), s		4.9			8.9			3.6	14.2
Green Ext Time (g_e), s		0.8			12.8			0.0	10.2
Prob of Phs Call (p_c)		0.98			1.00			0.81	1.00
Prob of Max Out (p_x)		0.00			0.00			1.00	0.00
Left-Turn Movement Data									
Assigned Mvmt		1						7	3
Mvmt Sat Flow, veh/h		3563						3456	0
Through Movement Data									
Assigned Mvmt		6			4				8
Mvmt Sat Flow, veh/h		0			5274				5274
Right-Turn Movement Data									
Assigned Mvmt		16			14				18
Mvmt Sat Flow, veh/h		1585			0				1585
Left Lane Group Data									
Assigned Mvmt		1	0	0	0	0	0	7	3
Lane Assignment		L						L (Prot)	

HCM 6th Signalized Intersection Capacity Analysis
 3: Ramon Rd & Rattler Rd

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Lanes in Grp	2	0	0	0	0	0	2	0
Grp Vol (v), veh/h	189	0	0	0	0	0	105	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	0	0	0	1728	0
Q Serve Time (g_s), s	2.9	0.0	0.0	0.0	0.0	0.0	1.6	0.0
Cycle Q Clear Time (g_c), s	2.9	0.0	0.0	0.0	0.0	0.0	1.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1781	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	351	0	0	0	0	0	247	0
V/C Ratio (X)	0.54	0.00	0.00	0.00	0.00	0.00	0.43	0.00
Avail Cap (c_a), veh/h	2141	0	0	0	0	0	305	0
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	24.3	0.0	0.0	0.0	0.0	0.0	25.2	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.0	0.0	0.0	1.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.6	0.0	0.0	0.0	0.0	0.0	26.3	0.0
1st-Term Q (Q1), veh/ln	1.1	0.0	0.0	0.0	0.0	0.0	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
%ile Back of Q (50%), veh/ln	1.1	0.0	0.0	0.0	0.0	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.14	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	6	0	0	4	0	0	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1574	0	0	0	1695
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	6.9	0.0	0.0	0.0	12.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.9	0.0	0.0	0.0	12.2
Lane Grp Cap (c), veh/h	0	0	0	3700	0	0	0	2884
V/C Ratio (X)	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.59
Avail Cap (c_a), veh/h	0	0	0	3700	0	0	0	2884
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	3.1	0.0	0.0	0.0	8.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	3.5	0.0	0.0	0.0	8.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

3: Ramon Rd & Rattler Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	16	0	0	14	0	0	0	18
Lane Assignment	R							R
Lanes in Grp	1	0	0	0	0	0	0	1
Grp Vol (v), veh/h	64	0	0	0	0	0	0	105
Grp Sat Flow (s), veh/h/ln	1585	0	0	0	0	0	0	1585
Q Serve Time (g_s), s	2.1	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Cycle Q Clear Time (g_c), s	2.1	0.0	0.0	0.0	0.0	0.0	0.0	1.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	156	0	0	0	0	0	0	1052
V/C Ratio (X)	0.41	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Avail Cap (c_a), veh/h	953	0	0	0	0	0	0	1052
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	24.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
Incr Delay (d2), s/veh	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.7	0.0	0.0	0.0	0.0	0.0	0.0	3.6
1st-Term Q (Q1), veh/ln	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
%ile Storage Ratio (RQ%)	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Bob Hope Dr & Ramon Rd

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	240	950	475	120	630	50	520	880	490	135	1400	590
Future Volume (veh/h)	240	950	475	120	630	50	520	880	490	135	1400	590
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	1000	294	126	663	13	547	926	377	142	1474	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	985	439	270	973	434	559	1948	605	296	1558	
Arrive On Green	0.08	0.28	0.28	0.08	0.27	0.27	0.16	0.38	0.38	0.09	0.31	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	253	1000	294	126	663	13	547	926	377	142	1474	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.1	38.7	23.0	4.9	23.3	0.8	22.0	19.1	27.0	5.5	39.4	0.0
Cycle Q Clear(g_c), s	10.1	38.7	23.0	4.9	23.3	0.8	22.0	19.1	27.0	5.5	39.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	282	985	439	270	973	434	559	1948	605	296	1558	
V/C Ratio(X)	0.90	1.02	0.67	0.47	0.68	0.03	0.98	0.48	0.62	0.48	0.95	
Avail Cap(c_a), veh/h	282	985	439	272	975	435	559	1956	607	297	1569	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.5	50.5	44.8	61.6	45.3	37.1	58.3	32.6	35.0	60.9	47.4	0.0
Incr Delay (d2), s/veh	28.0	32.5	3.9	0.5	1.9	0.0	32.2	0.2	2.1	0.4	12.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	20.8	9.2	2.1	10.1	0.3	11.8	7.6	10.2	2.3	17.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.5	83.0	48.7	62.0	47.2	37.2	90.5	32.8	37.2	61.3	59.6	0.0
LnGrp LOS	F	F	D	E	D	D	F	C	D	E	E	
Approach Vol, veh/h		1547			802			1850			1616	A
Approach Delay, s/veh		77.9			49.4			50.8			59.8	
Approach LOS		E			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	60.8	16.3	45.2	28.0	50.1	16.8	44.7				
Change Period (Y+Rc), s	5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5				
Max Green Setting (Gmax), s	12.0	53.5	11.0	38.7	22.6	42.9	11.4	38.3				
Max Q Clear Time (g_c+1), s	17.5	29.0	6.9	40.7	24.0	41.4	12.1	25.3				
Green Ext Time (p_c), s	0.1	9.2	0.0	0.0	0.0	1.2	0.0	3.2				

Intersection Summary

























HCM 6th Ctrl Delay	60.3
HCM 6th LOS	E

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
4: Bob Hope Dr & Ramon Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	950	475	120	630	50	520	880	490	135	1400	590
Future Volume (veh/h)	240	950	475	120	630	50	520	880	490	135	1400	590
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	1000	294	126	663	13	547	926	377	142	1474	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	282	985	439	270	973	434	559	1948	605	296	1558	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.27	0.27	0.16	0.38	0.38	0.09	0.31	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	91.5	83.0	48.7	62.0	47.2	37.2	90.5	32.8	37.2	61.3	59.6	0.0
Ln Grp LOS	F	F	D	E	D	D	F	C	D	E	E	
Approach Vol, veh/h		1547			802			1850			1616	
Approach Delay, s/veh		77.9			49.4			50.8			59.8	
Approach LOS		E			D			D			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		17.4	60.8	16.3	45.2	28.0	50.1	16.8	44.7			
Change Period (Y+Rc), s		5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5			
Max Green (Gmax), s		12.0	53.5	11.0	38.7	22.6	42.9	11.4	38.3			
Max Allow Headway (MAH), s		2.1	5.0	2.1	4.5	2.1	5.2	2.1	4.7			
Max Q Clear (g_c+I1), s		7.5	29.0	6.9	40.7	24.0	41.4	12.1	25.3			
Green Ext Time (g_e), s		0.1	9.2	0.0	0.0	0.0	1.2	0.0	3.2			
Prob of Phs Call (p_c)		1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.01	0.17	0.01	1.00	1.00	1.00	1.00	0.13			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	142	0	126	0	547	0	253	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	5.5	0.0	4.9	0.0	22.0	0.0	10.1	0.0
Cycle Q Clear Time (g_c), s	5.5	0.0	4.9	0.0	22.0	0.0	10.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	296	0	270	0	559	0	282	0
V/C Ratio (X)	0.48	0.00	0.47	0.00	0.98	0.00	0.90	0.00
Avail Cap (c_a), veh/h	297	0	272	0	559	0	282	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	60.9	0.0	61.6	0.0	58.3	0.0	63.5	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.0	32.2	0.0	28.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	61.3	0.0	62.0	0.0	90.5	0.0	91.5	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	2.1	0.0	9.3	0.0	4.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	2.5	0.0	1.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.3	0.0	2.1	0.0	11.8	0.0	5.4	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.16	0.00	1.46	0.00	0.49	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	926	0	1000	0	1474	0	663
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	19.1	0.0	38.7	0.0	39.4	0.0	23.3
Cycle Q Clear Time (g_c), s	0.0	19.1	0.0	38.7	0.0	39.4	0.0	23.3
Lane Grp Cap (c), veh/h	0	1948	0	985	0	1558	0	973
V/C Ratio (X)	0.00	0.48	0.00	1.02	0.00	0.95	0.00	0.68
Avail Cap (c_a), veh/h	0	1956	0	985	0	1569	0	975
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	32.6	0.0	50.5	0.0	47.4	0.0	45.3
Incr Delay (d2), s/veh	0.0	0.2	0.0	32.5	0.0	12.2	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.8	0.0	83.0	0.0	59.6	0.0	47.2
1st-Term Q (Q1), veh/ln	0.0	7.5	0.0	16.4	0.0	15.8	0.0	9.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	4.5	0.0	1.8	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.6	0.0	20.8	0.0	17.6	0.0	10.1
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.44	0.00	0.39	0.00	0.69
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	377	0	294	0	0	0	13
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	27.0	0.0	23.0	0.0	0.0	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	27.0	0.0	23.0	0.0	0.0	0.0	0.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	605	0	439	0	484	0	434
V/C Ratio (X)	0.00	0.62	0.00	0.67	0.00	0.00	0.00	0.03
Avail Cap (c_a), veh/h	0	607	0	439	0	487	0	435
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	35.0	0.0	44.8	0.0	0.0	0.0	37.1
Incr Delay (d2), s/veh	0.0	2.1	0.0	3.9	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	37.2	0.0	48.7	0.0	0.0	0.0	37.2
1st-Term Q (Q1), veh/ln	0.0	9.9	0.0	8.7	0.0	0.0	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.5	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.2	0.0	9.2	0.0	0.0	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.93	0.00	0.20	0.00	0.00	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	60.3
HCM 6th LOS	E

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
5: Bob Hope Dr & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	900	266	150	930	570	420	730	250	520	670	300
Future Volume (veh/h)	140	900	266	150	930	570	420	730	250	520	670	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	947	160	158	979	338	442	768	0	547	705	316
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	176	1073	478	187	1096	489	507	1120		608	857	379
Arrive On Green	0.10	0.30	0.30	0.11	0.31	0.31	0.15	0.22	0.00	0.18	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	5106	1585	3456	3447	1523
Grp Volume(v), veh/h	147	947	160	158	979	338	442	768	0	547	696	325
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1585	1728	1702	1566
Q Serve(g_s), s	8.6	26.9	8.3	9.2	27.9	19.9	13.3	14.7	0.0	16.5	20.5	20.9
Cycle Q Clear(g_c), s	8.6	26.9	8.3	9.2	27.9	19.9	13.3	14.7	0.0	16.5	20.5	20.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.97
Lane Grp Cap(c), veh/h	176	1073	478	187	1096	489	507	1120		608	847	390
V/C Ratio(X)	0.84	0.88	0.33	0.84	0.89	0.69	0.87	0.69		0.90	0.82	0.83
Avail Cap(c_a), veh/h	185	1121	500	201	1155	515	586	1370		651	978	450
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	35.3	28.8	46.7	35.1	32.3	44.3	38.1	0.0	42.8	37.7	37.8
Incr Delay (d2), s/veh	24.6	8.3	0.4	23.6	8.9	3.7	11.2	1.1	0.0	14.3	5.1	11.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	12.1	3.0	5.1	12.6	7.6	6.2	5.9	0.0	7.8	8.5	8.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.6	43.5	29.2	70.2	43.9	36.0	55.5	39.2	0.0	57.1	42.7	49.2
LnGrp LOS	E	D	C	E	D	D	E	D		E	D	D
Approach Vol, veh/h		1254			1475			1210	A		1568	
Approach Delay, s/veh		45.0			44.9			45.1			49.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.7	29.8	15.2	38.6	19.6	32.9	14.5	39.2				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	28.5	12.0	33.5	18.0	30.5	11.0	34.5				
Max Q Clear Time (g_c+1/3), s	11.5	16.7	11.2	28.9	15.3	22.9	10.6	29.9				
Green Ext Time (p_c), s	0.2	3.7	0.0	2.5	0.3	3.5	0.0	2.8				

Intersection Summary

























HCM 6th Ctrl Delay	46.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
5: Bob Hope Dr & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	900	266	150	930	570	420	730	250	520	670	300
Future Volume (veh/h)	140	900	266	150	930	570	420	730	250	520	670	300
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	947	160	158	979	338	442	768	0	547	705	316
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	176	1073	478	187	1096	489	507	1120		608	857	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.30	0.30	0.11	0.31	0.31	0.15	0.22	0.00	0.18	0.25	0.25
Unsig. Movement Delay												
Ln Grp Delay, s/veh	71.6	43.5	29.2	70.2	43.9	36.0	55.5	39.2	0.0	57.1	42.7	49.2
Ln Grp LOS	E	D	C	E	D	D	E	D		E	D	D
Approach Vol, veh/h		1254			1475			1210			1568	
Approach Delay, s/veh		45.0			44.9			45.1			49.1	
Approach LOS		D			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		22.7	29.8	15.2	38.6	19.6	32.9	14.5	39.2			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	28.5	12.0	33.5	18.0	30.5	11.0	34.5			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.8	2.7	4.6			
Max Q Clear (g_c+I1), s		18.5	16.7	11.2	28.9	15.3	22.9	10.6	29.9			
Green Ext Time (g_e), s		0.2	3.7	0.0	2.5	0.3	3.5	0.0	2.8			
Prob of Phs Call (p_c)		1.00	1.00	0.99	1.00	1.00	1.00	0.99	1.00			
Prob of Max Out (p_x)		1.00	0.23	1.00	1.00	0.97	0.68	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		3447		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1523		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

5: Bob Hope Dr & Dinah Shore Dr

07/11/2019

Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	547	0	158	0	442	0	147	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	16.5	0.0	9.2	0.0	13.3	0.0	8.6	0.0
Cycle Q Clear Time (g_c), s	16.5	0.0	9.2	0.0	13.3	0.0	8.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	608	0	187	0	507	0	176	0
V/C Ratio (X)	0.90	0.00	0.84	0.00	0.87	0.00	0.84	0.00
Avail Cap (c_a), veh/h	651	0	201	0	586	0	185	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	42.8	0.0	46.7	0.0	44.3	0.0	47.0	0.0
Incr Delay (d2), s/veh	14.3	0.0	23.6	0.0	11.2	0.0	24.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	57.1	0.0	70.2	0.0	55.5	0.0	71.6	0.0
1st-Term Q (Q1), veh/ln	6.6	0.0	3.9	0.0	5.4	0.0	3.7	0.0
2nd-Term Q (Q2), veh/ln	1.2	0.0	1.2	0.0	0.8	0.0	1.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	7.8	0.0	5.1	0.0	6.2	0.0	4.9	0.0
%ile Storage Ratio (RQ%)	0.83	0.00	0.57	0.00	0.63	0.00	0.62	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	768	0	947	0	696	0	979
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	14.7	0.0	26.9	0.0	20.5	0.0	27.9
Cycle Q Clear Time (g_c), s	0.0	14.7	0.0	26.9	0.0	20.5	0.0	27.9
Lane Grp Cap (c), veh/h	0	1120	0	1073	0	847	0	1096
V/C Ratio (X)	0.00	0.69	0.00	0.88	0.00	0.82	0.00	0.89
Avail Cap (c_a), veh/h	0	1370	0	1121	0	978	0	1155
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	38.1	0.0	35.3	0.0	37.7	0.0	35.1
Incr Delay (d2), s/veh	0.0	1.1	0.0	8.3	0.0	5.1	0.0	8.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	39.2	0.0	43.5	0.0	42.7	0.0	43.9
1st-Term Q (Q1), veh/ln	0.0	5.8	0.0	10.9	0.0	7.9	0.0	11.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.2	0.0	0.6	0.0	1.3

HCM 6th Signalized Intersection Capacity Analysis

5: Bob Hope Dr & Dinah Shore Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.9	0.0	12.1	0.0	8.5	0.0	12.6
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.06	0.00	0.10	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	160	0	325	0	338
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1566	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	8.3	0.0	20.9	0.0	19.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.3	0.0	20.9	0.0	19.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.97	0.00	1.00
Lane Grp Cap (c), veh/h	0	348	0	478	0	390	0	489
V/C Ratio (X)	0.00	0.00	0.00	0.33	0.00	0.83	0.00	0.69
Avail Cap (c_a), veh/h	0	425	0	500	0	450	0	515
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	28.8	0.0	37.8	0.0	32.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	11.4	0.0	3.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	29.2	0.0	49.2	0.0	36.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.0	0.0	7.4	0.0	7.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	1.2	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.0	0.0	8.7	0.0	7.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.62	0.00	0.10	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	46.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Monterey Ave & Varner Rd

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	110	330	550	630	400	680	880	230	110	570	20
Future Volume (veh/h)	50	110	330	550	630	400	680	880	230	110	570	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	116	193	579	663	141	716	926	0	116	600	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	190	322	629	771	344	936	1607		148	910	
Arrive On Green	0.07	0.10	0.10	0.18	0.22	0.22	0.27	0.45	0.00	0.08	0.26	0.00
Sat Flow, veh/h	1781	1870	3170	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	53	116	193	579	663	141	716	926	0	116	600	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.7	7.7	4.5	21.4	23.3	9.9	24.8	25.1	0.0	8.3	19.6	0.0
Cycle Q Clear(g_c), s	3.7	7.7	4.5	21.4	23.3	9.9	24.8	25.1	0.0	8.3	19.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	190	322	629	771	344	936	1607		148	910	
V/C Ratio(X)	0.41	0.61	0.60	0.92	0.86	0.41	0.76	0.58		0.78	0.66	
Avail Cap(c_a), veh/h	151	276	468	686	929	415	936	1607		221	910	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.65	0.65	0.65	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.7	55.9	19.4	52.3	49.0	43.8	43.6	26.4	0.0	58.4	43.3	0.0
Incr Delay (d2), s/veh	0.8	3.1	1.8	11.6	4.8	0.5	3.6	1.5	0.0	5.2	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.7	2.9	9.9	10.4	3.8	11.1	10.9	0.0	4.0	9.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	59.1	21.2	63.9	53.8	44.3	47.2	27.9	0.0	63.7	47.0	0.0
LnGrp LOS	E	E	C	E	D	D	D	C		E	D	
Approach Vol, veh/h		362			1383			1642	A		716	A
Approach Delay, s/veh		38.8			57.0			36.3			49.7	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.2	65.0	29.1	19.7	41.4	39.8	14.1	34.7				
Change Period (Y+Rc), s	5.4	6.2	5.4	* 6.5	6.2	* 6.5	* 4.7	6.5				
Max Green Setting (Gmax), s	16.1	46.1	25.8	* 19	28.9	* 33	* 11	34.0				
Max Q Clear Time (g_c+I1), s	11.0	27.1	23.4	9.7	26.8	21.6	5.7	25.3				
Green Ext Time (p_c), s	0.0	6.5	0.2	0.8	0.6	3.1	0.0	2.8				

Intersection Summary

HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	110	330	550	630	400	680	880	230	110	570	20
Future Volume (veh/h)	50	110	330	550	630	400	680	880	230	110	570	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	116	193	579	663	141	716	926	0	116	600	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	128	190	322	629	771	344	936	1607		148	910	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.10	0.10	0.18	0.22	0.22	0.27	0.45	0.00	0.08	0.26	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.5	59.1	21.2	63.9	53.8	44.3	47.2	27.9	0.0	63.7	47.0	0.0
Ln Grp LOS	E	E	C	E	D	D	D	C		E	D	
Approach Vol, veh/h		362			1383			1642			716	
Approach Delay, s/veh		38.8			57.0			36.3			49.7	
Approach LOS		D			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	6	5	7	8			
Case No		2.0	3.0	2.0	3.0	3.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		16.2	65.0	29.1	19.7	39.8	41.4	14.1	34.7			
Change Period (Y+Rc), s		5.4	6.2	5.4	* 6.5	* 6.5	6.2	* 4.7	6.5			
Max Green (Gmax), s		16.1	46.1	25.8	* 19	* 33	28.9	* 11	34.0			
Max Allow Headway (MAH), s		2.3	5.2	2.1	4.2	5.2	3.3	2.1	4.6			
Max Q Clear (g_c+I1), s		10.3	27.1	23.4	9.7	21.6	26.8	5.7	25.3			
Green Ext Time (g_e), s		0.0	6.5	0.2	0.8	3.1	0.6	0.0	2.8			
Prob of Phs Call (p_c)		0.98	1.00	1.00	1.00	1.00	1.00	0.85	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.76	0.05	0.00	1.00	0.00	0.41			
Left-Turn Movement Data												
Assigned Mvmt		1		3			5	7				
Mvmt Sat Flow, veh/h		1781		3456			3456	1781				
Through Movement Data												
Assigned Mvmt			2		4	6			8			
Mvmt Sat Flow, veh/h			3554		1870	3554			3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14	16			18			
Mvmt Sat Flow, veh/h			1585		3170	1585			1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	0	5	7	0			
Lane Assignment		L (Prot)		L (Prot)			L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

6: Monterey Ave & Varner Rd

07/11/2019

Lanes in Grp	1	0	2	0	0	2	1	0
Grp Vol (v), veh/h	116	0	579	0	0	716	53	0
Grp Sat Flow (s), veh/h/ln	1781	0	1728	0	0	1728	1781	0
Q Serve Time (g_s), s	8.3	0.0	21.4	0.0	0.0	24.8	3.7	0.0
Cycle Q Clear Time (g_c), s	8.3	0.0	21.4	0.0	0.0	24.8	3.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	148	0	629	0	0	936	128	0
V/C Ratio (X)	0.78	0.00	0.92	0.00	0.00	0.76	0.41	0.00
Avail Cap (c_a), veh/h	221	0	686	0	0	936	151	0
Upstream Filter (I)	1.00	0.00	0.65	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	58.4	0.0	52.3	0.0	0.0	43.6	57.7	0.0
Incr Delay (d2), s/veh	5.2	0.0	11.6	0.0	0.0	3.6	0.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.7	0.0	63.9	0.0	0.0	47.2	58.5	0.0
1st-Term Q (Q1), veh/ln	3.7	0.0	8.9	0.0	0.0	10.6	1.6	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	1.0	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.0	0.0	9.9	0.0	0.0	11.1	1.6	0.0
%ile Storage Ratio (RQ%)	0.58	0.00	0.84	0.00	0.00	1.39	0.21	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	0	8
Lane Assignment		T		T	T			T
Lanes in Grp	0	2	0	1	2	0	0	2
Grp Vol (v), veh/h	0	926	0	116	600	0	0	663
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	1777	0	0	1777
Q Serve Time (g_s), s	0.0	25.1	0.0	7.7	19.6	0.0	0.0	23.3
Cycle Q Clear Time (g_c), s	0.0	25.1	0.0	7.7	19.6	0.0	0.0	23.3
Lane Grp Cap (c), veh/h	0	1607	0	190	910	0	0	771
V/C Ratio (X)	0.00	0.58	0.00	0.61	0.66	0.00	0.00	0.86
Avail Cap (c_a), veh/h	0	1607	0	276	910	0	0	929
Upstream Filter (I)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	0.65
Uniform Delay (d1), s/veh	0.0	26.4	0.0	55.9	43.3	0.0	0.0	49.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	3.1	3.7	0.0	0.0	4.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.9	0.0	59.1	47.0	0.0	0.0	53.8
1st-Term Q (Q1), veh/ln	0.0	10.6	0.0	3.5	8.6	0.0	0.0	9.9
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.2	0.5	0.0	0.0	0.5

HCM 6th Signalized Intersection Capacity Analysis

6: Monterey Ave & Varner Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.9	0.0	3.7	9.1	0.0	0.0	10.4
%ile Storage Ratio (RQ%)	0.00	1.37	0.00	0.06	0.28	0.00	0.00	0.47
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	0	18
Lane Assignment		R		R	R			R
Lanes in Grp	0	1	0	2	1	0	0	1
Grp Vol (v), veh/h	0	0	0	193	0	0	0	141
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	1585	0	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	4.5	0.0	0.0	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.5	0.0	0.0	0.0	9.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	717	0	322	406	0	0	344
V/C Ratio (X)	0.00	0.00	0.00	0.60	0.00	0.00	0.00	0.41
Avail Cap (c_a), veh/h	0	717	0	468	406	0	0	415
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.65
Uniform Delay (d1), s/veh	0.0	0.0	0.0	19.4	0.0	0.0	0.0	43.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	21.2	0.0	0.0	0.0	44.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.8	0.0	0.0	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	2.9	0.0	0.0	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.35	0.00	0.00	0.00	0.48
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	45.9
HCM 6th LOS	D

Notes

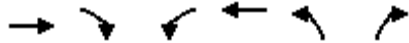
User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 7: I-10 WB Off Ramp & Varner Rd

07/11/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	↑
Traffic Volume (veh/h)	450	0	0	560	1020	60
Future Volume (veh/h)	450	0	0	560	1020	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	474	0	0	589	1074	17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	882	0	0	882	1400	642
Arrive On Green	0.25	0.00	0.00	0.25	0.41	0.41
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	474	0	0	589	1074	17
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1728	1585
Q Serve(g_s), s	3.7	0.0	0.0	4.8	8.7	0.2
Cycle Q Clear(g_c), s	3.7	0.0	0.0	4.8	8.7	0.2
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	882	0	0	882	1400	642
V/C Ratio(X)	0.54	0.00	0.00	0.67	0.77	0.03
Avail Cap(c_a), veh/h	1231	0	0	1231	1882	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.5	0.0	0.0	10.9	8.3	5.8
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.8	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	1.0	2.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.0	0.0	0.0	11.7	9.6	5.8
LnGrp LOS	B	A	A	B	A	A
Approach Vol, veh/h	474			589	1091	
Approach Delay, s/veh	11.0			11.7	9.5	
Approach LOS	B			B	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		13.8			13.8	18.5
Change Period (Y+Rc), s		5.8			5.8	5.4
Max Green Setting (Gmax), s		11.2			11.2	17.6
Max Q Clear Time (g_c+1), s		5.7			6.8	10.7
Green Ext Time (p_c), s		1.1			1.2	2.4
Intersection Summary						
HCM 6th Ctrl Delay			10.4			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

07/11/2019

	→	↘	↙	←	↖	↗					
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	↑↑			↑↑	↖↗	↗					
Traffic Volume (veh/h)	450	0	0	560	1020	60					
Future Volume (veh/h)	450	0	0	560	1020	60					
Number	2	12	1	6	3	18					
Initial Q, veh	0	0	0	0	0	0					
Ped-Bike Adj (A_pbT)		1.00	1.00		1.00	1.00					
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00					
Work Zone On Approach	No			No	No						
Lanes Open During Work Zone											
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870					
Adj Flow Rate, veh/h	474	0	0	589	1074	17					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95					
Percent Heavy Veh, %	2	0	0	2	2	2					
Opposing Right Turn Influence	No			Yes							
Cap, veh/h	882	0	0	882	1400	642					
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00					
Prop Arrive On Green	0.25	0.00	0.00	0.25	0.41	0.41					
Unsig. Movement Delay											
Ln Grp Delay, s/veh	11.0	0.0	0.0	11.7	9.6	5.8					
Ln Grp LOS	B	A	A	B	A	A					
Approach Vol, veh/h	474			589		1091					
Approach Delay, s/veh	11.0			11.7		9.5					
Approach LOS	B			B		A					
Timer:		1	2	3	4	5	6	7	8		
Assigned Phs			2	8			6				
Case No			8.0	9.0			8.0				
Phs Duration (G+Y+Rc), s			13.8	18.5			13.8				
Change Period (Y+Rc), s			5.8	5.4			5.8				
Max Green (Gmax), s			11.2	17.6			11.2				
Max Allow Headway (MAH), s			4.4	3.5			4.4				
Max Q Clear (g_c+I1), s			5.7	10.7			6.8				
Green Ext Time (g_e), s			1.1	2.4			1.2				
Prob of Phs Call (p_c)			0.99	1.00			0.99				
Prob of Max Out (p_x)			0.67	0.41			1.00				
Left-Turn Movement Data											
Assigned Mvmt			5	3			1				
Mvmt Sat Flow, veh/h			0	3456			0				
Through Movement Data											
Assigned Mvmt			2	8			6				
Mvmt Sat Flow, veh/h			3741	0			3741				
Right-Turn Movement Data											
Assigned Mvmt			12	18			16				
Mvmt Sat Flow, veh/h			0	1585			0				
Left Lane Group Data											
Assigned Mvmt	0	5	3	0	0	1	0	0			
Lane Assignment			L								

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

07/11/2019

Lanes in Grp	0	0	2	0	0	0	0	0
Grp Vol (v), veh/h	0	0	1074	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1728	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	8.7	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1728	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	8.0	0.0	0.0	0.0	8.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1400	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.77	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1882	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	9.6	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	474	0	0	0	589	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.7	0.0	0.0	0.0	4.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.7	0.0	0.0	0.0	4.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	882	0	0	0	882	0	0
V/C Ratio (X)	0.00	0.54	0.00	0.00	0.00	0.67	0.00	0.00
Avail Cap (c_a), veh/h	0	1231	0	0	0	1231	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.5	0.0	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.0	0.0	0.0	0.0	11.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	0.0	0.0	1.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

7: I-10 WB Off Ramp & Varner Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	0.0	0.0	1.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment	R							
Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	17	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	642	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	863	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary

8: Monterey Ave & I-10 EB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	1050	0	0	0	0	1730	1150	205	1230	0
Future Volume (veh/h)	60	0	1050	0	0	0	0	1730	1150	205	1230	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	42	0	1091				0	1821	698	216	1295	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	602	0	1071				0	2392	743	237	2037	0
Arrive On Green	0.34	0.00	0.34				0.00	0.31	0.31	0.07	0.57	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	42	0	1091				0	1821	698	216	1295	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	2.1	0.0	43.9				0.0	41.8	55.7	8.1	31.8	0.0
Cycle Q Clear(g_c), s	2.1	0.0	43.9				0.0	41.8	55.7	8.1	31.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	602	0	1071				0	2392	743	237	2037	0
V/C Ratio(X)	0.07	0.00	1.02				0.00	0.76	0.94	0.91	0.64	0.00
Avail Cap(c_a), veh/h	602	0	1071				0	2392	743	237	2037	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.47	0.47	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.2	0.0	43.1				0.0	38.0	42.8	60.2	18.6	0.0
Incr Delay (d2), s/veh	0.0	0.0	32.4				0.0	1.1	12.3	35.9	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	21.8				0.0	18.5	25.1	4.7	13.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	0.0	75.5				0.0	39.2	55.1	96.1	20.2	0.0
LnGrp LOS	C	A	F				A	D	E	F	C	A
Approach Vol, veh/h	1133						2519			1511		
Approach Delay, s/veh	73.7						43.6			31.0		
Approach LOS	E						D			C		
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	33.6	66.7	49.7	80.3								
Change Period (Y+Rc), s	4.7	5.8	5.8	5.8								
Max Green Setting (Gmax), s	30.9	60.9	43.9	74.5								
Max Q Clear Time (g_c+I), s	11.0	57.7	45.9	33.8								
Green Ext Time (p_c), s	0.0	3.0	0.0	13.4								

Intersection Summary

HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

- User approved volume balancing among the lanes for turning movement.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Monterey Ave & I-10 EB Ramps

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	60	0	1050	0	0	0	0	1730	1150	205	1230	0	
Future Volume (veh/h)	60	0	1050	0	0	0	0	1730	1150	205	1230	0	
Number	7	4	14				5	2	12	1	6	16	
Initial Q, veh	0	0	0				0	0	0	0	0	0	
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00	
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No						No			No		
Lanes Open During Work Zone													
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0	
Adj Flow Rate, veh/h	42	0	1091				0	1821	698	216	1295	0	
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0	
Opposing Right Turn Influence	Yes						No			Yes			
Cap, veh/h	602	0	1071				0	2392	743	237	2037	0	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.67	0.67	1.00	1.00	1.00	
Prop Arrive On Green	0.34	0.00	0.34				0.00	0.31	0.31	0.07	0.57	0.00	
Unsig. Movement Delay													
Ln Grp Delay, s/veh	29.2	0.0	75.5				0.0	39.2	55.1	96.1	20.2	0.0	
Ln Grp LOS	C	A	F				A	D	E	F	C	A	
Approach Vol, veh/h		1133						2519			1511		
Approach Delay, s/veh		73.7						43.6			31.0		
Approach LOS		E						D			C		
Timer:		1	2	3	4	5	6	7	8				
Assigned Phs		1	2		4		6						
Case No		2.0	7.0		9.0		4.0						
Phs Duration (G+Y+Rc), s		13.6	66.7		49.7		80.3						
Change Period (Y+Rc), s		* 4.7	5.8		5.8		5.8						
Max Green (Gmax), s		* 8.9	60.9		43.9		74.5						
Max Allow Headway (MAH), s		3.8	4.9		3.5		5.2						
Max Q Clear (g_c+I1), s		10.1	57.7		45.9		33.8						
Green Ext Time (g_e), s		0.0	3.0		0.0		13.4						
Prob of Phs Call (p_c)		1.00	1.00		1.00		1.00						
Prob of Max Out (p_x)		1.00	0.00		1.00		0.00						
Left-Turn Movement Data													
Assigned Mvmt		1	5		7								
Mvmt Sat Flow, veh/h		3456	0		1781								
Through Movement Data													
Assigned Mvmt			2		4		6						
Mvmt Sat Flow, veh/h			5274		0		3647						
Right-Turn Movement Data													
Assigned Mvmt			12		14		16						
Mvmt Sat Flow, veh/h			1585		3170		0						
Left Lane Group Data													
Assigned Mvmt		1	5	0	7	0	0	0	0				
Lane Assignment		L (Prot)				L							

HCM 6th Signalized Intersection Capacity Analysis
 8: Monterey Ave & I-10 EB Ramps

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Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	216	0	0	42	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	8.1	0.0	0.0	2.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	8.1	0.0	0.0	2.1	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	60.9	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	237	0	0	602	0	0	0	0
V/C Ratio (X)	0.91	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	237	0	0	602	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	60.2	0.0	0.0	29.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	35.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	96.1	0.0	0.0	29.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	3.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	4.7	0.0	0.0	0.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.33	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1821	0	0	0	1295	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	41.8	0.0	0.0	0.0	31.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	41.8	0.0	0.0	0.0	31.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	2392	0	0	0	2037	0	0
V/C Ratio (X)	0.00	0.76	0.00	0.00	0.00	0.64	0.00	0.00
Avail Cap (c_a), veh/h	0	2392	0	0	0	2037	0	0
Upstream Filter (I)	0.00	0.47	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	38.0	0.0	0.0	0.0	18.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	39.2	0.0	0.0	0.0	20.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	18.2	0.0	0.0	0.0	12.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

8: Monterey Ave & I-10 EB Ramps

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	18.5	0.0	0.0	0.0	13.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.36	0.00	0.00	0.00	0.84	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	698	0	1091	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	55.7	0.0	43.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	55.7	0.0	43.9	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	743	0	1071	0	0	0	0
V/C Ratio (X)	0.00	0.94	0.00	1.02	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	743	0	1071	0	0	0	0
Upstream Filter (I)	0.00	0.47	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	42.8	0.0	43.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	12.3	0.0	32.4	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	55.1	0.0	75.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	22.6	0.0	17.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	2.5	0.0	4.8	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	25.1	0.0	21.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.88	0.00	5.54	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

9: Monterey Ave & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑↑		↔↔	↑↑↑	↔
Traffic Volume (veh/h)	780	540	470	100	590	770	450	1330	50	470	1095	720
Future Volume (veh/h)	780	540	470	100	590	770	450	1330	50	470	1095	720
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	821	568	308	105	621	0	474	1400	53	495	1153	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	811	1047	467	208	687		520	1715	65	478	1673	
Arrive On Green	0.16	0.29	0.29	0.06	0.19	0.00	0.15	0.34	0.34	0.23	0.55	0.00
Sat Flow, veh/h	5023	3554	1585	3456	3554	1585	3456	5046	191	3456	5106	1585
Grp Volume(v), veh/h	821	568	308	105	621	0	474	945	508	495	1153	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585	1728	1777	1585	1728	1702	1832	1728	1702	1585
Q Serve(g_s), s	21.0	17.4	22.1	3.8	22.2	0.0	17.6	33.0	33.0	18.0	21.3	0.0
Cycle Q Clear(g_c), s	21.0	17.4	22.1	3.8	22.2	0.0	17.6	33.0	33.0	18.0	21.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	811	1047	467	208	687		520	1157	623	478	1673	
V/C Ratio(X)	1.01	0.54	0.66	0.51	0.90		0.91	0.82	0.82	1.03	0.69	
Avail Cap(c_a), veh/h	811	1203	536	213	847		532	1157	623	478	1673	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	0.42	0.42	0.42	1.00	1.00	0.00	0.53	0.53	0.53	0.58	0.58	0.00
Uniform Delay (d), s/veh	54.5	38.5	40.1	59.2	51.3	0.0	54.3	39.2	39.2	50.0	24.6	0.0
Incr Delay (d2), s/veh	23.4	0.1	0.7	0.7	10.2	0.0	11.6	3.5	6.3	40.6	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	7.3	8.3	1.7	10.6	0.0	8.2	13.5	15.0	9.3	6.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	77.9	38.6	40.8	59.9	61.4	0.0	66.0	42.7	45.5	90.5	26.0	0.0
LnGrp LOS	F	D	D	E	E		E	D	D	F	C	
Approach Vol, veh/h		1697			726	A		1927			1648	A
Approach Delay, s/veh		58.0			61.2			49.2			45.4	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	42.8	44.0	24.6	48.6	26.0	30.8	23.0	50.2				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	44.0	44.0	20.0	36.3	21.0	31.0	18.0	38.3				
Max Q Clear Time (g_c+1/8), s	15.8	24.1	19.6	23.3	23.0	24.2	20.0	35.0				
Green Ext Time (p_c), s	0.0	1.2	0.0	2.3	0.0	0.9	0.0	1.3				

Intersection Summary



































HCM 6th Ctrl Delay	52.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	780	540	470	100	590	770	450	1330	50	470	1095	720
Future Volume (veh/h)	780	540	470	100	590	770	450	1330	50	470	1095	720
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	821	568	308	105	621	0	474	1400	53	495	1153	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	811	1047	467	208	687		520	1715	65	478	1673	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Prop Arrive On Green	0.16	0.29	0.29	0.06	0.19	0.00	0.15	0.34	0.34	0.23	0.55	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	77.9	38.6	40.8	59.9	61.4	0.0	66.0	42.7	45.5	90.5	26.0	0.0
Ln Grp LOS	F	D	D	E	E		E	D	D	F	C	
Approach Vol, veh/h		1697			726			1927			1648	
Approach Delay, s/veh		58.0			61.2			49.2			45.4	
Approach LOS		E			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		12.8	44.0	24.6	48.6	26.0	30.8	23.0	50.2			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		8.0	44.0	20.0	36.3	21.0	31.0	18.0	38.3			
Max Allow Headway (MAH), s		1.7	2.5	1.6	2.7	1.7	2.9	1.6	2.7			
Max Q Clear (g_c+I1), s		5.8	24.1	19.6	23.3	23.0	24.2	20.0	35.0			
Green Ext Time (g_e), s		0.0	1.2	0.0	2.3	0.0	0.9	0.0	1.3			
Prob of Phs Call (p_c)		0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.22	0.00	1.00	0.00	1.00	0.08	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		5023		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		5046			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		191			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

9: Monterey Ave & Dinah Shore Dr

07/11/2019

Lanes in Grp	2	0	2	0	3	0	2	0
Grp Vol (v), veh/h	105	0	474	0	821	0	495	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1674	0	1728	0
Q Serve Time (g_s), s	3.8	0.0	17.6	0.0	21.0	0.0	18.0	0.0
Cycle Q Clear Time (g_c), s	3.8	0.0	17.6	0.0	21.0	0.0	18.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	208	0	520	0	811	0	478	0
V/C Ratio (X)	0.51	0.00	0.91	0.00	1.01	0.00	1.03	0.00
Avail Cap (c_a), veh/h	213	0	532	0	811	0	478	0
Upstream Filter (I)	1.00	0.00	0.53	0.00	0.42	0.00	0.58	0.00
Uniform Delay (d1), s/veh	59.2	0.0	54.3	0.0	54.5	0.0	50.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	11.6	0.0	23.4	0.0	40.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.9	0.0	66.0	0.0	77.9	0.0	90.5	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	7.3	0.0	8.5	0.0	6.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.8	0.0	1.8	0.0	2.7	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.7	0.0	8.2	0.0	10.3	0.0	9.3	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.78	0.00	0.93	0.00	1.35	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	2.4	0.0	4.1	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	568	0	1153	0	621	0	945
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	17.4	0.0	21.3	0.0	22.2	0.0	33.0
Cycle Q Clear Time (g_c), s	0.0	17.4	0.0	21.3	0.0	22.2	0.0	33.0
Lane Grp Cap (c), veh/h	0	1047	0	1673	0	687	0	1157
V/C Ratio (X)	0.00	0.54	0.00	0.69	0.00	0.90	0.00	0.82
Avail Cap (c_a), veh/h	0	1203	0	1673	0	847	0	1157
Upstream Filter (I)	0.00	0.42	0.00	0.58	0.00	1.00	0.00	0.53
Uniform Delay (d1), s/veh	0.0	38.5	0.0	24.6	0.0	51.3	0.0	39.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.4	0.0	10.2	0.0	3.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	38.6	0.0	26.0	0.0	61.4	0.0	42.7
1st-Term Q (Q1), veh/ln	0.0	7.3	0.0	6.2	0.0	9.6	0.0	13.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	1.0	0.0	0.6

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.3	0.0	6.4	0.0	10.6	0.0	13.5
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.12	0.00	0.27	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	308	0	0	0	0	0	508
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1832
Q Serve Time (g_s), s	0.0	22.1	0.0	0.0	0.0	0.0	0.0	33.0
Cycle Q Clear Time (g_c), s	0.0	22.1	0.0	0.0	0.0	0.0	0.0	33.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.10
Lane Grp Cap (c), veh/h	0	467	0	519	0	306	0	623
V/C Ratio (X)	0.00	0.66	0.00	0.00	0.00	0.00	0.00	0.82
Avail Cap (c_a), veh/h	0	536	0	519	0	378	0	623
Upstream Filter (I)	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.53
Uniform Delay (d1), s/veh	0.0	40.1	0.0	0.0	0.0	0.0	0.0	39.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.0	0.0	6.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	40.8	0.0	0.0	0.0	0.0	0.0	45.5
1st-Term Q (Q1), veh/ln	0.0	8.2	0.0	0.0	0.0	0.0	0.0	14.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.3	0.0	0.0	0.0	0.0	0.0	15.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	52.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↘	↙	↗		↑↑↑	↗		↑↑↑	↗
Traffic Volume (veh/h)	0	0	0	460	0	100	0	510	680	0	310	130
Future Volume (veh/h)	0	0	0	460	0	100	0	510	680	0	310	130
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No				No
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				484	0	30	0	537	344	0	326	65
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				792	0	352	0	2647	822	0	2647	822
Arrive On Green				0.22	0.00	0.22	0.00	0.52	0.52	0.00	0.52	0.52
Sat Flow, veh/h				3563	0	1585	0	5274	1585	0	5274	1585
Grp Volume(v), veh/h				484	0	30	0	537	344	0	326	65
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1702	1585	0	1702	1585
Q Serve(g_s), s				4.2	0.0	0.5	0.0	2.0	4.6	0.0	1.1	0.7
Cycle Q Clear(g_c), s				4.2	0.0	0.5	0.0	2.0	4.6	0.0	1.1	0.7
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				792	0	352	0	2647	822	0	2647	822
V/C Ratio(X)				0.61	0.00	0.09	0.00	0.20	0.42	0.00	0.12	0.08
Avail Cap(c_a), veh/h				1847	0	822	0	2647	822	0	2647	822
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				12.1	0.0	10.7	0.0	4.5	5.1	0.0	4.3	4.2
Incr Delay (d2), s/veh				0.8	0.0	0.1	0.0	0.2	1.6	0.0	0.1	0.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.4	0.0	0.2	0.0	0.4	1.1	0.0	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				12.9	0.0	10.8	0.0	4.7	6.7	0.0	4.4	4.4
LnGrp LOS				B	A	B	A	A	A	A	A	A
Approach Vol, veh/h					514			881			391	
Approach Delay, s/veh					12.8			5.5			4.4	
Approach LOS					B			A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		22.5				22.5		12.2				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		18.0				18.0		18.0				
Max Q Clear Time (g_c+I1), s		6.6				3.1		6.2				
Green Ext Time (p_c), s		3.8				2.0		1.5				

Intersection Summary




















HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	460	0	100	0	510	680	0	310	130
Future Volume (veh/h)	0	0	0	460	0	100	0	510	680	0	310	130
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				484	0	30	0	537	344	0	326	65
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Opposing Right Turn Influence				Yes			No			No		
Cap, veh/h				792	0	352	0	2647	822	0	2647	822
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.22	0.00	0.22	0.00	0.52	0.52	0.00	0.52	0.52
Unsig. Movement Delay												
Ln Grp Delay, s/veh				12.9	0.0	10.8	0.0	4.7	6.7	0.0	4.4	4.4
Ln Grp LOS				B	A	B	A	A	A	A	A	A
Approach Vol, veh/h					514			881			391	
Approach Delay, s/veh					12.8			5.5			4.4	
Approach LOS					B			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8			6					
Case No			7.0	9.0			7.0					
Phs Duration (G+Y+Rc), s			22.5	12.2			22.5					
Change Period (Y+Rc), s			4.5	4.5			4.5					
Max Green (Gmax), s			18.0	18.0			18.0					
Max Allow Headway (MAH), s			4.8	3.8			5.0					
Max Q Clear (g_c+I1), s			6.6	6.2			3.1					
Green Ext Time (g_e), s			3.8	1.5			2.0					
Prob of Phs Call (p_c)			1.00	0.99			1.00					
Prob of Max Out (p_x)			0.00	0.02			0.00					
Left-Turn Movement Data												
Assigned Mvmt			5	3			1					
Mvmt Sat Flow, veh/h			0	3563			0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			5274	0			5274					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			1585	1585			1585					
Left Lane Group Data												
Assigned Mvmt	0	5	3	0	0	1	0	0				
Lane Assignment			L									

HCM 6th Signalized Intersection Capacity Analysis
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

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Lanes in Grp	0	0	2	0	0	0	0	0
Grp Vol (v), veh/h	0	0	484	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	18.0	0.0	0.0	0.0	18.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	792	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.61	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1847	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	12.9	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.4	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	537	0	0	0	326	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	2.0	0.0	0.0	0.0	1.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.0	0.0	0.0	0.0	1.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	2647	0	0	0	2647	0	0
V/C Ratio (X)	0.00	0.20	0.00	0.00	0.00	0.12	0.00	0.00
Avail Cap (c_a), veh/h	0	2647	0	0	0	2647	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	4.5	0.0	0.0	0.0	4.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.7	0.0	0.0	0.0	4.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R			R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	344	30	0	0	65	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	4.6	0.5	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.6	0.5	0.0	0.0	0.7	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	822	352	0	0	822	0	0
V/C Ratio (X)	0.00	0.42	0.09	0.00	0.00	0.08	0.00	0.00
Avail Cap (c_a), veh/h	0	822	822	0	0	822	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.1	10.7	0.0	0.0	4.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	0.1	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	6.7	10.8	0.0	0.0	4.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.8	0.1	0.0	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.1	0.2	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.00	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	7.3
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕						↑↑↑	↖	↖	↑↑↑	
Traffic Volume (veh/h)	120	0	320	0	0	0	0	1020	540	120	650	0
Future Volume (veh/h)	120	0	320	0	0	0	0	1020	540	120	650	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No					No		No			
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	126	0	337				0	1074	246	126	684	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	459	0	409				0	2093	650	162	2968	0
Arrive On Green	0.26	0.00	0.26				0.00	0.41	0.41	0.09	0.58	0.00
Sat Flow, veh/h	1781	0	1585				0	5274	1585	1781	5274	0
Grp Volume(v), veh/h	126	0	337				0	1074	246	126	684	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1781	1702	0
Q Serve(g_s), s	3.2	0.0	11.2				0.0	8.8	6.1	3.9	3.6	0.0
Cycle Q Clear(g_c), s	3.2	0.0	11.2				0.0	8.8	6.1	3.9	3.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	459	0	409				0	2093	650	162	2968	0
V/C Ratio(X)	0.27	0.00	0.82				0.00	0.51	0.38	0.78	0.23	0.00
Avail Cap(c_a), veh/h	589	0	524				0	2093	650	239	2968	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.6	0.0	19.6				0.0	12.3	11.5	24.9	5.7	0.0
Incr Delay (d2), s/veh	0.3	0.0	8.2				0.0	0.9	1.7	9.3	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	4.6				0.0	3.0	2.1	1.9	1.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.9	0.0	27.8				0.0	13.2	13.2	34.2	5.8	0.0
LnGrp LOS	B	A	C				A	B	B	C	A	A
Approach Vol, veh/h		463						1320			810	
Approach Delay, s/veh		24.8						13.2			10.2	
Approach LOS		C						B			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	9.6	27.4	18.9	37.0								
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	5	20.5	18.5	32.5								
Max Q Clear Time (g_c+I), s	10.8	10.8	13.2	5.6								
Green Ext Time (p_c), s	0.0	5.6	1.2	5.2								

Intersection Summary

HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	0	320	0	0	0	0	1020	540	120	650	0
Future Volume (veh/h)	120	0	320	0	0	0	0	1020	540	120	650	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	126	0	337				0	1074	246	126	684	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	459	0	409				0	2093	650	162	2968	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.26	0.00	0.26				0.00	0.41	0.41	0.09	0.58	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.9	0.0	27.8				0.0	13.2	13.2	34.2	5.8	0.0
Ln Grp LOS	B	A	C				A	B	B	C	A	A
Approach Vol, veh/h		463						1320			810	
Approach Delay, s/veh		24.8						13.2			10.2	
Approach LOS		C						B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		10.0		4.0					
Phs Duration (G+Y+Rc), s		9.6	27.4		18.9		37.0					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green (Gmax), s		7.5	20.5		18.5		32.5					
Max Allow Headway (MAH), s		3.8	5.0		5.1		5.2					
Max Q Clear (g_c+I1), s		5.9	10.8		13.2		5.6					
Green Ext Time (g_e), s		0.0	5.6		1.2		5.2					
Prob of Phs Call (p_c)		0.86	1.00		1.00		1.00					
Prob of Max Out (p_x)		1.00	0.00		0.95		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		1781	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5274		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		1585		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019

Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	126	0	0	126	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	3.9	0.0	0.0	3.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	3.9	0.0	0.0	3.2	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	22.9	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	162	0	0	459	0	0	0	0
V/C Ratio (X)	0.78	0.00	0.00	0.27	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	239	0	0	589	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	24.9	0.0	0.0	16.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	9.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	34.2	0.0	0.0	16.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	0.0	1.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.9	0.0	0.0	1.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.17	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	1074	0	0	0	684	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	8.8	0.0	0.0	0.0	3.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.8	0.0	0.0	0.0	3.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	2093	0	0	0	2968	0	0
V/C Ratio (X)	0.00	0.51	0.00	0.00	0.00	0.23	0.00	0.00
Avail Cap (c_a), veh/h	0	2093	0	0	0	2968	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.3	0.0	0.0	0.0	5.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.2	0.0	0.0	0.0	5.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	0.0	0.0	1.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	0.0	0.0	1.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.00	0.00	0.09	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		T+R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	246	0	337	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	6.1	0.0	11.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.1	0.0	11.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	650	0	409	0	0	0	0
V/C Ratio (X)	0.00	0.38	0.00	0.82	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	650	0	524	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.5	0.0	19.6	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.7	0.0	8.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.2	0.0	27.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	3.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.9	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	4.6	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	0.15	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	14.4
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 12: Portola Rd & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	640	200	710	30	230	0	500	920	20	150	370	470
Future Volume (veh/h)	640	200	710	30	230	0	500	920	20	150	370	470
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	674	211	0	32	242	0	526	968	4	158	389	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	760	1020		172	416	186	607	1267	393	317	838	
Arrive On Green	0.22	0.29	0.00	0.05	0.12	0.00	0.18	0.25	0.25	0.09	0.16	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	674	211	0	32	242	0	526	968	4	158	389	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	16.1	3.8	0.0	0.8	5.5	0.0	12.6	15.0	0.2	3.7	5.9	0.0
Cycle Q Clear(g_c), s	16.1	3.8	0.0	0.8	5.5	0.0	12.6	15.0	0.2	3.7	5.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	760	1020		172	416	186	607	1267	393	317	838	
V/C Ratio(X)	0.89	0.21		0.19	0.58	0.00	0.87	0.76	0.01	0.50	0.46	
Avail Cap(c_a), veh/h	893	2421		325	1837	819	710	2663	827	491	2339	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.2	23.0	0.0	38.8	35.6	0.0	34.1	29.7	24.1	36.8	32.2	0.0
Incr Delay (d2), s/veh	8.7	0.0	0.0	0.2	0.5	0.0	8.7	0.4	0.0	1.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	1.5	0.0	0.3	2.3	0.0	5.6	5.6	0.1	1.6	2.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.9	23.0	0.0	39.0	36.1	0.0	42.8	30.1	24.1	38.0	32.3	0.0
LnGrp LOS	D	C		D	D	A	D	C	C	D	C	
Approach Vol, veh/h		885	A		274			1498			547	A
Approach Delay, s/veh		36.6			36.4			34.5			34.0	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.7	17.0	22.5	21.0	10.2	31.4	15.3	28.1				
Change Period (Y+Rc), s	6.0	7.0	7.5	7.0	6.0	7.0	7.5	7.0				
Max Green Setting (Gmax), s	22.0	44.0	17.5	39.0	8.0	58.0	12.1	44.4				
Max Q Clear Time (g_c+1/10), s	11.0	7.5	14.6	7.9	2.8	5.8	5.7	17.0				
Green Ext Time (p_c), s	0.6	0.9	0.4	1.9	0.0	0.8	0.2	4.2				

Intersection Summary

























HCM 6th Ctrl Delay	35.2
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	640	200	710	30	230	0	500	920	20	150	370	470
Future Volume (veh/h)	640	200	710	30	230	0	500	920	20	150	370	470
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	674	211	0	32	242	0	526	968	4	158	389	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	760	1020		172	416	186	607	1267	393	317	838	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.22	0.29	0.00	0.05	0.12	0.00	0.18	0.25	0.25	0.09	0.16	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	40.9	23.0	0.0	39.0	36.1	0.0	42.8	30.1	24.1	38.0	32.3	0.0
Ln Grp LOS	D	C		D	D	A	D	C	C	D	C	
Approach Vol, veh/h		885			274			1498			547	
Approach Delay, s/veh		36.6			36.4			34.5			34.0	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		24.7	17.0	22.5	21.0	10.2	31.4	15.3	28.1			
Change Period (Y+Rc), s		6.0	7.0	7.5	7.0	6.0	7.0	7.5	7.0			
Max Green (Gmax), s		22.0	44.0	17.5	39.0	8.0	58.0	12.1	44.4			
Max Allow Headway (MAH), s		2.7	3.9	2.7	4.2	2.7	3.9	3.8	3.8			
Max Q Clear (g_c+I1), s		18.1	7.5	14.6	7.9	2.8	5.8	5.7	17.0			
Green Ext Time (g_e), s		0.6	0.9	0.4	1.9	0.0	0.8	0.2	4.2			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	0.53	0.99	0.98	1.00			
Prob of Max Out (p_x)		0.43	0.00	0.82	0.00	0.00	0.00	0.08	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	674	0	526	0	32	0	158	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	16.1	0.0	12.6	0.0	0.8	0.0	3.7	0.0
Cycle Q Clear Time (g_c), s	16.1	0.0	12.6	0.0	0.8	0.0	3.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	760	0	607	0	172	0	317	0
V/C Ratio (X)	0.89	0.00	0.87	0.00	0.19	0.00	0.50	0.00
Avail Cap (c_a), veh/h	893	0	710	0	325	0	491	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	32.2	0.0	34.1	0.0	38.8	0.0	36.8	0.0
Incr Delay (d2), s/veh	8.7	0.0	8.7	0.0	0.2	0.0	1.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	40.9	0.0	42.8	0.0	39.0	0.0	38.0	0.0
1st-Term Q (Q1), veh/ln	6.2	0.0	4.9	0.0	0.3	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.9	0.0	0.7	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	7.2	0.0	5.6	0.0	0.3	0.0	1.6	0.0
%ile Storage Ratio (RQ%)	0.52	0.00	0.51	0.00	0.04	0.00	0.20	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	3
Grp Vol (v), veh/h	0	242	0	389	0	211	0	968
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	5.5	0.0	5.9	0.0	3.8	0.0	15.0
Cycle Q Clear Time (g_c), s	0.0	5.5	0.0	5.9	0.0	3.8	0.0	15.0
Lane Grp Cap (c), veh/h	0	416	0	838	0	1020	0	1267
V/C Ratio (X)	0.00	0.58	0.00	0.46	0.00	0.21	0.00	0.76
Avail Cap (c_a), veh/h	0	1837	0	2339	0	2421	0	2663
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	35.6	0.0	32.2	0.0	23.0	0.0	29.7
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	36.1	0.0	32.3	0.0	23.0	0.0	30.1
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	2.4	0.0	1.5	0.0	5.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	2.4	0.0	1.5	0.0	5.6
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.06	0.00	0.02	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	0	0	0	0	4
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	186	0	260	0	455	0	393
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Avail Cap (c_a), veh/h	0	819	0	726	0	1080	0	827
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	35.2
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

13: Date Palm Dr & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	110	40	405	90	440	40	610	490	325	620	80
Future Volume (veh/h)	80	110	40	405	90	440	40	610	490	325	620	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	116	42	494	0	121	42	642	339	342	653	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	163	57	583	0	260	54	1356	605	366	1764	227
Arrive On Green	0.06	0.06	0.06	0.16	0.00	0.16	0.03	0.38	0.38	0.21	0.56	0.56
Sat Flow, veh/h	1781	2588	898	3563	0	1585	1781	3554	1585	1781	3167	407
Grp Volume(v), veh/h	84	78	80	494	0	121	42	642	339	342	366	371
Grp Sat Flow(s),veh/h/ln	1781	1777	1709	1781	0	1585	1781	1777	1585	1781	1777	1797
Q Serve(g_s), s	5.9	5.5	5.9	17.2	0.0	8.8	3.0	17.5	21.5	24.2	14.7	14.8
Cycle Q Clear(g_c), s	5.9	5.5	5.9	17.2	0.0	8.8	3.0	17.5	21.5	24.2	14.7	14.8
Prop In Lane	1.00		0.53	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	112	112	108	583	0	260	54	1356	605	366	990	1001
V/C Ratio(X)	0.75	0.70	0.74	0.85	0.00	0.47	0.78	0.47	0.56	0.93	0.37	0.37
Avail Cap(c_a), veh/h	127	126	121	863	0	384	97	1356	605	404	990	1001
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.33	0.00	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.0	58.8	58.9	52.0	0.0	48.5	61.6	29.9	31.1	50.0	15.8	15.8
Incr Delay (d2), s/veh	19.3	13.5	19.2	1.8	0.0	0.4	8.6	1.2	3.7	26.4	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	2.9	3.1	7.6	0.0	3.6	1.5	7.5	8.7	13.2	6.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.2	72.3	78.1	53.8	0.0	48.9	70.3	31.1	34.9	76.3	16.9	16.9
LnGrp LOS	E	E	E	D	A	D	E	C	C	E	B	B
Approach Vol, veh/h		242			615			1023			1079	
Approach Delay, s/veh		76.3			52.8			33.9			35.7	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	77.7		27.3	32.3	55.2		13.2				
Change Period (Y+Rc), s	6.0	6.4		6.3	6.0	6.4		5.1				
Max Green Setting (Gmax), s	57.2			31.0	29.0	35.2		9.1				
Max Q Clear Time (g_c+1/4), s	16.8			19.2	26.2	23.5		7.9				
Green Ext Time (p_c), s	0.0	10.3		1.7	0.2	6.8		0.1				

Intersection Summary




























HCM 6th Ctrl Delay	42.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 13: Date Palm Dr & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (veh/h)	80	110	40	405	90	440	40	610	490	325	620	80
Future Volume (veh/h)	80	110	40	405	90	440	40	610	490	325	620	80
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	116	42	494	0	121	42	642	339	342	653	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	112	163	57	583	0	260	54	1356	605	366	1764	227
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.06	0.06	0.16	0.00	0.16	0.03	0.38	0.38	0.21	0.56	0.56
Unsig. Movement Delay												
Ln Grp Delay, s/veh	78.2	72.3	78.1	53.8	0.0	48.9	70.3	31.1	34.9	76.3	16.9	16.9
Ln Grp LOS	E	E	E	D	A	D	E	C	C	E	B	B
Approach Vol, veh/h		242			615			1023			1079	
Approach Delay, s/veh		76.3			52.8			33.9			35.7	
Approach LOS		E			D			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	4.0	10.0	9.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		9.9	77.7	13.2	27.3	32.3	55.2					
Change Period (Y+Rc), s		6.0	6.4	5.1	6.3	6.0	6.4					
Max Green (Gmax), s		7.0	57.2	9.1	31.0	29.0	35.2					
Max Allow Headway (MAH), s		2.7	7.0	4.9	3.7	2.7	6.6					
Max Q Clear (g_c+I1), s		5.0	16.8	7.9	19.2	26.2	23.5					
Green Ext Time (g_e), s		0.0	10.3	0.1	1.7	0.2	6.8					
Prob of Phs Call (p_c)		0.78	1.00	1.00	1.00	1.00	1.00					
Prob of Max Out (p_x)		1.00	0.00	1.00	0.03	0.91	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		1781		1781	3563	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3167	2588	0		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			407	898	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	1	0	1	2	1	0	0	0
Grp Vol (v), veh/h	42	0	84	494	342	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	3.0	0.0	5.9	17.2	24.2	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	3.0	0.0	5.9	17.2	24.2	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	54	0	112	583	366	0	0	0
V/C Ratio (X)	0.78	0.00	0.75	0.85	0.93	0.00	0.00	0.00
Avail Cap (c_a), veh/h	97	0	127	863	404	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.33	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	61.6	0.0	59.0	52.0	50.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	8.6	0.0	19.3	1.8	26.4	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	70.3	0.0	78.2	53.8	76.3	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	2.7	7.4	10.5	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.6	0.1	2.7	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	3.3	7.6	13.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.44	0.00	0.84	1.93	2.05	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T			T		
Lanes in Grp	0	1	1	0	0	2	0	0
Grp Vol (v), veh/h	0	366	78	0	0	642	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	1777	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	14.7	5.5	0.0	0.0	17.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.7	5.5	0.0	0.0	17.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	990	112	0	0	1356	0	0
V/C Ratio (X)	0.00	0.37	0.70	0.00	0.00	0.47	0.00	0.00
Avail Cap (c_a), veh/h	0	990	126	0	0	1356	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	15.8	58.8	0.0	0.0	29.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	13.5	0.0	0.0	1.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.9	72.3	0.0	0.0	31.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.7	2.5	0.0	0.0	7.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.4	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	6.0	2.9	0.0	0.0	7.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.12	0.11	0.00	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	T+R	R		R		
Lanes in Grp	0	1	1	1	0	1	0	0
Grp Vol (v), veh/h	0	371	80	121	0	339	0	0
Grp Sat Flow (s), veh/h/ln	0	1797	1709	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	14.8	5.9	8.8	0.0	21.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.8	5.9	8.8	0.0	21.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.23	0.53	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	1001	108	260	0	605	0	0
V/C Ratio (X)	0.00	0.37	0.74	0.47	0.00	0.56	0.00	0.00
Avail Cap (c_a), veh/h	0	1001	121	384	0	605	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.33	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	15.8	58.9	48.5	0.0	31.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	19.2	0.4	0.0	3.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.9	78.1	48.9	0.0	34.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.8	2.6	3.5	0.0	8.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.6	0.0	0.0	0.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	6.1	3.1	3.6	0.0	8.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.12	0.12	0.02	0.00	2.59	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	42.0
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 14: Da Vall Dr & Gerald Ford Dr

07/11/2019

























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	710	160	90	780	190	170	655	100	110	415	140
Future Volume (veh/h)	60	710	160	90	780	190	170	655	100	110	415	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	747	168	95	821	200	179	689	27	116	437	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	895	201	121	933	227	170	900	401	146	627	209
Arrive On Green	0.05	0.31	0.31	0.07	0.33	0.33	0.10	0.25	0.25	0.08	0.24	0.24
Sat Flow, veh/h	1781	2882	648	1781	2833	690	1781	3554	1585	1781	2618	873
Grp Volume(v), veh/h	63	460	455	95	515	506	179	689	27	116	295	289
Grp Sat Flow(s),veh/h/ln	1781	1777	1754	1781	1777	1746	1781	1777	1585	1781	1777	1713
Q Serve(g_s), s	2.6	17.7	17.7	3.9	20.1	20.1	7.0	13.2	0.9	4.7	11.1	11.3
Cycle Q Clear(g_c), s	2.6	17.7	17.7	3.9	20.1	20.1	7.0	13.2	0.9	4.7	11.1	11.3
Prop In Lane	1.00		0.37	1.00		0.40	1.00		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	88	552	544	121	585	575	170	900	401	146	426	411
V/C Ratio(X)	0.72	0.83	0.83	0.78	0.88	0.88	1.05	0.77	0.07	0.80	0.69	0.70
Avail Cap(c_a), veh/h	121	630	622	121	630	619	170	1308	583	146	630	607
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	23.5	23.5	33.6	23.2	23.2	33.2	25.4	20.8	33.1	25.4	25.5
Incr Delay (d2), s/veh	5.7	8.5	8.7	25.4	13.0	13.2	83.7	1.7	0.1	23.9	2.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	7.7	7.6	2.4	9.3	9.1	6.7	5.2	0.3	2.8	4.5	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.1	32.1	32.2	59.0	36.2	36.4	116.9	27.0	20.9	57.0	27.5	27.7
LnGrp LOS	D	C	C	E	D	D	F	C	C	E	C	C
Approach Vol, veh/h		978			1116			895			700	
Approach Delay, s/veh		32.6			38.2			44.8			32.5	
Approach LOS		C			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	30.7	10.0	25.1	9.0	29.3	11.0	24.1				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	5.0	26.0	6.0	27.0	5.0	26.0	7.0	26.0				
Max Q Clear Time (g_c+14), s	14.6	22.1	6.7	15.2	5.9	19.7	9.0	13.3				
Green Ext Time (p_c), s	0.0	2.1	0.0	3.4	0.0	2.7	0.0	2.6				

Intersection Summary

HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis
 14: Da Vall Dr & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	710	160	90	780	190	170	655	100	110	415	140
Future Volume (veh/h)	60	710	160	90	780	190	170	655	100	110	415	140
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	747	168	95	821	200	179	689	27	116	437	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	88	895	201	121	933	227	170	900	401	146	627	209
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.31	0.31	0.07	0.33	0.33	0.10	0.25	0.25	0.08	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	40.1	32.1	32.2	59.0	36.2	36.4	116.9	27.0	20.9	57.0	27.5	27.7
Ln Grp LOS	D	C	C	E	D	D	F	C	C	E	C	C
Approach Vol, veh/h		978			1116			895			700	
Approach Delay, s/veh		32.6			38.2			44.8			32.5	
Approach LOS		C			D			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		7.6	30.7	10.0	25.1	9.0	29.3	11.0	24.1			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		5.0	26.0	6.0	27.0	5.0	26.0	7.0	26.0			
Max Allow Headway (MAH), s		2.7	4.9	2.7	4.9	2.7	4.9	2.7	5.0			
Max Q Clear (g_c+I1), s		4.6	22.1	6.7	15.2	5.9	19.7	9.0	13.3			
Green Ext Time (g_e), s		0.0	2.1	0.0	3.4	0.0	2.7	0.0	2.6			
Prob of Phs Call (p_c)		0.72	1.00	0.91	1.00	0.86	1.00	0.97	1.00			
Prob of Max Out (p_x)		1.00	1.00	1.00	0.22	1.00	0.81	1.00	0.16			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2833		3554		2882		2618			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			690		1585		648		873			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	63	0	116	0	95	0	179	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.6	0.0	4.7	0.0	3.9	0.0	7.0	0.0
Cycle Q Clear Time (g_c), s	2.6	0.0	4.7	0.0	3.9	0.0	7.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	88	0	146	0	121	0	170	0
V/C Ratio (X)	0.72	0.00	0.80	0.00	0.78	0.00	1.05	0.00
Avail Cap (c_a), veh/h	121	0	146	0	121	0	170	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	34.4	0.0	33.1	0.0	33.6	0.0	33.2	0.0
Incr Delay (d2), s/veh	5.7	0.0	23.9	0.0	25.4	0.0	83.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	40.1	0.0	57.0	0.0	59.0	0.0	116.9	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	1.9	0.0	1.5	0.0	2.8	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	1.0	0.0	0.9	0.0	4.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	2.8	0.0	2.4	0.0	6.7	0.0
%ile Storage Ratio (RQ%)	0.17	0.00	0.52	0.00	0.58	0.00	0.86	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	515	0	689	0	460	0	295
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	20.1	0.0	13.2	0.0	17.7	0.0	11.1
Cycle Q Clear Time (g_c), s	0.0	20.1	0.0	13.2	0.0	17.7	0.0	11.1
Lane Grp Cap (c), veh/h	0	585	0	900	0	552	0	426
V/C Ratio (X)	0.00	0.88	0.00	0.77	0.00	0.83	0.00	0.69
Avail Cap (c_a), veh/h	0	630	0	1308	0	630	0	630
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.2	0.0	25.4	0.0	23.5	0.0	25.4
Incr Delay (d2), s/veh	0.0	13.0	0.0	1.7	0.0	8.5	0.0	2.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	36.2	0.0	27.0	0.0	32.1	0.0	27.5
1st-Term Q (Q1), veh/ln	0.0	7.2	0.0	5.0	0.0	6.4	0.0	4.2
2nd-Term Q (Q2), veh/ln	0.0	2.1	0.0	0.2	0.0	1.3	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.3	0.0	5.2	0.0	7.7	0.0	4.5
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.10	0.00	0.04	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	506	0	27	0	455	0	289
Grp Sat Flow (s), veh/h/ln	0	1746	0	1585	0	1754	0	1713
Q Serve Time (g_s), s	0.0	20.1	0.0	0.9	0.0	17.7	0.0	11.3
Cycle Q Clear Time (g_c), s	0.0	20.1	0.0	0.9	0.0	17.7	0.0	11.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.40	0.00	1.00	0.00	0.37	0.00	0.51
Lane Grp Cap (c), veh/h	0	575	0	401	0	544	0	411
V/C Ratio (X)	0.00	0.88	0.00	0.07	0.00	0.83	0.00	0.70
Avail Cap (c_a), veh/h	0	619	0	583	0	622	0	607
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.2	0.0	20.8	0.0	23.5	0.0	25.5
Incr Delay (d2), s/veh	0.0	13.2	0.0	0.1	0.0	8.7	0.0	2.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	36.4	0.0	20.9	0.0	32.2	0.0	27.7
1st-Term Q (Q1), veh/ln	0.0	7.0	0.0	0.3	0.0	6.3	0.0	4.1
2nd-Term Q (Q2), veh/ln	0.0	2.1	0.0	0.0	0.0	1.3	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.1	0.0	0.3	0.0	7.6	0.0	4.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.05	0.00	0.04	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
 15: Bob Hope Dr & Gerald Ford Dr


































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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑	↗
Traffic Volume (veh/h)	185	550	180	170	610	355	350	840	130	190	790	105
Future Volume (veh/h)	185	550	180	170	610	355	350	840	130	190	790	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	195	579	49	179	642	237	368	884	45	200	832	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	805	359	244	789	352	437	1412	630	266	1236	551
Arrive On Green	0.08	0.23	0.23	0.07	0.22	0.22	0.13	0.40	0.40	0.08	0.35	0.35
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	195	579	49	179	642	237	368	884	45	200	832	36
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.6	15.2	2.5	5.1	17.3	13.8	10.5	20.1	1.8	5.7	20.1	1.5
Cycle Q Clear(g_c), s	5.6	15.2	2.5	5.1	17.3	13.8	10.5	20.1	1.8	5.7	20.1	1.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	805	359	244	789	352	437	1412	630	266	1236	551
V/C Ratio(X)	0.75	0.72	0.14	0.73	0.81	0.67	0.84	0.63	0.07	0.75	0.67	0.07
Avail Cap(c_a), veh/h	309	988	441	309	988	441	549	1412	630	343	1236	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.6	36.0	31.1	45.9	37.2	35.8	43.0	24.3	18.8	45.5	28.0	21.9
Incr Delay (d2), s/veh	6.3	2.0	0.2	4.4	4.3	2.8	7.8	2.1	0.2	4.6	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	6.4	0.9	2.2	7.5	5.3	4.7	8.0	0.6	2.5	8.1	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.9	38.0	31.2	50.3	41.5	38.7	50.7	26.5	19.0	50.1	29.4	22.0
LnGrp LOS	D	D	C	D	D	D	D	C	B	D	C	C
Approach Vol, veh/h		823			1058			1297			1068	
Approach Delay, s/veh		40.9			42.3			33.1			33.0	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.7	41.5	12.1	29.3	12.8	46.5	12.6	28.9				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5				
Max Green Setting (Gmax), s	10.0	34.0	9.0	28.0	10.0	40.0	9.0	28.0				
Max Q Clear Time (g_c+1/2), s	12.5	22.1	7.1	17.2	7.7	22.1	7.6	19.3				
Green Ext Time (p_c), s	0.3	4.1	0.1	2.7	0.1	5.2	0.0	3.1				
Intersection Summary												
HCM 6th Ctrl Delay											36.9	
HCM 6th LOS											D	

HCM 6th Signalized Intersection Capacity Analysis
 15: Bob Hope Dr & Gerald Ford Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		 	 	 
Traffic Volume (veh/h)	185	550	180	170	610	355	350	840	130	190	790	105
Future Volume (veh/h)	185	550	180	170	610	355	350	840	130	190	790	105
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	195	579	49	179	642	237	368	884	45	200	832	36
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	260	805	359	244	789	352	437	1412	630	266	1236	551
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.23	0.23	0.07	0.22	0.22	0.13	0.40	0.40	0.08	0.35	0.35
Unsig. Movement Delay												
Ln Grp Delay, s/veh	51.9	38.0	31.2	50.3	41.5	38.7	50.7	26.5	19.0	50.1	29.4	22.0
Ln Grp LOS	D	D	C	D	D	D	D	C	B	D	C	C
Approach Vol, veh/h		823			1058			1297			1068	
Approach Delay, s/veh		40.9			42.3			33.1			33.0	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		17.7	41.5	12.1	29.3	12.8	46.5	12.6	28.9			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5			
Max Green (Gmax), s		16.0	34.0	9.0	28.0	10.0	40.0	9.0	28.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.7	2.7	4.6			
Max Q Clear (g_c+I1), s		12.5	22.1	7.1	17.2	7.7	22.1	7.6	19.3			
Green Ext Time (g_e), s		0.3	4.1	0.1	2.7	0.1	5.2	0.0	3.1			
Prob of Phs Call (p_c)		1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.40	0.28	1.00	0.20	1.00	0.00	1.00	0.44			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	368	0	179	0	200	0	195	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	10.5	0.0	5.1	0.0	5.7	0.0	5.6	0.0
Cycle Q Clear Time (g_c), s	10.5	0.0	5.1	0.0	5.7	0.0	5.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	437	0	244	0	266	0	260	0
V/C Ratio (X)	0.84	0.00	0.73	0.00	0.75	0.00	0.75	0.00
Avail Cap (c_a), veh/h	549	0	309	0	343	0	309	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	43.0	0.0	45.9	0.0	45.5	0.0	45.6	0.0
Incr Delay (d2), s/veh	7.8	0.0	4.4	0.0	4.6	0.0	6.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.7	0.0	50.3	0.0	50.1	0.0	51.9	0.0
1st-Term Q (Q1), veh/ln	4.2	0.0	2.1	0.0	2.3	0.0	2.3	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.1	0.0	0.2	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.7	0.0	2.2	0.0	2.5	0.0	2.5	0.0
%ile Storage Ratio (RQ%)	0.53	0.00	0.25	0.00	0.29	0.00	0.29	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	832	0	579	0	884	0	642
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	20.1	0.0	15.2	0.0	20.1	0.0	17.3
Cycle Q Clear Time (g_c), s	0.0	20.1	0.0	15.2	0.0	20.1	0.0	17.3
Lane Grp Cap (c), veh/h	0	1236	0	805	0	1412	0	789
V/C Ratio (X)	0.00	0.67	0.00	0.72	0.00	0.63	0.00	0.81
Avail Cap (c_a), veh/h	0	1236	0	988	0	1412	0	988
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.0	0.0	36.0	0.0	24.3	0.0	37.2
Incr Delay (d2), s/veh	0.0	1.4	0.0	2.0	0.0	2.1	0.0	4.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.4	0.0	38.0	0.0	26.5	0.0	41.5
1st-Term Q (Q1), veh/ln	0.0	7.9	0.0	6.2	0.0	7.6	0.0	7.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	0.4	0.0	0.5

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.1	0.0	6.4	0.0	8.0	0.0	7.5
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.02	0.00	0.09	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	36	0	49	0	45	0	237
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.5	0.0	2.5	0.0	1.8	0.0	13.8
Cycle Q Clear Time (g_c), s	0.0	1.5	0.0	2.5	0.0	1.8	0.0	13.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	551	0	359	0	630	0	352
V/C Ratio (X)	0.00	0.07	0.00	0.14	0.00	0.07	0.00	0.67
Avail Cap (c_a), veh/h	0	551	0	441	0	630	0	441
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.9	0.0	31.1	0.0	18.8	0.0	35.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.2	0.0	2.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.0	0.0	31.2	0.0	19.0	0.0	38.7
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.9	0.0	0.6	0.0	5.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.9	0.0	0.6	0.0	5.3
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.17	0.00	0.10	0.00	0.46
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
 16: Monterey Ave & Gerald Ford Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↖		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	170	570	160	190	795	150	210	1510	80	190	1370	110
Future Volume (veh/h)	170	570	160	190	795	150	210	1510	80	190	1370	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	600	63	200	837	55	221	1589	84	200	1442	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	229	961	429	252	939	419	274	1994	105	250	2017	
Arrive On Green	0.07	0.27	0.27	0.07	0.26	0.26	0.05	0.27	0.27	0.07	0.39	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4965	262	3456	5106	1585
Grp Volume(v), veh/h	179	600	63	200	837	55	221	1089	584	200	1442	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1823	1728	1702	1585
Q Serve(g_s), s	6.6	19.3	3.9	7.4	29.5	2.7	8.2	38.7	38.7	7.4	31.0	0.0
Cycle Q Clear(g_c), s	6.6	19.3	3.9	7.4	29.5	2.7	8.2	38.7	38.7	7.4	31.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	229	961	429	252	939	419	274	1367	732	250	2017	
V/C Ratio(X)	0.78	0.62	0.15	0.79	0.89	0.13	0.81	0.80	0.80	0.80	0.71	
Avail Cap(c_a), veh/h	239	961	429	319	1020	455	319	1367	732	266	2017	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.78	0.78	0.78	0.86	0.86	0.86	0.66	0.66	0.00
Uniform Delay (d), s/veh	59.8	41.6	36.0	59.3	46.0	22.1	60.6	42.6	42.6	59.4	33.2	0.0
Incr Delay (d2), s/veh	13.2	1.3	0.2	6.3	7.7	0.1	9.3	4.2	7.7	9.3	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	8.3	1.5	3.5	14.0	1.3	3.9	17.2	19.2	3.5	12.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.0	42.9	36.2	65.5	53.7	22.3	69.9	46.8	50.2	68.6	34.6	0.0
LnGrp LOS	E	D	D	E	D	C	E	D	D	E	C	
Approach Vol, veh/h		842			1092			1894			1642	A
Approach Delay, s/veh		48.8			54.3			50.6			38.8	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.3	58.3	15.3	41.0	14.4	59.2	14.5	41.9				
Change Period (Y+Rc), s	5.0	7.0	6.7	* 6.7	5.0	7.0	5.0	6.7				
Max Green Setting (Gmax), s	12.0	48.0	9.0	* 37	10.0	50.0	12.0	34.3				
Max Q Clear Time (g_c+110), s	11.0	33.0	8.6	31.5	9.4	40.7	9.4	21.3				
Green Ext Time (p_c), s	0.1	8.9	0.0	2.9	0.0	6.8	0.1	3.1				

Intersection Summary

HCM 6th Ctrl Delay	47.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	570	160	190	795	150	210	1510	80	190	1370	110
Future Volume (veh/h)	170	570	160	190	795	150	210	1510	80	190	1370	110
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	600	63	200	837	55	221	1589	84	200	1442	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	229	961	429	252	939	419	274	1994	105	250	2017	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.27	0.27	0.07	0.26	0.26	0.05	0.27	0.27	0.07	0.39	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	73.0	42.9	36.2	65.5	53.7	22.3	69.9	46.8	50.2	68.6	34.6	0.0
Ln Grp LOS	E	D	D	E	D	C	E	D	D	E	C	
Approach Vol, veh/h		842			1092			1894			1642	
Approach Delay, s/veh		48.8			54.3			50.6			38.8	
Approach LOS		D			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	3.0	3.0	2.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.3	58.3	41.0	15.3	14.4	59.2	14.5	41.9			
Change Period (Y+Rc), s		5.0	7.0	* 6.7	6.7	5.0	7.0	5.0	6.7			
Max Green (Gmax), s		12.0	48.0	* 37	9.0	10.0	50.0	12.0	34.3			
Max Allow Headway (MAH), s		2.6	5.2	5.2	2.7	2.6	5.2	2.8	4.7			
Max Q Clear (g_c+I1), s		10.2	33.0	31.5	8.6	9.4	40.7	9.4	21.3			
Green Ext Time (g_e), s		0.1	8.9	2.9	0.0	0.0	6.8	0.1	3.1			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.91	1.00	1.00	0.00	1.00	0.12			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	3456		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			5106	3554			4965		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1585	1585			262		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	0	2	2	0	2	0
Grp Vol (v), veh/h	221	0	0	179	200	0	200	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1728	0	1728	0
Q Serve Time (g_s), s	8.2	0.0	0.0	6.6	7.4	0.0	7.4	0.0
Cycle Q Clear Time (g_c), s	8.2	0.0	0.0	6.6	7.4	0.0	7.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	274	0	0	229	250	0	252	0
V/C Ratio (X)	0.81	0.00	0.00	0.78	0.80	0.00	0.79	0.00
Avail Cap (c_a), veh/h	319	0	0	239	266	0	319	0
Upstream Filter (I)	0.86	0.00	0.00	1.00	0.66	0.00	0.78	0.00
Uniform Delay (d1), s/veh	60.6	0.0	0.0	59.8	59.4	0.0	59.3	0.0
Incr Delay (d2), s/veh	9.3	0.0	0.0	13.2	9.3	0.0	6.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	69.9	0.0	0.0	73.0	68.6	0.0	65.5	0.0
1st-Term Q (Q1), veh/ln	3.6	0.0	0.0	2.8	3.1	0.0	3.2	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.0	0.4	0.3	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.9	0.0	0.0	3.2	3.5	0.0	3.5	0.0
%ile Storage Ratio (RQ%)	0.50	0.00	0.00	0.50	0.44	0.00	0.48	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	3	2	0	0	2	0	2
Grp Vol (v), veh/h	0	1442	837	0	0	1089	0	600
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	31.0	29.5	0.0	0.0	38.7	0.0	19.3
Cycle Q Clear Time (g_c), s	0.0	31.0	29.5	0.0	0.0	38.7	0.0	19.3
Lane Grp Cap (c), veh/h	0	2017	939	0	0	1367	0	961
V/C Ratio (X)	0.00	0.71	0.89	0.00	0.00	0.80	0.00	0.62
Avail Cap (c_a), veh/h	0	2017	1020	0	0	1367	0	961
Upstream Filter (I)	0.00	0.66	0.78	0.00	0.00	0.86	0.00	1.00
Uniform Delay (d1), s/veh	0.0	33.2	46.0	0.0	0.0	42.6	0.0	41.6
Incr Delay (d2), s/veh	0.0	1.5	7.7	0.0	0.0	4.2	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	34.6	53.7	0.0	0.0	46.8	0.0	42.9
1st-Term Q (Q1), veh/ln	0.0	11.9	13.0	0.0	0.0	16.4	0.0	8.1
2nd-Term Q (Q2), veh/ln	0.0	0.3	1.0	0.0	0.0	0.8	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	12.2	14.0	0.0	0.0	17.2	0.0	8.3
%ile Storage Ratio (RQ%)	0.00	0.06	0.07	0.00	0.00	0.29	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		R	R			T+R		R
Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	0	55	0	0	584	0	63
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1823	0	1585
Q Serve Time (g_s), s	0.0	0.0	2.7	0.0	0.0	38.7	0.0	3.9
Cycle Q Clear Time (g_c), s	0.0	0.0	2.7	0.0	0.0	38.7	0.0	3.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.14	0.00	1.00
Lane Grp Cap (c), veh/h	0	626	419	0	0	732	0	429
V/C Ratio (X)	0.00	0.00	0.13	0.00	0.00	0.80	0.00	0.15
Avail Cap (c_a), veh/h	0	626	455	0	0	732	0	429
Upstream Filter (I)	0.00	0.00	0.78	0.00	0.00	0.86	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	22.1	0.0	0.0	42.6	0.0	36.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.0	0.0	7.7	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	22.3	0.0	0.0	50.2	0.0	36.2
1st-Term Q (Q1), veh/ln	0.0	0.0	1.3	0.0	0.0	17.6	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.3	0.0	0.0	19.2	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.00	0.32	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	47.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

17: Portola Rd & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖↗	↕↔	↗	↖↗	↕↔	↗	↖↗	↕↔	↗
Traffic Volume (veh/h)	150	640	140	50	655	340	280	990	180	280	635	195
Future Volume (veh/h)	150	640	140	50	655	340	280	990	180	280	635	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	674	147	53	689	0	295	1042	50	295	668	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	784	171	240	1115		376	1306	405	349	1266	
Arrive On Green	0.11	0.27	0.27	0.07	0.22	0.00	0.11	0.26	0.26	0.10	0.25	0.00
Sat Flow, veh/h	1781	2901	632	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	158	413	408	53	689	0	295	1042	50	295	668	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1757	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	6.9	17.5	17.5	1.1	9.6	0.0	6.6	15.1	1.9	6.6	9.0	0.0
Cycle Q Clear(g_c), s	6.9	17.5	17.5	1.1	9.6	0.0	6.6	15.1	1.9	6.6	9.0	0.0
Prop In Lane	1.00		0.36	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	194	480	475	240	1115		376	1306	405	349	1266	
V/C Ratio(X)	0.81	0.86	0.86	0.22	0.62		0.78	0.80	0.12	0.84	0.53	
Avail Cap(c_a), veh/h	293	943	932	349	2388		437	2452	761	349	2323	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.5	27.4	27.5	34.8	27.9	0.0	34.4	27.5	22.6	35.0	25.7	0.0
Incr Delay (d2), s/veh	5.9	1.8	1.8	0.2	0.2	0.0	6.6	0.4	0.0	16.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	7.3	7.2	0.5	3.6	0.0	3.0	5.9	0.7	3.4	3.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	29.2	29.3	35.0	28.2	0.0	40.9	28.0	22.7	51.1	25.9	0.0
LnGrp LOS	D	C	C	C	C		D	C	C	D	C	
Approach Vol, veh/h		979			742	A		1387			963	A
Approach Delay, s/veh		31.0			28.6			30.5			33.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	3.0	27.2	10.5	28.4	13.6	26.6	14.6	24.3				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7				
Max Green Setting (Gmax), s	3.0	38.0	8.0	42.0	10.0	36.0	13.0	* 37				
Max Q Clear Time (g_c+1), s	10.6	17.1	3.1	19.5	8.6	11.0	8.9	11.6				
Green Ext Time (p_c), s	0.0	3.1	0.0	1.9	0.0	1.4	0.0	1.5				

Intersection Summary

HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes
























User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	640	140	50	655	340	280	990	180	280	635	195
Future Volume (veh/h)	150	640	140	50	655	340	280	990	180	280	635	195
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	674	147	53	689	0	295	1042	50	295	668	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	194	784	171	240	1115		376	1306	405	349	1266	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.27	0.27	0.07	0.22	0.00	0.11	0.26	0.26	0.10	0.25	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	40.3	29.2	29.3	35.0	28.2	0.0	40.9	28.0	22.7	51.1	25.9	0.0
Ln Grp LOS	D	C	C	C	C		D	C	C	D	C	
Approach Vol, veh/h		979			742			1387			963	
Approach Delay, s/veh		31.0			28.6			30.5			33.6	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		13.0	27.2	10.5	28.4	13.6	26.6	14.6	24.3			
Change Period (Y+Rc), s		5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7			
Max Green (Gmax), s		8.0	38.0	8.0	42.0	10.0	36.0	13.0	* 37			
Max Allow Headway (MAH), s		1.7	3.2	1.7	3.3	1.8	2.8	1.8	2.8			
Max Q Clear (g_c+I1), s		8.6	17.1	3.1	19.5	8.6	11.0	8.9	11.6			
Green Ext Time (g_e), s		0.0	3.1	0.0	1.9	0.0	1.4	0.0	1.5			
Prob of Phs Call (p_c)		1.00	1.00	0.69	1.00	1.00	1.00	0.97	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.00	0.00	1.00	0.00	0.01	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		2901		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		632		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	1	0
Grp Vol (v), veh/h	295	0	53	0	295	0	158	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1781	0
Q Serve Time (g_s), s	6.6	0.0	1.1	0.0	6.6	0.0	6.9	0.0
Cycle Q Clear Time (g_c), s	6.6	0.0	1.1	0.0	6.6	0.0	6.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	349	0	240	0	376	0	194	0
V/C Ratio (X)	0.84	0.00	0.22	0.00	0.78	0.00	0.81	0.00
Avail Cap (c_a), veh/h	349	0	349	0	437	0	293	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	35.0	0.0	34.8	0.0	34.4	0.0	34.5	0.0
Incr Delay (d2), s/veh	16.2	0.0	0.2	0.0	6.6	0.0	5.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	51.1	0.0	35.0	0.0	40.9	0.0	40.3	0.0
1st-Term Q (Q1), veh/ln	2.6	0.0	0.4	0.0	2.7	0.0	2.9	0.0
2nd-Term Q (Q2), veh/ln	0.8	0.0	0.0	0.0	0.3	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.4	0.0	0.5	0.0	3.0	0.0	3.2	0.0
%ile Storage Ratio (RQ%)	0.33	0.00	0.05	0.00	0.32	0.00	0.49	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	3	0	3
Grp Vol (v), veh/h	0	1042	0	413	0	668	0	689
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1702
Q Serve Time (g_s), s	0.0	15.1	0.0	17.5	0.0	9.0	0.0	9.6
Cycle Q Clear Time (g_c), s	0.0	15.1	0.0	17.5	0.0	9.0	0.0	9.6
Lane Grp Cap (c), veh/h	0	1306	0	480	0	1266	0	1115
V/C Ratio (X)	0.00	0.80	0.00	0.86	0.00	0.53	0.00	0.62
Avail Cap (c_a), veh/h	0	2452	0	943	0	2323	0	2388
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.5	0.0	27.4	0.0	25.7	0.0	27.9
Incr Delay (d2), s/veh	0.0	0.4	0.0	1.8	0.0	0.1	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.0	0.0	29.2	0.0	25.9	0.0	28.2
1st-Term Q (Q1), veh/ln	0.0	5.9	0.0	7.1	0.0	3.3	0.0	3.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.9	0.0	7.3	0.0	3.3	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.04	0.00	0.06	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	50	0	408	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1757	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.9	0.0	17.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.9	0.0	17.5	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.36	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	405	0	475	0	393	0	346
V/C Ratio (X)	0.00	0.12	0.00	0.86	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	761	0	932	0	721	0	741
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	22.6	0.0	27.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.7	0.0	29.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	7.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.7	0.0	7.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 18: Cook St & I-10 WB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations						↕ ↗		↕ ↗	↗		↕ ↗ ↘	
Traffic Volume (veh/h)	0	0	0	510	0	50	0	440	730	0	420	50
Future Volume (veh/h)	0	0	0	510	0	50	0	440	730	0	420	50
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				537	0	18	0	463	0	0	442	53
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				596	0	530	0	2010		0	2619	309
Arrive On Green				0.33	0.00	0.33	0.00	0.19	0.00	0.00	0.57	0.57
Sat Flow, veh/h				1781	0	1585	0	3647	1585	0	4799	546
Grp Volume(v), veh/h				537	0	18	0	463	0	0	323	172
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1777	1585	0	1702	1772
Q Serve(g_s), s				31.6	0.0	0.8	0.0	12.2	0.0	0.0	5.0	5.1
Cycle Q Clear(g_c), s				31.6	0.0	0.8	0.0	12.2	0.0	0.0	5.0	5.1
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.31
Lane Grp Cap(c), veh/h				596	0	530	0	2010		0	1925	1002
V/C Ratio(X)				0.90	0.00	0.03	0.00	0.23		0.00	0.17	0.17
Avail Cap(c_a), veh/h				777	0	692	0	2010		0	1925	1002
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.61	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				34.9	0.0	24.6	0.0	24.4	0.0	0.0	11.5	11.5
Incr Delay (d2), s/veh				11.3	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				15.3	0.0	0.3	0.0	5.4	0.0	0.0	1.7	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				46.2	0.0	24.7	0.0	24.6	0.0	0.0	11.7	11.9
LnGrp LOS				D	A	C	A	C		A	B	B
Approach Vol, veh/h					555			463	A		495	
Approach Delay, s/veh					45.5			24.6			11.7	
Approach LOS					D			C			B	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		68.2				68.2		41.8				
Change Period (Y+Rc), s		6.0				6.0		5.0				
Max Green Setting (Gmax), s		51.0				51.0		48.0				
Max Q Clear Time (g_c+I1), s		14.2				7.1		33.6				
Green Ext Time (p_c), s		2.8				2.8		3.2				

Intersection Summary



















HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	510	0	50	0	440	730	0	420	50
Future Volume (veh/h)	0	0	0	510	0	50	0	440	730	0	420	50
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				537	0	18	0	463	0	0	442	53
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Opposing Right Turn Influence				Yes			No			No		
Cap, veh/h				596	0	530	0	2010		0	2619	309
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green				0.33	0.00	0.33	0.00	0.19	0.00	0.00	0.57	0.57
Unsig. Movement Delay												
Ln Grp Delay, s/veh				46.2	0.0	24.7	0.0	24.6	0.0	0.0	11.7	11.9
Ln Grp LOS				D	A	C	A	C		A	B	B
Approach Vol, veh/h					555			463			495	
Approach Delay, s/veh					45.5			24.6			11.7	
Approach LOS					D			C			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8			6					
Case No			7.0	11.0			8.0					
Phs Duration (G+Y+Rc), s			68.2	41.8			68.2					
Change Period (Y+Rc), s			6.0	5.0			6.0					
Max Green (Gmax), s			51.0	48.0			51.0					
Max Allow Headway (MAH), s			4.7	5.3			4.8					
Max Q Clear (g_c+I1), s			14.2	33.6			7.1					
Green Ext Time (g_e), s			2.8	3.2			2.8					
Prob of Phs Call (p_c)			1.00	1.00			1.00					
Prob of Max Out (p_x)			0.00	0.14			0.00					
Left-Turn Movement Data												
Assigned Mvmt			5	3			1					
Mvmt Sat Flow, veh/h			0	1781			0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			3647	0			4799					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			1585	1585			546					
Left Lane Group Data												
Assigned Mvmt	0	5	3	0	0	1	0	0				
Lane Assignment			L+T									

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

07/11/2019

Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	537	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	31.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	31.6	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	62.2	0.0	0.0	0.0	62.2	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	596	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.90	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	777	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	34.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	46.2	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	13.4	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	15.3	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.44	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	463	0	0	0	323	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	12.2	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.2	0.0	0.0	0.0	5.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2010	0	0	0	1925	0	0
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	2010	0	0	0	1925	0	0
Upstream Filter (I)	0.00	0.61	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	24.4	0.0	0.0	0.0	11.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.6	0.0	0.0	0.0	11.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.3	0.0	0.0	0.0	1.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.4	0.0	0.0	0.0	1.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.29	0.00	0.00	0.00	0.12	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	18	0	0	172	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1772	0	0
Q Serve Time (g_s), s	0.0	0.0	0.8	0.0	0.0	5.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.8	0.0	0.0	5.1	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.31	0.00	0.00
Lane Grp Cap (c), veh/h	0	896	530	0	0	1002	0	0
V/C Ratio (X)	0.00	0.00	0.03	0.00	0.00	0.17	0.00	0.00
Avail Cap (c_a), veh/h	0	896	692	0	0	1002	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	24.6	0.0	0.0	11.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	24.7	0.0	0.0	11.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.3	0.0	0.0	1.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.3	0.0	0.0	1.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.00	0.13	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 19: Cook St & I-10 EB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	260	0	770	0	0	0	0	910	740	220	710	0	
Future Volume (veh/h)	260	0	770	0	0	0	0	910	740	220	710	0	
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0	
Adj Flow Rate, veh/h	274	0	628				0	958	779	232	747	0	
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0	
Cap, veh/h	405	0	721				0	1658	772	258	3435	0	
Arrive On Green	0.23	0.00	0.23				0.00	0.49	0.49	0.29	1.00	0.00	
Sat Flow, veh/h	1781	0	3170				0	3572	1585	1781	5274	0	
Grp Volume(v), veh/h	274	0	628				0	958	779	232	747	0	
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1781	1702	0	
Q Serve(g_s), s	15.4	0.0	21.0				0.0	22.1	53.6	13.8	0.0	0.0	
Cycle Q Clear(g_c), s	15.4	0.0	21.0				0.0	22.1	53.6	13.8	0.0	0.0	
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00	
Lane Grp Cap(c), veh/h	405	0	721				0	1658	772	258	3435	0	
V/C Ratio(X)	0.68	0.00	0.87				0.00	0.58	1.01	0.90	0.22	0.00	
Avail Cap(c_a), veh/h	470	0	836				0	1658	772	348	3435	0	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00	
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.62	0.62	0.99	0.99	0.00	
Uniform Delay (d), s/veh	38.8	0.0	40.9				0.0	20.1	28.2	38.3	0.0	0.0	
Incr Delay (d2), s/veh	3.2	0.0	8.9				0.0	0.9	27.7	17.4	0.1	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	7.1	0.0	9.0				0.0	8.0	23.5	6.0	0.0	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	42.0	0.0	49.9				0.0	21.1	55.9	55.8	0.1	0.0	
LnGrp LOS	D	A	D				A	C	F	E	A	A	
Approach Vol, veh/h		902						1737			979		
Approach Delay, s/veh		47.5						36.7			13.3		
Approach LOS		D						D			B		
Timer - Assigned Phs	1	2	4	6									
Phs Duration (G+Y+Rc), s	30.4	59.6	30.0	80.0									
Change Period (Y+Rc), s	4.5	6.0	5.0	6.0									
Max Green Setting (Gmax), s	21.5	44.0	29.0	70.0									
Max Q Clear Time (g_c+1/5), s	11.8	55.6	23.0	2.0									
Green Ext Time (p_c), s	0.2	0.0	2.0	5.0									

Intersection Summary

HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	0	770	0	0	0	0	910	740	220	710	0
Future Volume (veh/h)	260	0	770	0	0	0	0	910	740	220	710	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	274	0	628				0	958	779	232	747	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	405	0	721				0	1658	772	258	3435	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Prop Arrive On Green	0.23	0.00	0.23				0.00	0.49	0.49	0.29	1.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	42.0	0.0	49.9				0.0	21.1	55.9	55.8	0.1	0.0
Ln Grp LOS	D	A	D				A	C	F	E	A	A
Approach Vol, veh/h		902						1737			979	
Approach Delay, s/veh		47.5						36.7			13.3	
Approach LOS		D						D			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	8.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		20.4	59.6		30.0		80.0					
Change Period (Y+Rc), s		4.5	6.0		5.0		6.0					
Max Green (Gmax), s		21.5	44.0		29.0		70.0					
Max Allow Headway (MAH), s		2.6	4.9		4.0		4.7					
Max Q Clear (g_c+I1), s		15.8	55.6		23.0		2.0					
Green Ext Time (g_e), s		0.2	0.0		2.0		5.0					
Prob of Phs Call (p_c)		1.00	1.00		1.00		1.00					
Prob of Max Out (p_x)		0.03	0.00		0.60		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		1781	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			3572		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

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Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	232	0	0	274	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	13.8	0.0	0.0	15.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	13.8	0.0	0.0	15.4	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	53.6	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	258	0	0	405	0	0	0	0
V/C Ratio (X)	0.90	0.00	0.00	0.68	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	348	0	0	470	0	0	0	0
Upstream Filter (I)	0.99	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	38.3	0.0	0.0	38.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	17.4	0.0	0.0	3.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	55.8	0.0	0.0	42.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	4.8	0.0	0.0	6.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	1.2	0.0	0.0	0.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	6.0	0.0	0.0	7.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.54	0.00	0.00	0.24	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	3	0	0
Grp Vol (v), veh/h	0	958	0	0	0	747	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	22.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.1	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1658	0	0	0	3435	0	0
V/C Ratio (X)	0.00	0.58	0.00	0.00	0.00	0.22	0.00	0.00
Avail Cap (c_a), veh/h	0	1658	0	0	0	3435	0	0
Upstream Filter (I)	0.00	0.62	0.00	0.00	0.00	0.99	0.00	0.00
Uniform Delay (d1), s/veh	0.0	20.1	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.1	0.0	0.0	0.0	0.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.8	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	779	0	628	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	53.6	0.0	21.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	53.6	0.0	21.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	772	0	721	0	0	0	0
V/C Ratio (X)	0.00	1.01	0.00	0.87	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	772	0	836	0	0	0	0
Upstream Filter (I)	0.00	0.62	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	28.2	0.0	40.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	27.7	0.0	8.9	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	55.9	0.0	49.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	17.6	0.0	8.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	5.9	0.0	0.9	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	23.5	0.0	9.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.40	0.00	0.55	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
20: Cook St & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	530	280	290	90	330	160	400	960	30	230	940	320
Future Volume (veh/h)	530	280	290	90	330	160	400	960	30	230	940	320
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	558	295	0	95	347	26	421	1011	9	242	989	113
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	639	875		232	456	204	502	1465	455	326	1205	374
Arrive On Green	0.18	0.25	0.00	0.07	0.13	0.13	0.15	0.29	0.29	0.09	0.24	0.24
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	558	295	0	95	347	26	421	1011	9	242	989	113
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	12.2	5.3	0.0	2.1	7.4	1.1	9.2	13.7	0.3	5.3	14.3	4.6
Cycle Q Clear(g_c), s	12.2	5.3	0.0	2.1	7.4	1.1	9.2	13.7	0.3	5.3	14.3	4.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	639	875		232	456	204	502	1465	455	326	1205	374
V/C Ratio(X)	0.87	0.34		0.41	0.76	0.13	0.84	0.69	0.02	0.74	0.82	0.30
Avail Cap(c_a), veh/h	776	2147		328	1687	752	576	2601	807	532	2535	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	24.1	0.0	34.9	32.8	30.1	32.4	24.7	19.9	34.4	28.2	24.5
Incr Delay (d2), s/veh	8.2	0.1	0.0	0.4	1.0	0.1	8.4	0.2	0.0	1.3	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	2.0	0.0	0.8	3.0	0.4	4.1	4.8	0.1	2.1	5.2	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	24.2	0.0	35.3	33.8	30.2	40.9	24.9	19.9	35.6	28.8	24.7
LnGrp LOS	D	C		D	C	C	D	C	B	D	C	C
Approach Vol, veh/h		853	A		468		1441			1344		
Approach Delay, s/veh		33.9			33.9		29.5			29.6		
Approach LOS		C			C		C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.3	29.2	10.7	24.7	17.3	25.2	19.9	15.5				
Change Period (Y+Rc), s	6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5				
Max Green Setting (Gmax), s	12.0	39.7	7.4	47.1	13.0	38.7	17.5	37.0				
Max Q Clear Time (g_c+1), s	17.3	15.7	4.1	7.3	11.2	16.3	14.2	9.4				
Green Ext Time (p_c), s	0.1	2.1	0.0	0.6	0.1	2.1	0.2	0.7				

Intersection Summary

























HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	530	280	290	90	330	160	400	960	30	230	940	320
Future Volume (veh/h)	530	280	290	90	330	160	400	960	30	230	940	320
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	558	295	0	95	347	26	421	1011	9	242	989	113
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	639	875		232	456	204	502	1465	455	326	1205	374
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.18	0.25	0.00	0.07	0.13	0.13	0.15	0.29	0.29	0.09	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	39.0	24.2	0.0	35.3	33.8	30.2	40.9	24.9	19.9	35.6	28.8	24.7
Ln Grp LOS	D	C		D	C	C	D	C	B	D	C	C
Approach Vol, veh/h	853		468		1441		1344					
Approach Delay, s/veh	33.9		33.9		29.5		29.6					
Approach LOS	C		C		C		C					
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	13.3	29.2	10.7	24.7	17.3	25.2	19.9	15.5				
Change Period (Y+Rc), s	6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5				
Max Green (Gmax), s	12.0	39.7	7.4	47.1	13.0	38.7	17.5	37.0				
Max Allow Headway (MAH), s	1.6	2.7	1.7	2.8	1.6	2.6	1.7	2.8				
Max Q Clear (g_c+I1), s	7.3	15.7	4.1	7.3	11.2	16.3	14.2	9.4				
Green Ext Time (g_e), s	0.1	2.1	0.0	0.6	0.1	2.1	0.2	0.7				
Prob of Phs Call (p_c)	0.99	1.00	0.87	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.80	0.00	0.07	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	3456	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	5106	3554	5106	3554								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis
 20: Cook St & Gerald Ford Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	242	0	95	0	421	0	558	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	5.3	0.0	2.1	0.0	9.2	0.0	12.2	0.0
Cycle Q Clear Time (g_c), s	5.3	0.0	2.1	0.0	9.2	0.0	12.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	326	0	232	0	502	0	639	0
V/C Ratio (X)	0.74	0.00	0.41	0.00	0.84	0.00	0.87	0.00
Avail Cap (c_a), veh/h	532	0	328	0	576	0	776	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	34.4	0.0	34.9	0.0	32.4	0.0	30.9	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.4	0.0	8.4	0.0	8.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	35.6	0.0	35.3	0.0	40.9	0.0	39.0	0.0
1st-Term Q (Q1), veh/ln	2.0	0.0	0.8	0.0	3.5	0.0	4.6	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.6	0.0	0.7	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	0.8	0.0	4.1	0.0	5.3	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.13	0.00	0.49	0.00	0.60	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	1011	0	295	0	989	0	347
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	13.7	0.0	5.3	0.0	14.3	0.0	7.4
Cycle Q Clear Time (g_c), s	0.0	13.7	0.0	5.3	0.0	14.3	0.0	7.4
Lane Grp Cap (c), veh/h	0	1465	0	875	0	1205	0	456
V/C Ratio (X)	0.00	0.69	0.00	0.34	0.00	0.82	0.00	0.76
Avail Cap (c_a), veh/h	0	2601	0	2147	0	2535	0	1687
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.7	0.0	24.1	0.0	28.2	0.0	32.8
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	0.0	0.5	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.9	0.0	24.2	0.0	28.8	0.0	33.8
1st-Term Q (Q1), veh/ln	0.0	4.8	0.0	2.0	0.0	5.1	0.0	2.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
 20: Cook St & Gerald Ford Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	2.0	0.0	5.2	0.0	3.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.07	0.00	0.09	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	9	0	0	0	113	0	26
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.3	0.0	0.0	0.0	4.6	0.0	1.1
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	0.0	0.0	4.6	0.0	1.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	455	0	390	0	374	0	204
V/C Ratio (X)	0.00	0.02	0.00	0.00	0.00	0.30	0.00	0.13
Avail Cap (c_a), veh/h	0	807	0	958	0	787	0	752
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.9	0.0	0.0	0.0	24.5	0.0	30.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.9	0.0	0.0	0.0	24.7	0.0	30.2
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	1.6	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	1.6	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.23	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 21: SR-111 & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	80	180	65	320	240	510	40	1740	290	410	1540	50
Future Volume (veh/h)	80	180	65	320	240	510	40	1740	290	410	1540	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	189	68	337	253	0	42	1832	0	432	1621	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	219	79	375	424		53	1949		333	2289	710
Arrive On Green	0.05	0.17	0.17	0.11	0.23	0.00	0.03	0.38	0.00	0.10	0.45	0.45
Sat Flow, veh/h	1781	1313	472	3456	1870	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	84	0	257	337	253	0	42	1832	0	432	1621	24
Grp Sat Flow(s),veh/h/ln	1781	0	1785	1728	1870	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	3.9	0.0	11.6	8.0	10.0	0.0	1.9	28.7	0.0	8.0	21.3	0.7
Cycle Q Clear(g_c), s	3.9	0.0	11.6	8.0	10.0	0.0	1.9	28.7	0.0	8.0	21.3	0.7
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	0	297	375	424		53	1949		333	2289	710
V/C Ratio(X)	0.98	0.00	0.86	0.90	0.60		0.79	0.94		1.30	0.71	0.03
Avail Cap(c_a), veh/h	86	0	333	375	462		86	1968		333	2289	710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	0.0	33.7	36.6	28.7	0.0	40.0	24.7	0.0	37.5	18.5	12.8
Incr Delay (d2), s/veh	89.6	0.0	18.8	23.2	1.8	0.0	9.2	9.3	0.0	154.4	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	6.3	4.5	4.6	0.0	1.0	12.5	0.0	10.4	8.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	129.1	0.0	52.5	59.8	30.5	0.0	49.2	34.1	0.0	191.9	19.4	12.8
LnGrp LOS	F	A	D	E	C		D	C		F	B	B
Approach Vol, veh/h		341			590	A		1874	A		2077	
Approach Delay, s/veh		71.4			47.2			34.4			55.2	
Approach LOS		E			D			C			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	3.0	20.8	6.5	42.7	8.0	25.8	12.0	37.2				
Change Period (Y+Rc), s	4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5				
Max Green Setting (Gmax), s	15.5	4.0	36.0	4.0	20.5	8.0	32.0					
Max Q Clear Time (g_c+110), s	13.6	3.9	23.3	5.9	12.0	10.0	30.7					
Green Ext Time (p_c), s	0.0	0.2	0.0	5.8	0.0	0.9	1.0					

Intersection Summary

HCM 6th Ctrl Delay	47.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 21: SR-111 & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖	↗	↖	↑↑↑	↗	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	80	180	65	320	240	510	40	1740	290	410	1540	50
Future Volume (veh/h)	80	180	65	320	240	510	40	1740	290	410	1540	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	189	68	337	253	0	42	1832	0	432	1621	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	86	219	79	375	424		53	1949		333	2289	710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.17	0.17	0.11	0.23	0.00	0.03	0.38	0.00	0.10	0.45	0.45
Unsig. Movement Delay												
Ln Grp Delay, s/veh	129.1	0.0	52.5	59.8	30.5	0.0	49.2	34.1	0.0	191.9	19.4	12.8
Ln Grp LOS	F	A	D	E	C		D	C		F	B	B
Approach Vol, veh/h		341			590			1874			2077	
Approach Delay, s/veh		71.4			47.2			34.4			55.2	
Approach LOS		E			D			C			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		13.0	20.8	6.5	42.7	8.0	25.8	12.0	37.2			
Change Period (Y+Rc), s		4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5			
Max Green (Gmax), s		9.0	15.5	4.0	36.0	4.0	20.5	8.0	32.0			
Max Allow Headway (MAH), s		2.3	5.0	2.3	3.7	2.2	5.2	2.3	3.7			
Max Q Clear (g_c+I1), s		10.0	13.6	3.9	23.3	5.9	12.0	10.0	30.7			
Green Ext Time (g_e), s		0.0	0.2	0.0	5.8	0.0	0.9	0.0	1.0			
Prob of Phs Call (p_c)		1.00	1.00	0.62	1.00	0.86	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	1.00	1.00	0.32	1.00	0.25	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		1781		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1313		5106		1870		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			472		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	1	0	1	0	2	0
Grp Vol (v), veh/h	337	0	42	0	84	0	432	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	8.0	0.0	1.9	0.0	3.9	0.0	8.0	0.0
Cycle Q Clear Time (g_c), s	8.0	0.0	1.9	0.0	3.9	0.0	8.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	375	0	53	0	86	0	333	0
V/C Ratio (X)	0.90	0.00	0.79	0.00	0.98	0.00	1.30	0.00
Avail Cap (c_a), veh/h	375	0	86	0	86	0	333	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	36.6	0.0	40.0	0.0	39.5	0.0	37.5	0.0
Incr Delay (d2), s/veh	23.2	0.0	9.2	0.0	89.6	0.0	154.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.8	0.0	49.2	0.0	129.1	0.0	191.9	0.0
1st-Term Q (Q1), veh/ln	3.3	0.0	0.8	0.0	1.6	0.0	3.3	0.0
2nd-Term Q (Q2), veh/ln	1.2	0.0	0.1	0.0	2.1	0.0	7.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.5	0.0	1.0	0.0	3.8	0.0	10.4	0.0
%ile Storage Ratio (RQ%)	0.92	0.00	0.15	0.00	0.20	0.00	0.83	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	24.8	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	3	0	1	0	3
Grp Vol (v), veh/h	0	0	0	1621	0	253	0	1832
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	21.3	0.0	10.0	0.0	28.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	21.3	0.0	10.0	0.0	28.7
Lane Grp Cap (c), veh/h	0	0	0	2289	0	424	0	1949
V/C Ratio (X)	0.00	0.00	0.00	0.71	0.00	0.60	0.00	0.94
Avail Cap (c_a), veh/h	0	0	0	2289	0	462	0	1968
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	18.5	0.0	28.7	0.0	24.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.9	0.0	1.8	0.0	9.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	19.4	0.0	30.5	0.0	34.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.8	0.0	4.4	0.0	10.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.2	0.0	1.7

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	8.0	0.0	4.6	0.0	12.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.19	0.00	0.02	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	257	0	24	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1785	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	11.6	0.0	0.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.6	0.0	0.7	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.26	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	297	0	710	0	360	0	605
V/C Ratio (X)	0.00	0.86	0.00	0.03	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	333	0	710	0	391	0	611
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	33.7	0.0	12.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	18.8	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	52.5	0.0	12.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	0.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.3	0.0	0.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.02	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	47.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 22: Morningside Dr & Frank Sinatra Dr























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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	520	340	80	880	60	215	40	140	20	30	10
Future Volume (veh/h)	20	520	340	80	880	60	215	40	140	20	30	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	547	358	84	926	63	226	42	63	21	32	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	824	539	225	1351	92	665	772	654	627	1087	355
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	569	2058	1346	616	3376	230	1364	1870	1585	1289	2633	859
Grp Volume(v), veh/h	21	472	433	84	487	502	226	42	63	21	21	22
Grp Sat Flow(s),veh/h/ln	569	1777	1628	616	1777	1829	1364	1870	1585	1289	1777	1716
Q Serve(g_s), s	2.0	13.9	13.9	8.3	14.6	14.6	7.6	0.9	1.6	0.6	0.5	0.5
Cycle Q Clear(g_c), s	16.6	13.9	13.9	22.2	14.6	14.6	8.1	0.9	1.6	1.5	0.5	0.5
Prop In Lane	1.00		0.83	1.00		0.13	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	211	711	652	225	711	732	665	772	654	627	734	708
V/C Ratio(X)	0.10	0.66	0.66	0.37	0.69	0.69	0.34	0.05	0.10	0.03	0.03	0.03
Avail Cap(c_a), veh/h	218	734	672	233	734	755	665	772	654	627	734	708
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.8	15.7	15.7	24.8	15.9	15.9	13.6	11.3	11.5	11.8	11.2	11.2
Incr Delay (d2), s/veh	0.2	2.2	2.4	1.0	2.6	2.5	1.4	0.1	0.3	0.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.0	4.6	1.2	5.7	5.9	2.2	0.3	0.5	0.2	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.0	17.9	18.1	25.8	18.5	18.4	15.0	11.5	11.8	11.9	11.3	11.3
LnGrp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		926			1073			331			64	
Approach Delay, s/veh		18.1			19.0			13.9			11.5	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.0		31.2		33.0		31.2				
Change Period (Y+Rc), s		6.5		5.5		6.5		5.5				
Max Green Setting (Gmax), s		26.5		26.5		26.5		26.5				
Max Q Clear Time (g_c+I1), s		10.1		18.6		3.5		24.2				
Green Ext Time (p_c), s		0.9		3.4		0.2		1.5				
Intersection Summary												
HCM 6th Ctrl Delay				17.8								
HCM 6th LOS				B								

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	520	340	80	880	60	215	40	140	20	30	10
Future Volume (veh/h)	20	520	340	80	880	60	215	40	140	20	30	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	547	358	84	926	63	226	42	63	21	32	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	211	824	539	225	1351	92	665	772	654	627	1087	355
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.41	0.41	0.41	0.41	0.41	0.41
Unsig. Movement Delay												
Ln Grp Delay, s/veh	23.0	17.9	18.1	25.8	18.5	18.4	15.0	11.5	11.8	11.9	11.3	11.3
Ln Grp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		926			1073			331			64	
Approach Delay, s/veh		18.1			19.0			13.9			11.5	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			5.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			33.0		31.2		33.0		31.2			
Change Period (Y+Rc), s			6.5		5.5		6.5		5.5			
Max Green (Gmax), s			26.5		26.5		26.5		26.5			
Max Allow Headway (MAH), s			3.9		5.1		4.9		5.4			
Max Q Clear (g_c+I1), s			10.1		18.6		3.5		24.2			
Green Ext Time (g_e), s			0.9		3.4		0.2		1.5			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.69		0.00		1.00			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1364		569		1289		616			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1870		2058		2633		3376			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1346		859		230			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	226	0	21	0	21	0	84
Grp Sat Flow (s), veh/h/ln	0	1364	0	569	0	1289	0	616
Q Serve Time (g_s), s	0.0	7.6	0.0	2.0	0.0	0.6	0.0	8.3
Cycle Q Clear Time (g_c), s	0.0	8.1	0.0	16.6	0.0	1.5	0.0	22.2
Perm LT Sat Flow (s_l), veh/h/ln	0	1364	0	569	0	1289	0	616
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	26.5	0.0	25.7	0.0	26.5	0.0	25.7
Perm LT Serve Time (g_u), s	0.0	26.0	0.0	11.1	0.0	25.6	0.0	11.7
Perm LT Q Serve Time (g_ps), s	0.0	7.6	0.0	2.0	0.0	0.6	0.0	8.3
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	665	0	211	0	627	0	225
V/C Ratio (X)	0.00	0.34	0.00	0.10	0.00	0.03	0.00	0.37
Avail Cap (c_a), veh/h	0	665	0	218	0	627	0	233
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.6	0.0	22.8	0.0	11.8	0.0	24.8
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.2	0.0	0.1	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.0	0.0	23.0	0.0	11.9	0.0	25.8
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.2	0.0	0.2	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	0.3	0.0	0.2	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.35	0.00	0.06	0.00	0.05	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	42	0	472	0	21	0	487
Grp Sat Flow (s), veh/h/ln	0	1870	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.9	0.0	13.9	0.0	0.5	0.0	14.6
Cycle Q Clear Time (g_c), s	0.0	0.9	0.0	13.9	0.0	0.5	0.0	14.6
Lane Grp Cap (c), veh/h	0	772	0	711	0	734	0	711
V/C Ratio (X)	0.00	0.05	0.00	0.66	0.00	0.03	0.00	0.69
Avail Cap (c_a), veh/h	0	772	0	734	0	734	0	734
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.3	0.0	15.7	0.0	11.2	0.0	15.9
Incr Delay (d2), s/veh	0.0	0.1	0.0	2.2	0.0	0.1	0.0	2.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.5	0.0	17.9	0.0	11.3	0.0	18.5
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	4.6	0.0	0.2	0.0	5.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.5

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	5.0	0.0	0.2	0.0	5.7
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	63	0	433	0	22	0	502
Grp Sat Flow (s), veh/h/ln	0	1585	0	1628	0	1716	0	1829
Q Serve Time (g_s), s	0.0	1.6	0.0	13.9	0.0	0.5	0.0	14.6
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	13.9	0.0	0.5	0.0	14.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.83	0.00	0.50	0.00	0.13
Lane Grp Cap (c), veh/h	0	654	0	652	0	708	0	732
V/C Ratio (X)	0.00	0.10	0.00	0.66	0.00	0.03	0.00	0.69
Avail Cap (c_a), veh/h	0	654	0	672	0	708	0	755
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.5	0.0	15.7	0.0	11.2	0.0	15.9
Incr Delay (d2), s/veh	0.0	0.3	0.0	2.4	0.0	0.1	0.0	2.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	18.1	0.0	11.3	0.0	18.4
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	4.2	0.0	0.2	0.0	5.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.4	0.0	0.0	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	4.6	0.0	0.2	0.0	5.9
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
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





















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↓		↔↔	↑↑	↔	↔↔	↑↑↑		↔↔	↑↑↑	↔
Traffic Volume (veh/h)	145	460	135	120	580	210	270	880	250	220	710	170
Future Volume (veh/h)	145	460	135	120	580	210	270	880	250	220	710	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	484	142	126	611	52	284	926	263	232	747	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	613	178	192	774	345	364	1587	449	308	1974	613
Arrive On Green	0.06	0.23	0.23	0.06	0.22	0.22	0.11	0.40	0.40	0.09	0.39	0.39
Sat Flow, veh/h	3456	2702	787	3456	3554	1585	3456	3939	1115	3456	5106	1585
Grp Volume(v), veh/h	153	317	309	126	611	52	284	800	389	232	747	62
Grp Sat Flow(s),veh/h/ln	1728	1777	1713	1728	1777	1585	1728	1702	1650	1728	1702	1585
Q Serve(g_s), s	4.0	15.6	15.8	3.3	15.1	2.5	7.5	17.1	17.2	6.1	9.8	2.3
Cycle Q Clear(g_c), s	4.0	15.6	15.8	3.3	15.1	2.5	7.5	17.1	17.2	6.1	9.8	2.3
Prop In Lane	1.00		0.46	1.00		1.00	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	223	403	388	192	774	345	364	1372	665	308	1974	613
V/C Ratio(X)	0.69	0.79	0.80	0.66	0.79	0.15	0.78	0.58	0.59	0.75	0.38	0.10
Avail Cap(c_a), veh/h	334	601	580	297	1165	520	557	1372	665	446	1974	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	33.9	33.9	43.1	34.4	29.4	40.6	21.7	21.7	41.4	20.5	18.2
Incr Delay (d2), s/veh	2.8	4.1	4.6	2.8	2.2	0.2	3.0	1.8	3.7	3.4	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	6.8	6.7	1.4	6.3	0.9	3.2	6.5	6.7	2.6	3.6	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	38.0	38.6	45.9	36.5	29.6	43.6	23.5	25.4	44.8	21.1	18.5
LnGrp LOS	D	D	D	D	D	C	D	C	C	D	C	B
Approach Vol, veh/h		779		789		1473		1041				
Approach Delay, s/veh		39.7		37.6		27.9		26.2				
Approach LOS		D		D		C		C				
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.8	42.5	9.2	27.6	12.3	44.0	10.0	26.8				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	15.0	34.5	8.0	31.5	12.0	37.5	9.0	30.5				
Max Q Clear Time (g_c+1), s	19.5	11.8	5.3	17.8	8.1	19.2	6.0	17.1				
Green Ext Time (p_c), s	0.4	4.9	0.1	2.9	0.2	7.3	0.1	3.2				
Intersection Summary												
HCM 6th Ctrl Delay				31.6								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Capacity Analysis
 23: Frank Sinatra Dr & Bob Hope Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	145	460	135	120	580	210	270	880	250	220	710	170
Future Volume (veh/h)	145	460	135	120	580	210	270	880	250	220	710	170
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	153	484	142	126	611	52	284	926	263	232	747	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	223	613	178	192	774	345	364	1587	449	308	1974	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.23	0.23	0.06	0.22	0.22	0.11	0.40	0.40	0.09	0.39	0.39
Unsig. Movement Delay												
Ln Grp Delay, s/veh	45.4	38.0	38.6	45.9	36.5	29.6	43.6	23.5	25.4	44.8	21.1	18.5
Ln Grp LOS	D	D	D	D	D	C	D	C	C	D	C	B
Approach Vol, veh/h		779			789			1473			1041	
Approach Delay, s/veh		39.7			37.6			27.9			26.2	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		13.8	42.5	9.2	27.6	12.3	44.0	10.0	26.8			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		15.0	34.5	8.0	31.5	12.0	37.5	9.0	30.5			
Max Allow Headway (MAH), s		3.2	4.7	3.2	5.0	3.2	5.0	3.2	4.7			
Max Q Clear (g_c+I1), s		9.5	11.8	5.3	17.8	8.1	19.2	6.0	17.1			
Green Ext Time (g_e), s		0.4	4.9	0.1	2.9	0.2	7.3	0.1	3.2			
Prob of Phs Call (p_c)		1.00	1.00	0.96	1.00	1.00	1.00	0.98	1.00			
Prob of Max Out (p_x)		0.11	0.00	1.00	0.14	0.47	0.00	1.00	0.12			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		2702		3939		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		787		1115		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	284	0	126	0	232	0	153	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	7.5	0.0	3.3	0.0	6.1	0.0	4.0	0.0
Cycle Q Clear Time (g_c), s	7.5	0.0	3.3	0.0	6.1	0.0	4.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	364	0	192	0	308	0	223	0
V/C Ratio (X)	0.78	0.00	0.66	0.00	0.75	0.00	0.69	0.00
Avail Cap (c_a), veh/h	557	0	297	0	446	0	334	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	40.6	0.0	43.1	0.0	41.4	0.0	42.6	0.0
Incr Delay (d2), s/veh	3.0	0.0	2.8	0.0	3.4	0.0	2.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	43.6	0.0	45.9	0.0	44.8	0.0	45.4	0.0
1st-Term Q (Q1), veh/ln	3.0	0.0	1.3	0.0	2.5	0.0	1.6	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.1	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.2	0.0	1.4	0.0	2.6	0.0	1.7	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.29	0.00	0.21	0.00	0.16	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	2	0	2
Grp Vol (v), veh/h	0	747	0	317	0	800	0	611
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	9.8	0.0	15.6	0.0	17.1	0.0	15.1
Cycle Q Clear Time (g_c), s	0.0	9.8	0.0	15.6	0.0	17.1	0.0	15.1
Lane Grp Cap (c), veh/h	0	1974	0	403	0	1372	0	774
V/C Ratio (X)	0.00	0.38	0.00	0.79	0.00	0.58	0.00	0.79
Avail Cap (c_a), veh/h	0	1974	0	601	0	1372	0	1165
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.5	0.0	33.9	0.0	21.7	0.0	34.4
Incr Delay (d2), s/veh	0.0	0.6	0.0	4.1	0.0	1.8	0.0	2.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.1	0.0	38.0	0.0	23.5	0.0	36.5
1st-Term Q (Q1), veh/ln	0.0	3.5	0.0	6.3	0.0	6.2	0.0	6.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.5	0.0	0.3	0.0	0.2

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.6	0.0	6.8	0.0	6.5	0.0	6.3
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.03	0.00	0.11	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	62	0	309	0	389	0	52
Grp Sat Flow (s), veh/h/ln	0	1585	0	1713	0	1650	0	1585
Q Serve Time (g_s), s	0.0	2.3	0.0	15.8	0.0	17.2	0.0	2.5
Cycle Q Clear Time (g_c), s	0.0	2.3	0.0	15.8	0.0	17.2	0.0	2.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.46	0.00	0.68	0.00	1.00
Lane Grp Cap (c), veh/h	0	613	0	388	0	665	0	345
V/C Ratio (X)	0.00	0.10	0.00	0.80	0.00	0.59	0.00	0.15
Avail Cap (c_a), veh/h	0	613	0	580	0	665	0	520
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	33.9	0.0	21.7	0.0	29.4
Incr Delay (d2), s/veh	0.0	0.3	0.0	4.6	0.0	3.7	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.5	0.0	38.6	0.0	25.4	0.0	29.6
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	6.2	0.0	6.0	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.5	0.0	0.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	6.7	0.0	6.7	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.03	0.00	0.11	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.6
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 24: Monterey Ave & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↖		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	110	640	180	240	670	280	120	1480	220	360	1490	150
Future Volume (veh/h)	110	640	180	240	670	280	120	1480	220	360	1490	150
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	674	84	253	705	295	126	1558	232	379	1568	103
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	762	340	266	866	386	176	1954	290	399	2553	792
Arrive On Green	0.05	0.21	0.21	0.08	0.24	0.24	0.05	0.44	0.44	0.12	0.50	0.50
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4488	667	3456	5106	1585
Grp Volume(v), veh/h	116	674	84	253	705	295	126	1181	609	379	1568	103
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1750	1728	1702	1585
Q Serve(g_s), s	4.3	23.9	5.7	9.5	24.3	22.5	4.7	39.0	39.2	14.2	28.8	4.5
Cycle Q Clear(g_c), s	4.3	23.9	5.7	9.5	24.3	22.5	4.7	39.0	39.2	14.2	28.8	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		1.00
Lane Grp Cap(c), veh/h	165	762	340	266	866	386	176	1482	762	399	2553	792
V/C Ratio(X)	0.70	0.88	0.25	0.95	0.81	0.76	0.72	0.80	0.80	0.95	0.61	0.13
Avail Cap(c_a), veh/h	213	957	427	266	1039	463	239	1482	762	399	2553	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.64	0.64	0.64	0.71	0.71	0.71	0.91	0.91	0.91
Uniform Delay (d), s/veh	61.0	49.5	42.3	59.8	46.4	45.7	60.8	31.7	31.8	57.1	23.5	17.4
Incr Delay (d2), s/veh	4.1	7.2	0.1	31.7	2.3	3.1	2.3	3.3	6.2	30.3	1.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9	11.0	2.2	5.2	10.5	8.9	2.0	15.5	16.6	7.6	10.9	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	56.7	42.5	91.4	48.7	48.8	63.1	35.0	38.0	87.5	24.5	17.7
LnGrp LOS	E	E	D	F	D	D	E	C	D	F	C	B
Approach Vol, veh/h		874			1253			1916			2050	
Approach Delay, s/veh		56.4			57.4			37.8			35.8	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	71.5	10.2	37.7	19.0	63.1	14.0	33.9				
Change Period (Y+Rc), s	4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0				
Max Green Setting (Gmax), s	30.8	55.5	8.0	* 38	15.0	49.5	10.0	35.0				
Max Q Clear Time (g_c+1/3), s	10.7	30.8	6.3	26.3	16.2	41.2	11.5	25.9				
Green Ext Time (p_c), s	0.0	7.5	0.0	2.6	0.0	4.6	0.0	2.0				

Intersection Summary

























HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 24: Monterey Ave & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	640	180	240	670	280	120	1480	220	360	1490	150
Future Volume (veh/h)	110	640	180	240	670	280	120	1480	220	360	1490	150
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	116	674	84	253	705	295	126	1558	232	379	1568	103
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	165	762	340	266	866	386	176	1954	290	399	2553	792
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.21	0.21	0.08	0.24	0.24	0.05	0.44	0.44	0.12	0.50	0.50
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.1	56.7	42.5	91.4	48.7	48.8	63.1	35.0	38.0	87.5	24.5	17.7
Ln Grp LOS	E	E	D	F	D	D	E	C	D	F	C	B
Approach Vol, veh/h		874			1253			1916			2050	
Approach Delay, s/veh		56.4			57.4			37.8			35.8	
Approach LOS		E			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.6	71.5	10.2	37.7	19.0	63.1	14.0	33.9			
Change Period (Y+Rc), s		4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0			
Max Green (Gmax), s		9.0	55.5	8.0	* 38	15.0	49.5	10.0	35.0			
Max Allow Headway (MAH), s		1.8	3.7	1.7	3.5	1.6	3.8	1.6	3.7			
Max Q Clear (g_c+I1), s		6.7	30.8	6.3	26.3	16.2	41.2	11.5	25.9			
Green Ext Time (g_e), s		0.0	7.5	0.0	2.6	0.0	4.6	0.0	2.0			
Prob of Phs Call (p_c)		0.99	1.00	0.98	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.26	0.00	0.91	0.09	1.00	0.00	1.00	0.15			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4488		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		667		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	126	0	116	0	379	0	253	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	4.7	0.0	4.3	0.0	14.2	0.0	9.5	0.0
Cycle Q Clear Time (g_c), s	4.7	0.0	4.3	0.0	14.2	0.0	9.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	176	0	165	0	399	0	266	0
V/C Ratio (X)	0.72	0.00	0.70	0.00	0.95	0.00	0.95	0.00
Avail Cap (c_a), veh/h	239	0	213	0	399	0	266	0
Upstream Filter (I)	0.71	0.00	1.00	0.00	0.91	0.00	0.64	0.00
Uniform Delay (d1), s/veh	60.8	0.0	61.0	0.0	57.1	0.0	59.8	0.0
Incr Delay (d2), s/veh	2.3	0.0	4.1	0.0	30.3	0.0	31.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.1	0.0	65.1	0.0	87.5	0.0	91.4	0.0
1st-Term Q (Q1), veh/ln	2.0	0.0	1.8	0.0	5.9	0.0	4.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	1.7	0.0	1.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.0	0.0	1.9	0.0	7.6	0.0	5.2	0.0
%ile Storage Ratio (RQ%)	0.21	0.00	0.31	0.00	0.97	0.00	0.94	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1568	0	705	0	1181	0	674
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	28.8	0.0	24.3	0.0	39.0	0.0	23.9
Cycle Q Clear Time (g_c), s	0.0	28.8	0.0	24.3	0.0	39.0	0.0	23.9
Lane Grp Cap (c), veh/h	0	2553	0	866	0	1482	0	762
V/C Ratio (X)	0.00	0.61	0.00	0.81	0.00	0.80	0.00	0.88
Avail Cap (c_a), veh/h	0	2553	0	1039	0	1482	0	957
Upstream Filter (I)	0.00	0.91	0.00	0.64	0.00	0.71	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.5	0.0	46.4	0.0	31.7	0.0	49.5
Incr Delay (d2), s/veh	0.0	1.0	0.0	2.3	0.0	3.3	0.0	7.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.5	0.0	48.7	0.0	35.0	0.0	56.7
1st-Term Q (Q1), veh/ln	0.0	10.6	0.0	10.2	0.0	14.8	0.0	10.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.3	0.0	0.7	0.0	0.8

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.9	0.0	10.5	0.0	15.5	0.0	11.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.04	0.00	0.07	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	103	0	295	0	609	0	84
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1750	0	1585
Q Serve Time (g_s), s	0.0	4.5	0.0	22.5	0.0	39.2	0.0	5.7
Cycle Q Clear Time (g_c), s	0.0	4.5	0.0	22.5	0.0	39.2	0.0	5.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.38	0.00	1.00
Lane Grp Cap (c), veh/h	0	792	0	386	0	762	0	340
V/C Ratio (X)	0.00	0.13	0.00	0.76	0.00	0.80	0.00	0.25
Avail Cap (c_a), veh/h	0	792	0	463	0	762	0	427
Upstream Filter (I)	0.00	0.91	0.00	0.64	0.00	0.71	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.4	0.0	45.7	0.0	31.8	0.0	42.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	3.1	0.0	6.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.7	0.0	48.8	0.0	38.0	0.0	42.5
1st-Term Q (Q1), veh/ln	0.0	1.6	0.0	8.5	0.0	15.3	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	1.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.6	0.0	8.9	0.0	16.6	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	1.61	0.00	0.08	0.00	0.35
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	43.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

25: Portola Ave/Portola Rd & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	900	90	130	810	100	170	870	110	110	640	50
Future Volume (veh/h)	40	900	90	130	810	100	170	870	110	110	640	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	947	31	137	853	38	179	916	116	116	674	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	1075	479	170	1201	536	192	1122	142	159	1092	85
Arrive On Green	0.06	0.30	0.30	0.10	0.34	0.34	0.11	0.24	0.24	0.09	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	4591	579	1781	4829	377
Grp Volume(v), veh/h	42	947	31	137	853	38	179	678	354	116	474	253
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1702	1766	1781	1702	1802
Q Serve(g_s), s	1.9	21.2	1.2	6.3	17.5	1.4	8.3	15.7	15.8	5.3	10.5	10.6
Cycle Q Clear(g_c), s	1.9	21.2	1.2	6.3	17.5	1.4	8.3	15.7	15.8	5.3	10.5	10.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.21
Lane Grp Cap(c), veh/h	106	1075	479	170	1201	536	192	832	432	159	770	407
V/C Ratio(X)	0.40	0.88	0.06	0.81	0.71	0.07	0.93	0.82	0.82	0.73	0.62	0.62
Avail Cap(c_a), veh/h	170	1359	606	170	1359	606	192	1403	728	170	1362	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.9	27.8	20.8	37.1	24.1	18.8	37.1	29.8	29.9	37.1	29.1	29.2
Incr Delay (d2), s/veh	0.9	5.0	0.0	22.7	1.1	0.0	46.0	0.8	1.5	11.6	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	9.4	0.4	3.8	7.2	0.5	6.0	6.3	6.7	2.8	4.2	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	32.8	20.8	59.8	25.3	18.8	83.1	30.6	31.4	48.7	29.4	29.7
LnGrp LOS	D	C	C	E	C	B	F	C	C	D	C	C
Approach Vol, veh/h		1020			1028			1211			843	
Approach Delay, s/veh		32.7			29.6			38.6			32.2	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	2.5	27.0	13.0	31.3	14.0	25.4	10.0	34.3				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0				
Max Green Setting (Gmax), s	3.0	34.5	8.0	32.0	9.0	33.5	8.0	32.0				
Max Q Clear Time (g_c+1), s	1.0	17.8	8.3	23.2	10.3	12.6	3.9	19.5				
Green Ext Time (p_c), s	0.0	2.6	0.0	2.1	0.0	1.8	0.0	2.1				
Intersection Summary												
HCM 6th Ctrl Delay											33.6	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
 25: Portola Ave/Portola Rd & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑↑	↗	↙	↑↑	↗	↙	↑↑↗		↙	↑↑↗	
Traffic Volume (veh/h)	40	900	90	130	810	100	170	870	110	110	640	50
Future Volume (veh/h)	40	900	90	130	810	100	170	870	110	110	640	50
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	947	31	137	853	38	179	916	116	116	674	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	106	1075	479	170	1201	536	192	1122	142	159	1092	85
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.30	0.30	0.10	0.34	0.34	0.11	0.24	0.24	0.09	0.23	0.23
Unsig. Movement Delay												
Ln Grp Delay, s/veh	38.8	32.8	20.8	59.8	25.3	18.8	83.1	30.6	31.4	48.7	29.4	29.7
Ln Grp LOS	D	C	C	E	C	B	F	C	C	D	C	C
Approach Vol, veh/h		1020			1028			1211			843	
Approach Delay, s/veh		32.7			29.6			38.6			32.2	
Approach LOS		C			C			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		12.5	27.0	13.0	31.3	14.0	25.4	10.0	34.3			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0			
Max Green (Gmax), s		8.0	34.5	8.0	32.0	9.0	33.5	8.0	32.0			
Max Allow Headway (MAH), s		1.8	3.3	1.8	3.2	1.8	3.3	1.8	3.2			
Max Q Clear (g_c+I1), s		7.3	17.8	8.3	23.2	10.3	12.6	3.9	19.5			
Green Ext Time (g_e), s		0.0	2.6	0.0	2.1	0.0	1.8	0.0	2.1			
Prob of Phs Call (p_c)		0.93	1.00	0.96	1.00	0.98	1.00	0.62	1.00			
Prob of Max Out (p_x)		1.00	0.01	1.00	0.14	1.00	0.00	0.00	0.02			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			4591		3554		4829		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			579		1585		377		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	116	0	137	0	179	0	42	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.3	0.0	6.3	0.0	8.3	0.0	1.9	0.0
Cycle Q Clear Time (g_c), s	5.3	0.0	6.3	0.0	8.3	0.0	1.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	159	0	170	0	192	0	106	0
V/C Ratio (X)	0.73	0.00	0.81	0.00	0.93	0.00	0.40	0.00
Avail Cap (c_a), veh/h	170	0	170	0	192	0	170	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	37.1	0.0	37.1	0.0	37.1	0.0	37.9	0.0
Incr Delay (d2), s/veh	11.6	0.0	22.7	0.0	46.0	0.0	0.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.7	0.0	59.8	0.0	83.1	0.0	38.8	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	2.7	0.0	3.6	0.0	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	1.1	0.0	2.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.8	0.0	3.8	0.0	6.0	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.39	0.00	0.66	0.00	0.60	0.00	0.18	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	678	0	947	0	474	0	853
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	15.7	0.0	21.2	0.0	10.5	0.0	17.5
Cycle Q Clear Time (g_c), s	0.0	15.7	0.0	21.2	0.0	10.5	0.0	17.5
Lane Grp Cap (c), veh/h	0	832	0	1075	0	770	0	1201
V/C Ratio (X)	0.00	0.82	0.00	0.88	0.00	0.62	0.00	0.71
Avail Cap (c_a), veh/h	0	1403	0	1359	0	1362	0	1359
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.8	0.0	27.8	0.0	29.1	0.0	24.1
Incr Delay (d2), s/veh	0.0	0.8	0.0	5.0	0.0	0.3	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.6	0.0	32.8	0.0	29.4	0.0	25.3
1st-Term Q (Q1), veh/ln	0.0	6.2	0.0	8.6	0.0	4.2	0.0	7.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.8	0.0	0.0	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis
 25: Portola Ave/Portola Rd & Frank Sinatra Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.3	0.0	9.4	0.0	4.2	0.0	7.2
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.04	0.00	0.02	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	354	0	31	0	253	0	38
Grp Sat Flow (s), veh/h/ln	0	1766	0	1585	0	1802	0	1585
Q Serve Time (g_s), s	0.0	15.8	0.0	1.2	0.0	10.6	0.0	1.4
Cycle Q Clear Time (g_c), s	0.0	15.8	0.0	1.2	0.0	10.6	0.0	1.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.33	0.00	1.00	0.00	0.21	0.00	1.00
Lane Grp Cap (c), veh/h	0	432	0	479	0	407	0	536
V/C Ratio (X)	0.00	0.82	0.00	0.06	0.00	0.62	0.00	0.07
Avail Cap (c_a), veh/h	0	728	0	606	0	721	0	606
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.9	0.0	20.8	0.0	29.2	0.0	18.8
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.4	0.0	20.8	0.0	29.7	0.0	18.8
1st-Term Q (Q1), veh/ln	0.0	6.5	0.0	0.4	0.0	4.4	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.7	0.0	0.4	0.0	4.5	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.05	0.00	0.02	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.6
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 26: Cook St & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	280	640	340	170	660	70	280	1150	70	90	990	170
Future Volume (veh/h)	280	640	340	170	660	70	280	1150	70	90	990	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	295	674	191	179	695	16	295	1211	74	95	1042	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	355	894	399	261	797	356	358	1287	79	246	1767	549
Arrive On Green	0.10	0.25	0.25	0.08	0.22	0.22	0.10	0.38	0.38	0.07	0.35	0.35
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3402	208	3456	5106	1585
Grp Volume(v), veh/h	295	674	191	179	695	16	295	632	653	95	1042	62
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1833	1728	1702	1585
Q Serve(g_s), s	8.8	18.4	10.8	5.3	19.9	0.8	8.8	36.1	36.2	2.8	17.7	2.8
Cycle Q Clear(g_c), s	8.8	18.4	10.8	5.3	19.9	0.8	8.8	36.1	36.2	2.8	17.7	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	355	894	399	261	797	356	358	672	694	246	1767	549
V/C Ratio(X)	0.83	0.75	0.48	0.69	0.87	0.04	0.82	0.94	0.94	0.39	0.59	0.11
Avail Cap(c_a), veh/h	361	1249	557	361	1249	557	525	768	792	263	1818	564
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.3	36.4	33.5	47.4	39.4	32.0	46.3	31.6	31.6	46.7	28.3	23.4
Incr Delay (d2), s/veh	13.9	0.9	0.3	1.2	2.7	0.0	4.3	17.2	17.2	0.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	8.0	3.9	2.3	8.9	0.3	3.8	17.1	17.7	1.1	6.7	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.3	37.3	33.9	48.6	42.1	32.0	50.6	48.8	48.8	47.1	28.6	23.5
LnGrp LOS	E	D	C	D	D	C	D	D	D	D	C	C
Approach Vol, veh/h		1160			890			1580			1199	
Approach Delay, s/veh		42.6			43.2			49.1			29.8	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	33.5	15.9	42.9	15.8	30.6	12.5	46.3				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5				
Max Green Setting (Gmax), s	30.0	37.0	16.0	37.5	11.0	37.0	8.0	45.5				
Max Q Clear Time (g_c+1), s	30.0	20.4	10.8	19.7	10.8	21.9	4.8	38.2				
Green Ext Time (p_c), s	0.0	1.8	0.1	2.2	0.0	1.8	0.0	1.6				

Intersection Summary

































HCM 6th Ctrl Delay	41.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 26: Cook St & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	 		  		
Traffic Volume (veh/h)	280	640	340	170	660	70	280	1150	70	90	990	170
Future Volume (veh/h)	280	640	340	170	660	70	280	1150	70	90	990	170
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	295	674	191	179	695	16	295	1211	74	95	1042	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	355	894	399	261	797	356	358	1287	79	246	1767	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.25	0.25	0.08	0.22	0.22	0.10	0.38	0.38	0.07	0.35	0.35
Unsig. Movement Delay												
Ln Grp Delay, s/veh	60.3	37.3	33.9	48.6	42.1	32.0	50.6	48.8	48.8	47.1	28.6	23.5
Ln Grp LOS	E	D	C	D	D	C	D	D	D	D	C	C
Approach Vol, veh/h		1160			890			1580			1199	
Approach Delay, s/veh		42.6			43.2			49.1			29.8	
Approach LOS		D			D			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		13.0	33.5	15.9	42.9	15.8	30.6	12.5	46.3			
Change Period (Y+Rc), s		5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5			
Max Green (Gmax), s		11.0	37.0	16.0	37.5	11.0	37.0	8.0	45.5			
Max Allow Headway (MAH), s		1.8	3.0	1.6	2.7	1.8	3.2	1.6	2.7			
Max Q Clear (g_c+I1), s		7.3	20.4	10.8	19.7	10.8	21.9	4.8	38.2			
Green Ext Time (g_e), s		0.0	1.8	0.1	2.2	0.0	1.8	0.0	1.6			
Prob of Phs Call (p_c)		0.99	1.00	1.00	1.00	1.00	1.00	0.94	1.00			
Prob of Max Out (p_x)		0.01	0.00	0.00	0.00	1.00	0.00	0.00	0.24			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		3402			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		208			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 26: Cook St & Frank Sinatra Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	179	0	295	0	295	0	95	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	5.3	0.0	8.8	0.0	8.8	0.0	2.8	0.0
Cycle Q Clear Time (g_c), s	5.3	0.0	8.8	0.0	8.8	0.0	2.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	261	0	358	0	355	0	246	0
V/C Ratio (X)	0.69	0.00	0.82	0.00	0.83	0.00	0.39	0.00
Avail Cap (c_a), veh/h	361	0	525	0	361	0	263	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	47.4	0.0	46.3	0.0	46.3	0.0	46.7	0.0
Incr Delay (d2), s/veh	1.2	0.0	4.3	0.0	13.9	0.0	0.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.6	0.0	50.6	0.0	60.3	0.0	47.1	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	3.6	0.0	3.8	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.7	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.3	0.0	3.8	0.0	4.5	0.0	1.1	0.0
%ile Storage Ratio (RQ%)	0.42	0.00	0.69	0.00	0.81	0.00	0.14	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	1
Grp Vol (v), veh/h	0	674	0	1042	0	695	0	632
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1777
Q Serve Time (g_s), s	0.0	18.4	0.0	17.7	0.0	19.9	0.0	36.1
Cycle Q Clear Time (g_c), s	0.0	18.4	0.0	17.7	0.0	19.9	0.0	36.1
Lane Grp Cap (c), veh/h	0	894	0	1767	0	797	0	672
V/C Ratio (X)	0.00	0.75	0.00	0.59	0.00	0.87	0.00	0.94
Avail Cap (c_a), veh/h	0	1249	0	1818	0	1249	0	768
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	36.4	0.0	28.3	0.0	39.4	0.0	31.6
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.3	0.0	2.7	0.0	17.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	37.3	0.0	28.6	0.0	42.1	0.0	48.8
1st-Term Q (Q1), veh/ln	0.0	7.9	0.0	6.6	0.0	8.6	0.0	13.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.3	0.0	3.2

HCM 6th Signalized Intersection Capacity Analysis

26: Cook St & Frank Sinatra Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.0	0.0	6.7	0.0	8.9	0.0	17.1
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.05	0.00	0.13	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	191	0	62	0	16	0	653
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1833
Q Serve Time (g_s), s	0.0	10.8	0.0	2.8	0.0	0.8	0.0	36.2
Cycle Q Clear Time (g_c), s	0.0	10.8	0.0	2.8	0.0	0.8	0.0	36.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.11
Lane Grp Cap (c), veh/h	0	399	0	549	0	356	0	694
V/C Ratio (X)	0.00	0.48	0.00	0.11	0.00	0.04	0.00	0.94
Avail Cap (c_a), veh/h	0	557	0	564	0	557	0	792
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	33.5	0.0	23.4	0.0	32.0	0.0	31.6
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.0	0.0	17.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.9	0.0	23.5	0.0	32.0	0.0	48.8
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	1.0	0.0	0.3	0.0	14.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.9	0.0	1.0	0.0	0.3	0.0	17.7
%ile Storage Ratio (RQ%)	0.00	0.71	0.00	0.11	0.00	0.02	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	41.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary

27: Bob Hope Dr & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	610	160	200	750	390	230	850	200	310	620	80
Future Volume (veh/h)	120	610	160	200	750	390	230	850	200	310	620	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	642	42	211	789	250	242	895	91	326	653	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	793	354	235	949	423	312	1028	459	370	968	124
Arrive On Green	0.09	0.22	0.22	0.13	0.27	0.27	0.09	0.29	0.29	0.11	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3161	406
Grp Volume(v), veh/h	126	642	42	211	789	250	242	895	91	326	367	370
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1790
Q Serve(g_s), s	6.2	15.2	1.9	10.3	18.5	12.2	6.1	21.2	3.8	8.2	16.0	16.0
Cycle Q Clear(g_c), s	6.2	15.2	1.9	10.3	18.5	12.2	6.1	21.2	3.8	8.2	16.0	16.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	157	793	354	235	949	423	312	1028	459	370	544	548
V/C Ratio(X)	0.80	0.81	0.12	0.90	0.83	0.59	0.78	0.87	0.20	0.88	0.67	0.68
Avail Cap(c_a), veh/h	211	1123	501	235	1171	522	312	1155	515	370	608	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.6	32.6	27.5	37.9	30.6	28.3	39.4	29.9	23.7	39.0	26.9	26.9
Incr Delay (d2), s/veh	10.7	2.6	0.1	32.0	4.0	1.0	10.6	6.6	0.2	20.2	2.2	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	6.4	0.7	6.3	7.8	4.4	2.9	9.3	1.4	4.3	6.5	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.4	35.3	27.6	69.9	34.6	29.2	50.0	36.5	23.9	59.2	29.1	29.1
LnGrp LOS	D	D	C	E	C	C	D	D	C	E	C	C
Approach Vol, veh/h		810			1250			1228			1063	
Approach Delay, s/veh		37.2			39.5			38.2			38.4	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	33.6	12.3	30.2	14.0	32.1	16.2	26.3				
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5				
Max Green Setting (Gmax), s	30.3	30.3	10.5	29.2	9.5	28.8	11.7	28.0				
Max Q Clear Time (g_c+1/3), s	18.0	18.0	8.2	20.5	10.2	23.2	12.3	17.2				
Green Ext Time (p_c), s	0.0	2.6	0.0	3.1	0.0	2.4	0.0	2.6				

Intersection Summary

























HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	610	160	200	750	390	230	850	200	310	620	80
Future Volume (veh/h)	120	610	160	200	750	390	230	850	200	310	620	80
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	642	42	211	789	250	242	895	91	326	653	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	157	793	354	235	949	423	312	1028	459	370	968	124
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.22	0.22	0.13	0.27	0.27	0.09	0.29	0.29	0.11	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	50.4	35.3	27.6	69.9	34.6	29.2	50.0	36.5	23.9	59.2	29.1	29.1
Ln Grp LOS	D	D	C	E	C	C	D	D	C	E	C	C
Approach Vol, veh/h		810			1250			1228			1063	
Approach Delay, s/veh		37.2			39.5			38.2			38.4	
Approach LOS		D			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		12.5	33.6	12.3	30.2	14.0	32.1	16.2	26.3			
Change Period (Y+Rc), s		4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5			
Max Green (Gmax), s		8.0	30.3	10.5	29.2	9.5	28.8	11.7	28.0			
Max Allow Headway (MAH), s		2.7	4.4	2.7	4.1	2.7	4.3	2.7	4.3			
Max Q Clear (g_c+I1), s		8.1	18.0	8.2	20.5	10.2	23.2	12.3	17.2			
Green Ext Time (g_e), s		0.0	2.6	0.0	3.1	0.0	2.4	0.0	2.6			
Prob of Phs Call (p_c)		1.00	1.00	0.96	1.00	1.00	1.00	0.99	1.00			
Prob of Max Out (p_x)		1.00	0.14	1.00	0.40	1.00	0.78	1.00	0.16			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3161		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			406		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	242	0	126	0	326	0	211	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	6.1	0.0	6.2	0.0	8.2	0.0	10.3	0.0
Cycle Q Clear Time (g_c), s	6.1	0.0	6.2	0.0	8.2	0.0	10.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	312	0	157	0	370	0	235	0
V/C Ratio (X)	0.78	0.00	0.80	0.00	0.88	0.00	0.90	0.00
Avail Cap (c_a), veh/h	312	0	211	0	370	0	235	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	39.4	0.0	39.6	0.0	39.0	0.0	37.9	0.0
Incr Delay (d2), s/veh	10.6	0.0	10.7	0.0	20.2	0.0	32.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.0	0.0	50.4	0.0	59.2	0.0	69.9	0.0
1st-Term Q (Q1), veh/ln	2.5	0.0	2.6	0.0	3.3	0.0	4.2	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.5	0.0	1.0	0.0	2.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.9	0.0	3.0	0.0	4.3	0.0	6.3	0.0
%ile Storage Ratio (RQ%)	0.82	0.00	0.50	0.00	0.48	0.00	0.53	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	2	0	2
Grp Vol (v), veh/h	0	367	0	789	0	895	0	642
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	16.0	0.0	18.5	0.0	21.2	0.0	15.2
Cycle Q Clear Time (g_c), s	0.0	16.0	0.0	18.5	0.0	21.2	0.0	15.2
Lane Grp Cap (c), veh/h	0	544	0	949	0	1028	0	793
V/C Ratio (X)	0.00	0.67	0.00	0.83	0.00	0.87	0.00	0.81
Avail Cap (c_a), veh/h	0	608	0	1171	0	1155	0	1123
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.9	0.0	30.6	0.0	29.9	0.0	32.6
Incr Delay (d2), s/veh	0.0	2.2	0.0	4.0	0.0	6.6	0.0	2.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.1	0.0	34.6	0.0	36.5	0.0	35.3
1st-Term Q (Q1), veh/ln	0.0	6.1	0.0	7.2	0.0	8.3	0.0	6.1
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.5	0.0	0.9	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.5	0.0	7.8	0.0	9.3	0.0	6.4
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.04	0.00	0.04	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	370	0	250	0	91	0	42
Grp Sat Flow (s), veh/h/ln	0	1790	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	16.0	0.0	12.2	0.0	3.8	0.0	1.9
Cycle Q Clear Time (g_c), s	0.0	16.0	0.0	12.2	0.0	3.8	0.0	1.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.23	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	548	0	423	0	459	0	354
V/C Ratio (X)	0.00	0.68	0.00	0.59	0.00	0.20	0.00	0.12
Avail Cap (c_a), veh/h	0	612	0	522	0	515	0	501
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.9	0.0	28.3	0.0	23.7	0.0	27.5
Incr Delay (d2), s/veh	0.0	2.3	0.0	1.0	0.0	0.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.1	0.0	29.2	0.0	23.9	0.0	27.6
1st-Term Q (Q1), veh/ln	0.0	6.2	0.0	4.3	0.0	1.3	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.5	0.0	4.4	0.0	1.4	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	1.32	0.00	0.22	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 28: Monterey Ave & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	180	680	320	220	750	200	320	1380	570	290	1400	220
Future Volume (veh/h)	180	680	320	220	750	200	320	1380	570	290	1400	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	716	0	232	789	0	337	1453	485	305	1474	115
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	842		282	905		388	2299	714	354	2249	698
Arrive On Green	0.07	0.16	0.00	0.08	0.18	0.00	0.08	0.30	0.30	0.10	0.44	0.44
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	189	716	0	232	789	0	337	1453	485	305	1474	115
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	7.0	17.7	0.0	8.6	19.5	0.0	12.5	31.9	34.9	11.3	29.5	5.7
Cycle Q Clear(g_c), s	7.0	17.7	0.0	8.6	19.5	0.0	12.5	31.9	34.9	11.3	29.5	5.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	842		282	905		388	2299	714	354	2249	698
V/C Ratio(X)	0.79	0.85		0.82	0.87		0.87	0.63	0.68	0.86	0.66	0.16
Avail Cap(c_a), veh/h	239	1218		292	1296		425	2299	714	372	2249	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.00	0.74	0.74	0.00	0.57	0.57	0.57	0.70	0.70	0.70
Uniform Delay (d), s/veh	59.6	52.7	0.0	58.8	52.0	0.0	59.2	36.1	37.1	57.4	28.6	21.9
Incr Delay (d2), s/veh	10.0	1.8	0.0	11.9	2.7	0.0	9.3	0.8	3.0	12.4	1.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	7.5	0.0	4.1	8.3	0.0	6.0	13.7	14.4	5.4	11.4	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.5	54.5	0.0	70.7	54.7	0.0	68.5	36.9	40.1	69.8	29.7	22.3
LnGrp LOS	E	D		E	D		E	D	D	E	C	C
Approach Vol, veh/h		905	A		1021	A		2275			1894	
Approach Delay, s/veh		57.7			58.3			42.2			35.7	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	19.3	65.9	16.6	28.1	20.6	64.7	15.0	29.7				
Change Period (Y+Rc), s	6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7				
Max Green Setting (Gmax), s	14.0	47.9	11.0	31.0	16.0	45.9	9.0	33.0				
Max Q Clear Time (g_c+1/3), s	11.3	36.9	10.6	19.7	14.5	31.5	9.0	21.5				
Green Ext Time (p_c), s	0.0	3.2	0.0	1.3	0.0	3.2	0.0	1.5				

Intersection Summary





































HCM 6th Ctrl Delay	45.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 28: Monterey Ave & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		 	  	
Traffic Volume (veh/h)	180	680	320	220	750	200	320	1380	570	290	1400	220
Future Volume (veh/h)	180	680	320	220	750	200	320	1380	570	290	1400	220
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	189	716	0	232	789	0	337	1453	485	305	1474	115
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	239	842		282	905		388	2299	714	354	2249	698
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.16	0.00	0.08	0.18	0.00	0.08	0.30	0.30	0.10	0.44	0.44
Unsig. Movement Delay												
Ln Grp Delay, s/veh	69.5	54.5	0.0	70.7	54.7	0.0	68.5	36.9	40.1	69.8	29.7	22.3
Ln Grp LOS	E	D		E	D		E	D	D	E	C	C
Approach Vol, veh/h		905			1021			2275			1894	
Approach Delay, s/veh		57.7			58.3			42.2			35.7	
Approach LOS		E			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		19.3	65.9	16.6	28.1	20.6	64.7	15.0	29.7			
Change Period (Y+Rc), s		6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7			
Max Green (Gmax), s		14.0	47.9	11.0	31.0	16.0	45.9	9.0	33.0			
Max Allow Headway (MAH), s		1.6	2.6	1.7	2.8	1.7	2.7	1.7	2.8			
Max Q Clear (g_c+I1), s		13.3	36.9	10.6	19.7	14.5	31.5	9.0	21.5			
Green Ext Time (g_e), s		0.0	3.2	0.0	1.3	0.0	3.2	0.0	1.5			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	305	0	232	0	337	0	189	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	11.3	0.0	8.6	0.0	12.5	0.0	7.0	0.0
Cycle Q Clear Time (g_c), s	11.3	0.0	8.6	0.0	12.5	0.0	7.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	354	0	282	0	388	0	239	0
V/C Ratio (X)	0.86	0.00	0.82	0.00	0.87	0.00	0.79	0.00
Avail Cap (c_a), veh/h	372	0	292	0	425	0	239	0
Upstream Filter (I)	0.70	0.00	0.74	0.00	0.57	0.00	0.63	0.00
Uniform Delay (d1), s/veh	57.4	0.0	58.8	0.0	59.2	0.0	59.6	0.0
Incr Delay (d2), s/veh	12.4	0.0	11.9	0.0	9.3	0.0	10.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	69.8	0.0	70.7	0.0	68.5	0.0	69.5	0.0
1st-Term Q (Q1), veh/ln	4.8	0.0	3.7	0.0	5.5	0.0	3.0	0.0
2nd-Term Q (Q2), veh/ln	0.6	0.0	0.5	0.0	0.5	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	5.4	0.0	4.1	0.0	6.0	0.0	3.3	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.48	0.00	0.60	0.00	0.60	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	3	0	3
Grp Vol (v), veh/h	0	1453	0	716	0	1474	0	789
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	31.9	0.0	17.7	0.0	29.5	0.0	19.5
Cycle Q Clear Time (g_c), s	0.0	31.9	0.0	17.7	0.0	29.5	0.0	19.5
Lane Grp Cap (c), veh/h	0	2299	0	842	0	2249	0	905
V/C Ratio (X)	0.00	0.63	0.00	0.85	0.00	0.66	0.00	0.87
Avail Cap (c_a), veh/h	0	2299	0	1218	0	2249	0	1296
Upstream Filter (I)	0.00	0.57	0.00	0.63	0.00	0.70	0.00	0.74
Uniform Delay (d1), s/veh	0.0	36.1	0.0	52.7	0.0	28.6	0.0	52.0
Incr Delay (d2), s/veh	0.0	0.8	0.0	1.8	0.0	1.1	0.0	2.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	36.9	0.0	54.5	0.0	29.7	0.0	54.7
1st-Term Q (Q1), veh/ln	0.0	13.6	0.0	7.3	0.0	11.2	0.0	8.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	13.7	0.0	7.5	0.0	11.4	0.0	8.3
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.04	0.00	0.06	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	485	0	0	0	115	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	34.9	0.0	0.0	0.0	5.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	34.9	0.0	0.0	0.0	5.7	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	714	0	261	0	698	0	281
V/C Ratio (X)	0.00	0.68	0.00	0.00	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	714	0	378	0	698	0	402
Upstream Filter (I)	0.00	0.57	0.00	0.00	0.00	0.70	0.00	0.00
Uniform Delay (d1), s/veh	0.0	37.1	0.0	0.0	0.0	21.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.0	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	40.1	0.0	0.0	0.0	22.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	13.8	0.0	0.0	0.0	2.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	14.4	0.0	0.0	0.0	2.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.88	0.00	0.00	0.00	0.12	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	45.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 29: Portola Ave & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1150	250	170	540	160	260	940	180	80	900	80
Future Volume (veh/h)	40	1150	250	170	540	160	260	940	180	80	900	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1211	177	179	568	88	274	989	124	84	947	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	1215	542	166	1351	603	261	1263	563	115	902	80
Arrive On Green	0.06	0.34	0.34	0.09	0.38	0.38	0.15	0.36	0.36	0.06	0.27	0.27
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3302	293
Grp Volume(v), veh/h	42	1211	177	179	568	88	274	989	124	84	510	521
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1818
Q Serve(g_s), s	3.4	51.0	12.4	14.0	17.7	5.5	22.0	37.3	8.2	6.9	41.0	41.0
Cycle Q Clear(g_c), s	3.4	51.0	12.4	14.0	17.7	5.5	22.0	37.3	8.2	6.9	41.0	41.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	98	1215	542	166	1351	603	261	1263	563	115	486	497
V/C Ratio(X)	0.43	1.00	0.33	1.08	0.42	0.15	1.05	0.78	0.22	0.73	1.05	1.05
Avail Cap(c_a), veh/h	119	1215	542	166	1351	603	261	1263	563	119	486	497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.6	49.3	36.6	68.0	34.3	30.5	64.0	43.2	33.8	68.9	54.5	54.5
Incr Delay (d2), s/veh	1.1	24.9	0.1	91.7	0.1	0.0	69.0	3.0	0.1	17.1	54.4	54.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	26.7	4.9	10.6	7.8	2.1	15.0	16.9	3.2	3.7	25.6	26.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.7	74.1	36.7	159.7	34.4	30.5	133.0	46.2	33.9	85.9	108.9	108.5
LnGrp LOS	E	E	D	F	C	C	F	D	C	F	F	F
Approach Vol, veh/h		1430			835			1387			1115	
Approach Delay, s/veh		69.4			60.8			62.2			106.9	
Approach LOS		E			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.3	62.7	27.0	47.0	19.0	57.0	14.7	59.3				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	10.0	55.3	22.0	41.0	14.0	51.3	10.0	53.0				
Max Q Clear Time (g_c+1/4), s	15.4	19.7	24.0	43.0	16.0	53.0	8.9	39.3				
Green Ext Time (p_c), s	0.0	2.9	0.0	0.0	0.0	0.0	0.0	4.5				

Intersection Summary

























HCM 6th Ctrl Delay	74.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1150	250	170	540	160	260	940	180	80	900	80
Future Volume (veh/h)	40	1150	250	170	540	160	260	940	180	80	900	80
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1211	177	179	568	88	274	989	124	84	947	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	98	1215	542	166	1351	603	261	1263	563	115	902	80
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.34	0.34	0.09	0.38	0.38	0.15	0.36	0.36	0.06	0.27	0.27
Unsig. Movement Delay												
Ln Grp Delay, s/veh	69.7	74.1	36.7	159.7	34.4	30.5	133.0	46.2	33.9	85.9	108.9	108.5
Ln Grp LOS	E	E	D	F	C	C	F	D	C	F	F	F
Approach Vol, veh/h		1430			835			1387			1115	
Approach Delay, s/veh		69.4			60.8			62.2			106.9	
Approach LOS		E			E			E			F	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		13.3	62.7	27.0	47.0	19.0	57.0	14.7	59.3			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		10.0	55.3	22.0	41.0	14.0	51.3	10.0	53.0			
Max Allow Headway (MAH), s		1.8	4.1	1.8	4.3	1.8	4.1	1.8	4.1			
Max Q Clear (g_c+I1), s		5.4	19.7	24.0	43.0	16.0	53.0	8.9	39.3			
Green Ext Time (g_e), s		0.0	2.9	0.0	0.0	0.0	0.0	0.0	4.5			
Prob of Phs Call (p_c)		0.83	1.00	1.00	1.00	1.00	1.00	0.97	1.00			
Prob of Max Out (p_x)		0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.18			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3302		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		293		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

07/11/2019

Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	42	0	274	0	179	0	84	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	3.4	0.0	22.0	0.0	14.0	0.0	6.9	0.0
Cycle Q Clear Time (g_c), s	3.4	0.0	22.0	0.0	14.0	0.0	6.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	98	0	261	0	166	0	115	0
V/C Ratio (X)	0.43	0.00	1.05	0.00	1.08	0.00	0.73	0.00
Avail Cap (c_a), veh/h	119	0	261	0	166	0	119	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	68.6	0.0	64.0	0.0	68.0	0.0	68.9	0.0
Incr Delay (d2), s/veh	1.1	0.0	69.0	0.0	91.7	0.0	17.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	69.7	0.0	133.0	0.0	159.7	0.0	85.9	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	10.0	0.0	6.4	0.0	3.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	5.0	0.0	4.2	0.0	0.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	15.0	0.0	10.6	0.0	3.7	0.0
%ile Storage Ratio (RQ%)	0.20	0.00	2.38	0.00	1.50	0.00	0.49	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	3.2	0.0	3.2	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.3	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	568	0	510	0	1211	0	989
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	17.7	0.0	41.0	0.0	51.0	0.0	37.3
Cycle Q Clear Time (g_c), s	0.0	17.7	0.0	41.0	0.0	51.0	0.0	37.3
Lane Grp Cap (c), veh/h	0	1351	0	486	0	1215	0	1263
V/C Ratio (X)	0.00	0.42	0.00	1.05	0.00	1.00	0.00	0.78
Avail Cap (c_a), veh/h	0	1351	0	486	0	1215	0	1263
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	34.3	0.0	54.5	0.0	49.3	0.0	43.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	54.4	0.0	24.9	0.0	3.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	34.4	0.0	108.9	0.0	74.1	0.0	46.2
1st-Term Q (Q1), veh/ln	0.0	7.8	0.0	18.3	0.0	22.5	0.0	16.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	7.3	0.0	4.2	0.0	0.5

HCM 6th Signalized Intersection Capacity Analysis

29: Portola Ave & Country Club Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.8	0.0	25.6	0.0	26.7	0.0	16.9
%ile Storage Ratio (RQ%)	0.00	0.19	0.00	0.76	0.00	0.13	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	6.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	88	0	521	0	177	0	124
Grp Sat Flow (s), veh/h/ln	0	1585	0	1818	0	1585	0	1585
Q Serve Time (g_s), s	0.0	5.5	0.0	41.0	0.0	12.4	0.0	8.2
Cycle Q Clear Time (g_c), s	0.0	5.5	0.0	41.0	0.0	12.4	0.0	8.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.16	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	603	0	497	0	542	0	563
V/C Ratio (X)	0.00	0.15	0.00	1.05	0.00	0.33	0.00	0.22
Avail Cap (c_a), veh/h	0	603	0	497	0	542	0	563
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.5	0.0	54.5	0.0	36.6	0.0	33.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	54.0	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.5	0.0	108.5	0.0	36.7	0.0	33.9
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	18.7	0.0	4.9	0.0	3.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	26.2	0.0	4.9	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.72	0.00	0.78	0.00	1.25	0.00	0.51
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	74.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 30: Monterey Ave & Hovley Ln W
























07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	125	10	380	20	1790	200	240	1520	180
Future Volume (veh/h)	10	10	10	125	10	380	20	1790	200	240	1520	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	11	132	11	162	21	1884	211	253	1600	189
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	198	106	106	211	230	195	51	2811	313	273	3369	397
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.03	0.60	0.60	0.31	1.00	1.00
Sat Flow, veh/h	1212	858	858	1390	1870	1585	1781	4663	519	1781	4630	546
Grp Volume(v), veh/h	11	0	22	132	11	162	21	1372	723	253	1175	614
Grp Sat Flow(s),veh/h/ln	1212	0	1716	1390	1870	1585	1781	1702	1777	1781	1702	1772
Q Serve(g_s), s	1.1	0.0	1.5	12.1	0.7	13.0	1.5	34.9	35.4	17.9	0.0	0.0
Cycle Q Clear(g_c), s	1.7	0.0	1.5	13.6	0.7	13.0	1.5	34.9	35.4	17.9	0.0	0.0
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.29	1.00		0.31
Lane Grp Cap(c), veh/h	198	0	211	211	230	195	51	2052	1071	273	2477	1289
V/C Ratio(X)	0.06	0.00	0.10	0.63	0.05	0.83	0.41	0.67	0.67	0.93	0.47	0.48
Avail Cap(c_a), veh/h	338	0	409	371	446	378	96	2052	1071	315	2477	1289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.17	0.17	0.17	0.63	0.63	0.63
Uniform Delay (d), s/veh	51.0	0.0	50.6	56.7	50.3	55.7	62.1	17.2	17.3	44.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	1.1	0.0	3.5	0.3	0.3	0.6	20.6	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.6	4.2	0.3	5.2	0.7	12.2	13.0	8.4	0.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.1	0.0	50.7	57.8	50.3	59.2	62.4	17.5	17.9	65.0	0.4	0.8
LnGrp LOS	D	A	D	E	D	E	E	B	B	E	A	A
Approach Vol, veh/h		33			305			2116			2042	
Approach Delay, s/veh		50.8			58.3			18.1			8.5	
Approach LOS		D			E			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.9	84.1		21.0	8.7	100.3		21.0				
Change Period (Y+Rc), s	5.0	5.7		5.0	5.0	5.7		5.0				
Max Green Setting (Gmax), s	23.0	60.3		31.0	7.0	76.3		31.0				
Max Q Clear Time (g_c+1/9), s	11.9	37.4		3.7	3.5	2.0		15.6				
Green Ext Time (p_c), s	0.0	10.3		0.0	0.0	6.2		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				16.7								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	125	10	380	20	1790	200	240	1520	180
Future Volume (veh/h)	10	10	10	125	10	380	20	1790	200	240	1520	180
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	11	132	11	162	21	1884	211	253	1600	189
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	198	106	106	211	230	195	51	2811	313	273	3369	397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.03	0.60	0.60	0.31	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	51.1	0.0	50.7	57.8	50.3	59.2	62.4	17.5	17.9	65.0	0.4	0.8
Ln Grp LOS	D	A	D	E	D	E	E	B	B	E	A	A
Approach Vol, veh/h	33		305				2116		2042			
Approach Delay, s/veh	50.8		58.3				18.1		8.5			
Approach LOS	D		E				B		A			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1		2		4		5		6		8	
Case No	2.0		4.0		6.0		2.0		4.0		5.0	
Phs Duration (G+Y+Rc), s	24.9		84.1		21.0		8.7		100.3		21.0	
Change Period (Y+Rc), s	5.0		5.7		5.0		5.0		5.7		5.0	
Max Green (Gmax), s	23.0		60.3		31.0		7.0		76.3		31.0	
Max Allow Headway (MAH), s	1.8		3.8		3.0		1.7		3.3		2.8	
Max Q Clear (g_c+I1), s	19.9		37.4		3.7		3.5		2.0		15.6	
Green Ext Time (g_e), s	0.0		10.3		0.0		0.0		6.2		0.4	
Prob of Phs Call (p_c)	1.00		1.00		1.00		0.53		1.00		1.00	
Prob of Max Out (p_x)	0.12		0.00		0.00		0.00		0.00		0.00	
Left-Turn Movement Data												
Assigned Mvmt	1		7				5		3			
Mvmt Sat Flow, veh/h	1781		1212				1781		1390			
Through Movement Data												
Assigned Mvmt	2		4				6		8			
Mvmt Sat Flow, veh/h	4663		858				4630		1870			
Right-Turn Movement Data												
Assigned Mvmt	12		14				16		18			
Mvmt Sat Flow, veh/h	519		858				546		1585			
Left Lane Group Data												
Assigned Mvmt	1	0	0	7	5	0	0	3				
Lane Assignment	L (Prot)			L L (Prot)		L						

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	253	0	0	11	21	0	0	132
Grp Sat Flow (s), veh/h/ln	1781	0	0	1212	1781	0	0	1390
Q Serve Time (g_s), s	17.9	0.0	0.0	1.1	1.5	0.0	0.0	12.1
Cycle Q Clear Time (g_c), s	17.9	0.0	0.0	1.7	1.5	0.0	0.0	13.6
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1212	0	0	0	1390
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	16.0	0.0	0.0	0.0	16.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	15.3	0.0	0.0	0.0	14.5
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	12.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	273	0	0	198	51	0	0	211
V/C Ratio (X)	0.93	0.00	0.00	0.06	0.41	0.00	0.00	0.63
Avail Cap (c_a), veh/h	315	0	0	338	96	0	0	371
Upstream Filter (I)	0.63	0.00	0.00	1.00	0.17	0.00	0.00	1.00
Uniform Delay (d1), s/veh	44.4	0.0	0.0	51.0	62.1	0.0	0.0	56.7
Incr Delay (d2), s/veh	20.6	0.0	0.0	0.0	0.3	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	65.0	0.0	0.0	51.1	62.4	0.0	0.0	57.8
1st-Term Q (Q1), veh/ln	6.8	0.0	0.0	0.3	0.7	0.0	0.0	4.1
2nd-Term Q (Q2), veh/ln	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	8.4	0.0	0.0	0.3	0.7	0.0	0.0	4.2
%ile Storage Ratio (RQ%)	1.06	0.00	0.00	0.01	0.18	0.00	0.00	0.97
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	2	0	0	0	2	0	1
Grp Vol (v), veh/h	0	1372	0	0	0	1175	0	11
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	34.9	0.0	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear Time (g_c), s	0.0	34.9	0.0	0.0	0.0	0.0	0.0	0.7
Lane Grp Cap (c), veh/h	0	2052	0	0	0	2477	0	230
V/C Ratio (X)	0.00	0.67	0.00	0.00	0.00	0.47	0.00	0.05
Avail Cap (c_a), veh/h	0	2052	0	0	0	2477	0	446
Upstream Filter (I)	0.00	0.17	0.00	0.00	0.00	0.63	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.2	0.0	0.0	0.0	0.0	0.0	50.3
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.5	0.0	0.0	0.0	0.4	0.0	50.3
1st-Term Q (Q1), veh/ln	0.0	12.1	0.0	0.0	0.0	0.0	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	12.2	0.0	0.0	0.0	0.1	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	723	0	22	0	614	0	162
Grp Sat Flow (s), veh/h/ln	0	1777	0	1716	0	1772	0	1585
Q Serve Time (g_s), s	0.0	35.4	0.0	1.5	0.0	0.0	0.0	13.0
Cycle Q Clear Time (g_c), s	0.0	35.4	0.0	1.5	0.0	0.0	0.0	13.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.29	0.00	0.50	0.00	0.31	0.00	1.00
Lane Grp Cap (c), veh/h	0	1071	0	211	0	1289	0	195
V/C Ratio (X)	0.00	0.67	0.00	0.10	0.00	0.48	0.00	0.83
Avail Cap (c_a), veh/h	0	1071	0	409	0	1289	0	378
Upstream Filter (I)	0.00	0.17	0.00	1.00	0.00	0.63	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.3	0.0	50.6	0.0	0.0	0.0	55.7
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.1	0.0	0.8	0.0	3.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.9	0.0	50.7	0.0	0.8	0.0	59.2
1st-Term Q (Q1), veh/ln	0.0	12.9	0.0	0.6	0.0	0.0	0.0	5.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	13.0	0.0	0.6	0.0	0.3	0.0	5.2
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.03	0.00	0.00	0.00	1.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.7
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
 31: Monterey Ave & Fred Waring Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑	↖	↖ ↗	↑ ↑ ↑		↖ ↗	↑ ↑ ↑	↖
Traffic Volume (veh/h)	420	970	90	460	830	520	140	910	430	390	1010	250
Future Volume (veh/h)	420	970	90	460	830	520	140	910	430	390	1010	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	442	1021	95	484	874	0	147	958	453	411	1063	194
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	452	1282	119	530	1493		212	969	451	425	1769	549
Arrive On Green	0.13	0.27	0.27	0.15	0.29	0.00	0.06	0.28	0.28	0.12	0.35	0.35
Sat Flow, veh/h	3456	4753	442	3456	5106	1585	3456	3404	1585	3456	5106	1585
Grp Volume(v), veh/h	442	731	385	484	874	0	147	958	453	411	1063	194
Grp Sat Flow(s),veh/h/ln	1728	1702	1791	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	16.6	25.9	26.0	17.9	19.0	0.0	5.4	36.4	37.0	15.4	22.3	11.8
Cycle Q Clear(g_c), s	16.6	25.9	26.0	17.9	19.0	0.0	5.4	36.4	37.0	15.4	22.3	11.8
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	452	918	483	530	1493		212	969	451	425	1769	549
V/C Ratio(X)	0.98	0.80	0.80	0.91	0.59		0.69	0.99	1.00	0.97	0.60	0.35
Avail Cap(c_a), veh/h	452	918	483	532	1493		266	969	451	425	1769	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.85	0.85	0.85
Uniform Delay (d), s/veh	56.3	44.1	44.2	54.2	39.3	0.0	59.8	46.3	46.5	56.7	35.1	31.6
Incr Delay (d2), s/veh	36.4	7.1	12.9	19.8	1.7	0.0	3.4	26.3	43.4	31.5	1.3	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	11.5	12.9	9.1	8.0	0.0	2.4	18.4	19.5	8.4	9.1	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.7	51.2	57.0	74.0	41.0	0.0	63.2	72.6	89.9	88.2	36.4	33.1
LnGrp LOS	F	D	E	E	D		E	E	F	F	D	C
Approach Vol, veh/h		1558		1358		A	1558		1668			
Approach Delay, s/veh		64.4		52.7			76.8		48.8			
Approach LOS		E		D			E		D			
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	44.0	13.0	51.0	24.9	41.1	21.0	43.0				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0				
Max Green Setting (Gmax), s	38.0	10.0	43.0	20.0	35.0	16.0	37.0					
Max Q Clear Time (g_c+11g), s	21.0	7.4	24.3	19.9	28.0	17.4	39.0					
Green Ext Time (p_c), s	0.0	2.0	0.0	2.4	0.0	1.7	0.0	0.0				

Intersection Summary



































HCM 6th Ctrl Delay	60.7
HCM 6th LOS	E

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
31: Monterey Ave & Fred Waring Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		  	 	
Traffic Volume (veh/h)	420	970	90	460	830	520	140	910	430	390	1010	250
Future Volume (veh/h)	420	970	90	460	830	520	140	910	430	390	1010	250
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	442	1021	95	484	874	0	147	958	453	411	1063	194
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	452	1282	119	530	1493		212	969	451	425	1769	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.27	0.27	0.15	0.29	0.00	0.06	0.28	0.28	0.12	0.35	0.35
Unsig. Movement Delay												
Ln Grp Delay, s/veh	92.7	51.2	57.0	74.0	41.0	0.0	63.2	72.6	89.9	88.2	36.4	33.1
Ln Grp LOS	F	D	E	E	D		E	E	F	F	D	C
Approach Vol, veh/h		1558			1358			1558			1668	
Approach Delay, s/veh		64.4			52.7			76.8			48.8	
Approach LOS		E			D			E			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		22.0	44.0	13.0	51.0	24.9	41.1	21.0	43.0			
Change Period (Y+Rc), s		5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0			
Max Green (Gmax), s		17.0	38.0	10.0	43.0	20.0	35.0	16.0	37.0			
Max Allow Headway (MAH), s		1.7	2.9	1.7	2.7	1.7	2.9	1.7	3.0			
Max Q Clear (g_c+I1), s		18.6	21.0	7.4	24.3	19.9	28.0	17.4	39.0			
Green Ext Time (g_e), s		0.0	2.0	0.0	2.4	0.0	1.7	0.0	0.0			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.08	0.00	1.00	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		4753		3404			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		442		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 31: Monterey Ave & Fred Waring Dr

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	442	0	147	0	484	0	411	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	16.6	0.0	5.4	0.0	17.9	0.0	15.4	0.0
Cycle Q Clear Time (g_c), s	16.6	0.0	5.4	0.0	17.9	0.0	15.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	452	0	212	0	530	0	425	0
V/C Ratio (X)	0.98	0.00	0.69	0.00	0.91	0.00	0.97	0.00
Avail Cap (c_a), veh/h	452	0	266	0	532	0	425	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.85	0.00
Uniform Delay (d1), s/veh	56.3	0.0	59.8	0.0	54.2	0.0	56.7	0.0
Incr Delay (d2), s/veh	36.4	0.0	3.4	0.0	19.8	0.0	31.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	92.7	0.0	63.2	0.0	74.0	0.0	88.2	0.0
1st-Term Q (Q1), veh/ln	7.0	0.0	2.3	0.0	7.6	0.0	6.5	0.0
2nd-Term Q (Q2), veh/ln	2.3	0.0	0.1	0.0	1.5	0.0	1.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	9.3	0.0	2.4	0.0	9.1	0.0	8.4	0.0
%ile Storage Ratio (RQ%)	1.75	0.00	0.36	0.00	1.32	0.00	1.57	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	2	0	2
Grp Vol (v), veh/h	0	874	0	1063	0	731	0	958
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	19.0	0.0	22.3	0.0	25.9	0.0	36.4
Cycle Q Clear Time (g_c), s	0.0	19.0	0.0	22.3	0.0	25.9	0.0	36.4
Lane Grp Cap (c), veh/h	0	1493	0	1769	0	918	0	969
V/C Ratio (X)	0.00	0.59	0.00	0.60	0.00	0.80	0.00	0.99
Avail Cap (c_a), veh/h	0	1493	0	1769	0	918	0	969
Upstream Filter (I)	0.00	1.00	0.00	0.85	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	39.3	0.0	35.1	0.0	44.1	0.0	46.3
Incr Delay (d2), s/veh	0.0	1.7	0.0	1.3	0.0	7.1	0.0	26.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	41.0	0.0	36.4	0.0	51.2	0.0	72.6
1st-Term Q (Q1), veh/ln	0.0	7.7	0.0	8.9	0.0	10.6	0.0	14.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	0.9	0.0	3.5

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.0	0.0	9.1	0.0	11.5	0.0	18.4
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.03	0.00	0.10	0.00	0.38
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	194	0	385	0	453
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1791	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	11.8	0.0	26.0	0.0	37.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	11.8	0.0	26.0	0.0	37.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.25	0.00	1.00
Lane Grp Cap (c), veh/h	0	463	0	549	0	483	0	451
V/C Ratio (X)	0.00	0.00	0.00	0.35	0.00	0.80	0.00	1.00
Avail Cap (c_a), veh/h	0	463	0	549	0	483	0	451
Upstream Filter (I)	0.00	0.00	0.00	0.85	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	31.6	0.0	44.2	0.0	46.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.5	0.0	12.9	0.0	43.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	33.1	0.0	57.0	0.0	89.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.4	0.0	11.2	0.0	14.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	1.7	0.0	5.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	4.7	0.0	12.9	0.0	19.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.58	0.00	0.11	0.00	0.40
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Intersection Summary

HCM 6th Ctrl Delay	60.7
HCM 6th LOS	E

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

32: Monterey Ave & SR-111

07/11/2019






































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	240	1360	180	270	1170	270	300	670	220	400	1000	220
Future Volume (veh/h)	240	1360	180	270	1170	270	300	670	220	400	1000	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	1432	63	284	1232	221	316	705	131	421	1053	111
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	1711	531	292	1696	526	365	1024	457	452	1113	497
Arrive On Green	0.09	0.34	0.34	0.08	0.33	0.33	0.11	0.29	0.29	0.13	0.31	0.31
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	253	1432	63	284	1232	221	316	705	131	421	1053	111
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	9.4	33.7	3.6	10.7	27.6	14.1	11.7	22.9	8.3	15.7	37.6	6.7
Cycle Q Clear(g_c), s	9.4	33.7	3.6	10.7	27.6	14.1	11.7	22.9	8.3	15.7	37.6	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	303	1711	531	292	1696	526	365	1024	457	452	1113	497
V/C Ratio(X)	0.84	0.84	0.12	0.97	0.73	0.42	0.87	0.69	0.29	0.93	0.95	0.22
Avail Cap(c_a), veh/h	319	1711	531	292	1696	526	372	1093	488	452	1175	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.4	39.9	29.9	59.3	38.2	33.7	57.2	41.1	35.9	55.9	43.6	33.0
Incr Delay (d2), s/veh	15.5	5.1	0.5	44.4	2.8	2.5	17.9	1.3	0.1	25.8	14.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	14.4	1.4	6.4	11.6	5.6	5.9	9.9	3.2	8.3	18.1	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.9	45.0	30.4	103.8	41.0	36.1	75.1	42.4	36.0	81.7	57.9	33.0
LnGrp LOS	E	D	C	F	D	D	E	D	D	F	E	C
Approach Vol, veh/h		1748			1737			1152			1585	
Approach Delay, s/veh		48.7			50.6			50.7			62.5	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	49.6	18.7	45.7	16.4	49.2	22.0	42.4				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	6.0	41.0	14.0	43.0	12.0	40.0	17.0	40.0				
Max Q Clear Time (g_c+1/2g), s	6.0	35.7	13.7	39.6	11.4	29.6	17.7	24.9				
Green Ext Time (p_c), s	0.0	2.1	0.0	1.1	0.0	2.6	0.0	1.5				

Intersection Summary

HCM 6th Ctrl Delay	53.1
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis
 32: Monterey Ave & SR-111

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	 
Traffic Volume (veh/h)	240	1360	180	270	1170	270	300	670	220	400	1000	220
Future Volume (veh/h)	240	1360	180	270	1170	270	300	670	220	400	1000	220
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	1432	63	284	1232	221	316	705	131	421	1053	111
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	303	1711	531	292	1696	526	365	1024	457	452	1113	497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.34	0.34	0.08	0.33	0.33	0.11	0.29	0.29	0.13	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	73.9	45.0	30.4	103.8	41.0	36.1	75.1	42.4	36.0	81.7	57.9	33.0
Ln Grp LOS	E	D	C	F	D	D	E	D	D	F	E	C
Approach Vol, veh/h		1748			1737			1152			1585	
Approach Delay, s/veh		48.7			50.6			50.7			62.5	
Approach LOS		D			D			D			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		16.0	49.6	18.7	45.7	16.4	49.2	22.0	42.4			
Change Period (Y+Rc), s		5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0			
Max Green (Gmax), s		11.0	41.0	14.0	43.0	12.0	40.0	17.0	40.0			
Max Allow Headway (MAH), s		1.7	2.9	1.7	2.8	1.7	2.8	1.7	2.8			
Max Q Clear (g_c+I1), s		12.7	35.7	13.7	39.6	11.4	29.6	17.7	24.9			
Green Ext Time (g_e), s		0.0	2.1	0.0	1.1	0.0	2.6	0.0	1.5			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.80	1.00	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	284	0	316	0	253	0	421	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	10.7	0.0	11.7	0.0	9.4	0.0	15.7	0.0
Cycle Q Clear Time (g_c), s	10.7	0.0	11.7	0.0	9.4	0.0	15.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	292	0	365	0	303	0	452	0
V/C Ratio (X)	0.97	0.00	0.87	0.00	0.84	0.00	0.93	0.00
Avail Cap (c_a), veh/h	292	0	372	0	319	0	452	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	59.3	0.0	57.2	0.0	58.4	0.0	55.9	0.0
Incr Delay (d2), s/veh	44.4	0.0	17.9	0.0	15.5	0.0	25.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	103.8	0.0	75.1	0.0	73.9	0.0	81.7	0.0
1st-Term Q (Q1), veh/ln	4.6	0.0	5.0	0.0	4.0	0.0	6.7	0.0
2nd-Term Q (Q2), veh/ln	1.8	0.0	0.9	0.0	0.7	0.0	1.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	6.4	0.0	5.9	0.0	4.7	0.0	8.3	0.0
%ile Storage Ratio (RQ%)	0.87	0.00	1.67	0.00	0.47	0.00	1.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	1432	0	1053	0	1232	0	705
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	33.7	0.0	37.6	0.0	27.6	0.0	22.9
Cycle Q Clear Time (g_c), s	0.0	33.7	0.0	37.6	0.0	27.6	0.0	22.9
Lane Grp Cap (c), veh/h	0	1711	0	1113	0	1696	0	1024
V/C Ratio (X)	0.00	0.84	0.00	0.95	0.00	0.73	0.00	0.69
Avail Cap (c_a), veh/h	0	1711	0	1175	0	1696	0	1093
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	39.9	0.0	43.6	0.0	38.2	0.0	41.1
Incr Delay (d2), s/veh	0.0	5.1	0.0	14.4	0.0	2.8	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	45.0	0.0	57.9	0.0	41.0	0.0	42.4
1st-Term Q (Q1), veh/ln	0.0	13.6	0.0	15.9	0.0	11.1	0.0	9.7
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	2.2	0.0	0.4	0.0	0.2

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	14.4	0.0	18.1	0.0	11.6	0.0	9.9
%ile Storage Ratio (RQ%)	0.00	0.30	0.00	0.38	0.00	0.12	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	63	0	111	0	221	0	131
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	3.6	0.0	6.7	0.0	14.1	0.0	8.3
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	6.7	0.0	14.1	0.0	8.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	531	0	497	0	526	0	457
V/C Ratio (X)	0.00	0.12	0.00	0.22	0.00	0.42	0.00	0.29
Avail Cap (c_a), veh/h	0	531	0	524	0	526	0	488
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.9	0.0	33.0	0.0	33.7	0.0	35.9
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.1	0.0	2.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.4	0.0	33.0	0.0	36.1	0.0	36.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	2.5	0.0	5.3	0.0	3.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	2.5	0.0	5.6	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.05	0.00	2.20	0.00	0.62
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	53.1
HCM 6th LOS	D

Intersection						
Int Delay, s/veh	4.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑	↗	↘	↗
Traffic Vol, veh/h	40	820	1085	30	60	50
Future Vol, veh/h	40	820	1085	30	60	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	130	-	-	145	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	42	863	1142	32	63	53

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1174	0	-	0	1658 571
Stage 1	-	-	-	-	1142 -
Stage 2	-	-	-	-	516 -
Critical Hdwy	4.14	-	-	-	6.84 6.94
Critical Hdwy Stg 1	-	-	-	-	5.84 -
Critical Hdwy Stg 2	-	-	-	-	5.84 -
Follow-up Hdwy	2.22	-	-	-	3.52 3.32
Pot Cap-1 Maneuver	591	-	-	-	89 464
Stage 1	-	-	-	-	266 -
Stage 2	-	-	-	-	564 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	591	-	-	-	83 464
Mov Cap-2 Maneuver	-	-	-	-	83 -
Stage 1	-	-	-	-	247 -
Stage 2	-	-	-	-	564 -

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	75.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	591	-	-	-	83	464
HCM Lane V/C Ratio	0.071	-	-	-	0.761	0.113
HCM Control Delay (s)	11.6	-	-	-	127.8	13.7
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	0.2	-	-	-	3.8	0.4

HCM 6th Signalized Intersection Summary
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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↶	↷	↑↑↑	↷	↶	↑↑↑
Traffic Volume (veh/h)	90	70	1820	50	50	1670
Future Volume (veh/h)	90	70	1820	50	50	1670
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	95	7	1916	33	53	1758
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	118	105	3957	1228	70	4335
Arrive On Green	0.07	0.07	0.77	0.77	0.08	1.00
Sat Flow, veh/h	1781	1585	5274	1585	1781	5274
Grp Volume(v), veh/h	95	7	1916	33	53	1758
Grp Sat Flow(s),veh/h/ln	1781	1585	1702	1585	1781	1702
Q Serve(g_s), s	6.8	0.5	17.6	0.6	3.8	0.0
Cycle Q Clear(g_c), s	6.8	0.5	17.6	0.6	3.8	0.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	118	105	3957	1228	70	4335
V/C Ratio(X)	0.80	0.07	0.48	0.03	0.76	0.41
Avail Cap(c_a), veh/h	247	219	3957	1228	185	4335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.42	0.42	0.67	0.67
Uniform Delay (d), s/veh	59.8	56.9	5.3	3.4	59.3	0.0
Incr Delay (d2), s/veh	4.7	0.1	0.2	0.0	4.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.5	4.3	0.1	1.7	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	64.5	57.0	5.4	3.4	63.4	0.2
LnGrp LOS	E	E	A	A	E	A
Approach Vol, veh/h	102		1949			1811
Approach Delay, s/veh	64.0		5.4			2.0
Approach LOS	E		A			A
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		117.4		12.6	9.6	107.7
Change Period (Y+Rc), s		7.0		4.0	4.5	7.0
Max Green Setting (Gmax), s		101.0		18.0	13.5	83.0
Max Q Clear Time (g_c+I1), s		2.0		8.8	5.8	19.6
Green Ext Time (p_c), s		4.6		0.0	0.0	5.2
Intersection Summary						
HCM 6th Ctrl Delay			5.4			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Capacity Analysis
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Movement	WBL	WBR	NBT	NBR	SBL	SBT			
Lane Configurations	↘	↗	↑↑↑	↗	↘	↑↑↑			
Traffic Volume (veh/h)	90	70	1820	50	50	1670			
Future Volume (veh/h)	90	70	1820	50	50	1670			
Number	7	14	6	16	5	2			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00		1.00	1.00				
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No		No			No			
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	95	7	1916	33	53	1758			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	118	105	3957	1228	70	4335			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00			
Prop Arrive On Green	0.07	0.07	0.77	0.77	0.08	1.00			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	64.5	57.0	5.4	3.4	63.4	0.2			
Ln Grp LOS	E	E	A	A	E	A			
Approach Vol, veh/h	102		1949			1811			
Approach Delay, s/veh	64.0		5.4			2.0			
Approach LOS	E		A			A			
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4	5	6		
Case No			4.0		9.0	2.0	7.0		
Phs Duration (G+Y+Rc), s			117.4		12.6	9.6	107.7		
Change Period (Y+Rc), s			7.0		4.0	4.5	7.0		
Max Green (Gmax), s			101.0		18.0	13.5	83.0		
Max Allow Headway (MAH), s			2.7		1.8	1.6	2.7		
Max Q Clear (g_c+I1), s			2.0		8.8	5.8	19.6		
Green Ext Time (g_e), s			4.6		0.0	0.0	5.2		
Prob of Phs Call (p_c)			1.00		0.97	0.85	1.00		
Prob of Max Out (p_x)			0.00		0.00	0.00	0.00		
Left-Turn Movement Data									
Assigned Mvmt					7	5	1		
Mvmt Sat Flow, veh/h					1781	1781	0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			5274		0		5274		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	0	0	7	5	1	0	0
Lane Assignment					L	L (Prot)			

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Lanes in Grp	0	0	0	1	1	0	0	0
Grp Vol (v), veh/h	0	0	0	95	53	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	6.8	3.8	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.8	3.8	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	100.7	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	118	70	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.80	0.76	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	247	185	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.67	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	59.8	59.3	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.7	4.1	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	64.5	63.4	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.1	1.6	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.2	1.7	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.09	0.29	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	1758	0	0	0	1916	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	17.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	17.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	4335	0	0	0	3957	0	0
V/C Ratio (X)	0.00	0.41	0.00	0.00	0.00	0.48	0.00	0.00
Avail Cap (c_a), veh/h	0	4335	0	0	0	3957	0	0
Upstream Filter (I)	0.00	0.67	0.00	0.00	0.00	0.42	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	5.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

34: Monterey Ave & Shadow Ridge Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	4.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	7	0	33	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.5	0.0	0.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.5	0.0	0.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	105	0	1228	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.07	0.00	0.03	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	219	0	1228	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.42	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	56.9	0.0	3.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	57.0	0.0	3.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.5	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.5	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.4
HCM 6th LOS	A

Intersection						
Int Delay, s/veh	0.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↖	↑↑	↑↑	
Traffic Vol, veh/h	0	10	10	1245	1110	10
Future Vol, veh/h	0	10	10	1245	1110	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	40	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	11	11	1311	1168	11

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	590	1179	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	4.14	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	0	451	588	-	-	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	451	588	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	588	-	451	-	-
HCM Lane V/C Ratio	0.018	-	0.023	-	-
HCM Control Delay (s)	11.2	-	13.2	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection						
Int Delay, s/veh	0.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↘	
Traffic Vol, veh/h	920	10	10	930	10	10
Future Vol, veh/h	920	10	10	930	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	95	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	968	11	11	979	11	11

Major/Minor	Major1	Major2	Minor1	Minor2	Minor3
Conflicting Flow All	0	0	979	0	1486
Stage 1	-	-	-	-	974
Stage 2	-	-	-	-	512
Critical Hdwy	-	-	4.14	-	6.84
Critical Hdwy Stg 1	-	-	-	-	5.84
Critical Hdwy Stg 2	-	-	-	-	5.84
Follow-up Hdwy	-	-	2.22	-	3.52
Pot Cap-1 Maneuver	-	-	701	-	115
Stage 1	-	-	-	-	327
Stage 2	-	-	-	-	567
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	701	-	113
Mov Cap-2 Maneuver	-	-	-	-	113
Stage 1	-	-	-	-	327
Stage 2	-	-	-	-	558

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	26.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	186	-	-	701	-
HCM Lane V/C Ratio	0.113	-	-	0.015	-
HCM Control Delay (s)	26.8	-	-	10.2	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

**APPENDIX E: LEVEL OF SERVICE CALCULATION SHEETS
CUMULATIVE YEAR (2040) PLUS PROJECT CONDITIONS**



HCM 6th Signalized Intersection Summary

1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↖	↗	↘↙	↘↖			↗↘	↗
Traffic Volume (veh/h)	0	0	0	910	0	380	718	560	0	0	260	270
Future Volume (veh/h)	0	0	0	910	0	380	718	560	0	0	260	270
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				958	0	0	756	589	0	0	274	47
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				1200	0		910	2364	0	0	595	185
Arrive On Green				0.34	0.00	0.00	0.26	0.46	0.00	0.00	0.12	0.12
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1585
Grp Volume(v), veh/h				958	0	0	756	589	0	0	274	47
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1585
Q Serve(g_s), s				11.7	0.0	0.0	9.9	3.4	0.0	0.0	2.4	1.3
Cycle Q Clear(g_c), s				11.7	0.0	0.0	9.9	3.4	0.0	0.0	2.4	1.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1200	0		910	2364	0	0	595	185
V/C Ratio(X)				0.80	0.00		0.83	0.25	0.00	0.00	0.46	0.25
Avail Cap(c_a), veh/h				1870	0		1152	4808	0	0	2681	832
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				14.4	0.0	0.0	16.7	7.8	0.0	0.0	19.8	19.3
Incr Delay (d2), s/veh				1.1	0.0	0.0	3.4	0.0	0.0	0.0	0.4	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.1	0.0	0.0	3.2	0.7	0.0	0.0	0.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				15.5	0.0	0.0	20.1	7.9	0.0	0.0	20.2	19.8
LnGrp LOS				B	A		C	A	A	A	C	B
Approach Vol, veh/h					958	A		1345			321	
Approach Delay, s/veh					15.5			14.7			20.2	
Approach LOS					B			B			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		27.0			16.6	10.4		21.0				
Change Period (Y+Rc), s		4.8			4.0	4.8		4.8				
Max Green Setting (Gmax), s		45.2			16.0	25.2		25.2				
Max Q Clear Time (g_c+I1), s		5.4			11.9	4.4		13.7				
Green Ext Time (p_c), s		3.0			0.7	1.3		2.5				

Intersection Summary

HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	910	0	380	718	560	0	0	260	270
Future Volume (veh/h)	0	0	0	910	0	380	718	560	0	0	260	270
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				958	0	0	756	589	0	0	274	47
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Opposing Right Turn Influence				Yes			Yes			No		
Cap, veh/h				1200	0		910	2364	0	0	595	185
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.34	0.00	0.00	0.26	0.46	0.00	0.00	0.12	0.12
Unsig. Movement Delay												
Ln Grp Delay, s/veh				15.5	0.0	0.0	20.1	7.9	0.0	0.0	20.2	19.8
Ln Grp LOS				B	A		C	A	A	A	C	B
Approach Vol, veh/h					958			1345			321	
Approach Delay, s/veh					15.5			14.7			20.2	
Approach LOS					B			B			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8		5	6					
Case No			4.0	9.0		2.0	7.0					
Phs Duration (G+Y+Rc), s			27.0	21.0		16.6	10.4					
Change Period (Y+Rc), s			4.8	4.8		4.0	4.8					
Max Green (Gmax), s			45.2	25.2		16.0	25.2					
Max Allow Headway (MAH), s			4.2	3.3		2.6	4.1					
Max Q Clear (g_c+I1), s			5.4	13.7		11.9	4.4					
Green Ext Time (g_e), s			3.0	2.5		0.7	1.3					
Prob of Phs Call (p_c)			1.00	1.00		1.00	0.99					
Prob of Max Out (p_x)			0.00	0.06		0.39	0.00					
Left-Turn Movement Data												
Assigned Mvmt				3		5	1					
Mvmt Sat Flow, veh/h				3563		3456	0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			5274	0			5274					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			0	1585			1585					
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	0	0				
Lane Assignment			L		L (Prot)							

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

Lanes in Grp	0	0	2	0	2	0	0	0
Grp Vol (v), veh/h	0	0	958	0	756	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1728	0	0	0
Q Serve Time (g_s), s	0.0	0.0	11.7	0.0	9.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	11.7	0.0	9.9	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1200	0	910	0	0	0
V/C Ratio (X)	0.00	0.00	0.80	0.00	0.83	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1870	0	1152	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	14.4	0.0	16.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.1	0.0	3.4	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	15.5	0.0	20.1	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	3.9	0.0	2.8	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.2	0.0	0.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	4.1	0.0	3.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.11	0.00	0.38	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	589	0	0	0	274	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	3.4	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.4	0.0	0.0	0.0	2.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	2364	0	0	0	595	0	0
V/C Ratio (X)	0.00	0.25	0.00	0.00	0.00	0.46	0.00	0.00
Avail Cap (c_a), veh/h	0	4808	0	0	0	2681	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.8	0.0	0.0	0.0	19.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.9	0.0	0.0	0.0	20.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	0.0	0.0	0.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.7	0.0	0.0	0.0	0.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	47	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	534	0	0	185	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.25	0.00	0.00
Avail Cap (c_a), veh/h	0	0	832	0	0	832	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	19.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	19.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	15.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	0	1147	0	0	0	0	863	80	130	1040	0
Future Volume (veh/h)	415	0	1147	0	0	0	0	863	80	130	1040	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No					No		No			No
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	291	0	1302				0	908	28	137	1095	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	780	0	1388				0	1311	370	276	1975	0
Arrive On Green	0.44	0.00	0.44				0.00	0.23	0.23	0.08	0.39	0.00
Sat Flow, veh/h	1781	0	3170				0	5611	1585	3456	5274	0
Grp Volume(v), veh/h	291	0	1302				0	908	28	137	1095	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1870	1585	1728	1702	0
Q Serve(g_s), s	6.0	0.0	21.4				0.0	8.1	0.8	2.1	9.2	0.0
Cycle Q Clear(g_c), s	6.0	0.0	21.4				0.0	8.1	0.8	2.1	9.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	780	0	1388				0	1311	370	276	1975	0
V/C Ratio(X)	0.37	0.00	0.94				0.00	0.69	0.08	0.50	0.55	0.00
Avail Cap(c_a), veh/h	788	0	1402				0	1764	498	316	2445	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.3	0.0	14.7				0.0	19.2	16.4	24.1	13.1	0.0
Incr Delay (d2), s/veh	0.2	0.0	12.1				0.0	0.6	0.1	0.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	8.6				0.0	2.8	0.2	0.7	2.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.6	0.0	26.8				0.0	19.7	16.4	24.6	13.3	0.0
LnGrp LOS	B	A	C				A	B	B	C	B	A
Approach Vol, veh/h		1593						936			1232	
Approach Delay, s/veh		23.8						19.6			14.5	
Approach LOS		C						B			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	8.4	17.6	28.8	26.0								
Change Period (Y+Rc), s	4.0	4.8	4.8	4.8								
Max Green Setting (Gmax), s	5.0	17.2	24.2	26.2								
Max Q Clear Time (g_c+I), s	11.1	10.1	23.4	11.2								
Green Ext Time (p_c), s	0.0	2.7	0.5	4.9								

Intersection Summary

HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	415	0	1147	0	0	0	0	863	80	130	1040	0
Future Volume (veh/h)	415	0	1147	0	0	0	0	863	80	130	1040	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	291	0	1302				0	908	28	137	1095	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	780	0	1388				0	1311	370	276	1975	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.44	0.00	0.44				0.00	0.23	0.23	0.08	0.39	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	10.6	0.0	26.8				0.0	19.7	16.4	24.6	13.3	0.0
Ln Grp LOS	B	A	C				A	B	B	C	B	A
Approach Vol, veh/h		1593						936			1232	
Approach Delay, s/veh		23.8						19.6			14.5	
Approach LOS		C						B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		8.4	17.6		28.8		26.0					
Change Period (Y+Rc), s		4.0	4.8		4.8		4.8					
Max Green (Gmax), s		5.0	17.2		24.2		26.2					
Max Allow Headway (MAH), s		2.6	4.2		3.5		4.2					
Max Q Clear (g_c+I1), s		4.1	10.1		23.4		11.2					
Green Ext Time (g_e), s		0.0	2.7		0.5		4.9					
Prob of Phs Call (p_c)		0.88	1.00		1.00		1.00					
Prob of Max Out (p_x)		1.00	0.53		1.00		0.14					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5611		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	137	0	0	291	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	2.1	0.0	0.0	6.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	2.1	0.0	0.0	6.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	12.8	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	276	0	0	780	0	0	0	0
V/C Ratio (X)	0.50	0.00	0.00	0.37	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	316	0	0	788	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	24.1	0.0	0.0	10.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.6	0.0	0.0	10.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.0	2.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	0.0	2.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.00	0.11	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment	T			T				
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	908	0	0	0	1095	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	8.1	0.0	0.0	0.0	9.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.1	0.0	0.0	0.0	9.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	1311	0	0	0	1975	0	0
V/C Ratio (X)	0.00	0.69	0.00	0.00	0.00	0.55	0.00	0.00
Avail Cap (c_a), veh/h	0	1764	0	0	0	2445	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	19.2	0.0	0.0	0.0	13.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.7	0.0	0.0	0.0	13.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	0.0	0.0	2.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.8	0.0	0.0	0.0	2.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.09	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	28	0	1302	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.8	0.0	21.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.8	0.0	21.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	370	0	1388	0	0	0	0
V/C Ratio (X)	0.00	0.08	0.00	0.94	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	498	0	1402	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.4	0.0	14.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	12.1	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.4	0.0	26.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	6.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	8.6	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	1.68	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

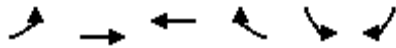
Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: Ramon Rd & Rattler Rd

07/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖↗	↑↑↑	↑↑↑	↖	↖↗	↖	
Traffic Volume (veh/h)	119	1711	1215	152	127	95	
Future Volume (veh/h)	119	1711	1215	152	127	95	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	125	1801	1279	124	134	36	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	269	3739	2875	1026	301	134	
Arrive On Green	0.08	0.73	0.56	0.56	0.08	0.08	
Sat Flow, veh/h	3456	5274	5274	1585	3563	1585	
Grp Volume(v), veh/h	125	1801	1279	124	134	36	
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1585	1781	1585	
Q Serve(g_s), s	1.9	8.0	8.0	1.6	2.0	1.2	
Cycle Q Clear(g_c), s	1.9	8.0	8.0	1.6	2.0	1.2	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	269	3739	2875	1026	301	134	
V/C Ratio(X)	0.46	0.48	0.44	0.12	0.44	0.27	
Avail Cap(c_a), veh/h	380	3739	2875	1026	2283	1016	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	24.1	3.0	7.0	3.7	23.8	23.4	
Incr Delay (d2), s/veh	1.3	0.4	0.5	0.2	1.0	1.1	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.7	0.2	1.6	0.4	0.8	0.0	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	25.3	3.5	7.5	3.9	24.8	24.5	
LnGrp LOS	C	A	A	A	C	C	
Approach Vol, veh/h		1926	1403		170		
Approach Delay, s/veh		4.9	7.1		24.7		
Approach LOS		A	A		C		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				45.0	9.6	9.2	35.8
Change Period (Y+Rc), s				5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s				40.0	35.0	6.0	29.0
Max Q Clear Time (g_c+1), s				10.0	4.0	3.9	10.0
Green Ext Time (p_c), s				14.9	0.5	0.1	8.3
Intersection Summary							
HCM 6th Ctrl Delay			6.8				
HCM 6th LOS			A				
Notes							
User approved volume balancing among the lanes for turning movement.							

HCM 6th Signalized Intersection Capacity Analysis

3: Ramon Rd & Rattler Rd

07/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↔↔	↑↑↑	↑↑↑	↔	↔↔	↔			
Traffic Volume (veh/h)	119	1711	1215	152	127	95			
Future Volume (veh/h)	119	1711	1215	152	127	95			
Number	7	4	8	18	1	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	125	1801	1279	124	134	36			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	269	3739	2875	1026	301	134			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.08	0.73	0.56	0.56	0.08	0.08			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	25.3	3.5	7.5	3.9	24.8	24.5			
Ln Grp LOS	C	A	A	A	C	C			
Approach Vol, veh/h		1926	1403		170				
Approach Delay, s/veh		4.9	7.1		24.7				
Approach LOS		A	A		C				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		6			4			7	8
Case No		9.0			4.0			2.0	7.0
Phs Duration (G+Y+Rc), s		9.6			45.0			9.2	35.8
Change Period (Y+Rc), s		5.0			5.0			5.0	5.0
Max Green (Gmax), s		35.0			40.0			6.0	29.0
Max Allow Headway (MAH), s		3.8			4.7			3.6	4.7
Max Q Clear (g_c+I1), s		4.0			10.0			3.9	10.0
Green Ext Time (g_e), s		0.5			14.9			0.1	8.3
Prob of Phs Call (p_c)		0.92			1.00			0.85	1.00
Prob of Max Out (p_x)		0.00			0.00			1.00	0.00
Left-Turn Movement Data									
Assigned Mvmt		1						7	3
Mvmt Sat Flow, veh/h		3563						3456	0
Through Movement Data									
Assigned Mvmt		6			4				8
Mvmt Sat Flow, veh/h		0			5274				5274
Right-Turn Movement Data									
Assigned Mvmt		16			14				18
Mvmt Sat Flow, veh/h		1585			0				1585
Left Lane Group Data									
Assigned Mvmt		1	0	0	0	0	0	7	3
Lane Assignment		L						L (Prot)	

HCM 6th Signalized Intersection Capacity Analysis
3: Ramon Rd & Rattler Rd

07/11/2019

Lanes in Grp	2	0	0	0	0	0	2	0
Grp Vol (v), veh/h	134	0	0	0	0	0	125	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	0	0	0	1728	0
Q Serve Time (g_s), s	2.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0
Cycle Q Clear Time (g_c), s	2.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1781	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.8
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	301	0	0	0	0	0	269	0
V/C Ratio (X)	0.44	0.00	0.00	0.00	0.00	0.00	0.46	0.00
Avail Cap (c_a), veh/h	2283	0	0	0	0	0	380	0
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	23.8	0.0	0.0	0.0	0.0	0.0	24.1	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.8	0.0	0.0	0.0	0.0	0.0	25.3	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.0	0.0	0.0	0.0	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
%ile Back of Q (50%), veh/ln	0.8	0.0	0.0	0.0	0.0	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.10	0.00	0.00	0.00	0.00	0.00	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	6	0	0	4	0	0	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1801	0	0	0	1279
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	8.0	0.0	0.0	0.0	8.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.0	0.0	0.0	0.0	8.0
Lane Grp Cap (c), veh/h	0	0	0	3739	0	0	0	2875
V/C Ratio (X)	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.44
Avail Cap (c_a), veh/h	0	0	0	3739	0	0	0	2875
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	3.0	0.0	0.0	0.0	7.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	3.5	0.0	0.0	0.0	7.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis 3: Ramon Rd & Rattler Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	16	0	0	14	0	0	0	18
Lane Assignment	R							R
Lanes in Grp	1	0	0	0	0	0	0	1
Grp Vol (v), veh/h	36	0	0	0	0	0	0	124
Grp Sat Flow (s), veh/h/ln	1585	0	0	0	0	0	0	1585
Q Serve Time (g_s), s	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Cycle Q Clear Time (g_c), s	1.2	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	134	0	0	0	0	0	0	1026
V/C Ratio (X)	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.12
Avail Cap (c_a), veh/h	1016	0	0	0	0	0	0	1026
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	23.4	0.0	0.0	0.0	0.0	0.0	0.0	3.7
Incr Delay (d2), s/veh	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.5	0.0	0.0	0.0	0.0	0.0	0.0	3.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	6.8
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Bob Hope Dr & Ramon Rd

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	360	1040	438	150	515	20	252	563	250	210	1375	602
Future Volume (veh/h)	360	1040	438	150	515	20	252	563	250	210	1375	602
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	379	1095	315	158	542	5	265	593	109	221	1447	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	393	1125	502	295	1024	457	296	1590	493	323	1629	
Arrive On Green	0.11	0.32	0.32	0.09	0.29	0.29	0.09	0.31	0.31	0.09	0.32	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	379	1095	315	158	542	5	265	593	109	221	1447	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	14.0	39.1	21.8	5.6	16.4	0.3	9.7	11.6	6.5	7.9	34.5	0.0
Cycle Q Clear(g_c), s	14.0	39.1	21.8	5.6	16.4	0.3	9.7	11.6	6.5	7.9	34.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	393	1125	502	295	1024	457	296	1590	493	323	1629	
V/C Ratio(X)	0.96	0.97	0.63	0.54	0.53	0.01	0.89	0.37	0.22	0.68	0.89	
Avail Cap(c_a), veh/h	393	1125	502	296	1025	457	296	1590	493	380	1695	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.6	43.3	37.4	56.2	38.4	32.6	58.1	34.4	32.7	56.3	41.5	0.0
Incr Delay (d2), s/veh	35.7	20.7	2.5	1.0	0.5	0.0	26.6	0.2	0.3	2.7	6.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	19.3	8.3	2.4	6.9	0.1	5.2	4.6	2.4	3.5	14.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.2	64.0	39.9	57.2	38.9	32.6	84.7	34.6	32.9	59.0	47.6	0.0
LnGrp LOS	F	E	D	E	D	C	F	C	C	E	D	
Approach Vol, veh/h		1789			705			967			1668	A
Approach Delay, s/veh		65.7			42.9			48.1			49.1	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	47.4	16.4	47.1	16.4	48.4	20.0	43.5				
Change Period (Y+Rc), s	5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5				
Max Green Setting (Gmax), s	14.5	39.5	11.0	40.6	11.0	42.6	14.6	37.0				
Max Q Clear Time (g_c+1.5), s	19.5	13.6	7.6	41.1	11.7	36.5	16.0	18.4				
Green Ext Time (p_c), s	0.1	4.8	0.1	0.0	0.0	4.4	0.0	2.9				

Intersection Summary

























HCM 6th Ctrl Delay	53.9
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
4: Bob Hope Dr & Ramon Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	360	1040	438	150	515	20	252	563	250	210	1375	602
Future Volume (veh/h)	360	1040	438	150	515	20	252	563	250	210	1375	602
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	379	1095	315	158	542	5	265	593	109	221	1447	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	393	1125	502	295	1024	457	296	1590	493	323	1629	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.32	0.32	0.09	0.29	0.29	0.09	0.31	0.31	0.09	0.32	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	92.2	64.0	39.9	57.2	38.9	32.6	84.7	34.6	32.9	59.0	47.6	0.0
Ln Grp LOS	F	E	D	E	D	C	F	C	C	E	D	
Approach Vol, veh/h		1789			705			967			1668	
Approach Delay, s/veh		65.7			42.9			48.1			49.1	
Approach LOS		E			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		17.4	47.4	16.4	47.1	16.4	48.4	20.0	43.5			
Change Period (Y+Rc), s		5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5			
Max Green (Gmax), s		14.1	39.5	11.0	40.6	11.0	42.6	14.6	37.0			
Max Allow Headway (MAH), s		2.1	5.1	2.1	4.5	2.1	5.2	2.1	4.7			
Max Q Clear (g_c+I1), s		9.9	13.6	7.6	41.1	11.7	36.5	16.0	18.4			
Green Ext Time (g_e), s		0.1	4.8	0.1	0.0	0.0	4.4	0.0	2.9			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.03	0.01	0.08	1.00	1.00	0.95	1.00	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	221	0	158	0	265	0	379	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	7.9	0.0	5.6	0.0	9.7	0.0	14.0	0.0
Cycle Q Clear Time (g_c), s	7.9	0.0	5.6	0.0	9.7	0.0	14.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	323	0	295	0	296	0	393	0
V/C Ratio (X)	0.68	0.00	0.54	0.00	0.89	0.00	0.96	0.00
Avail Cap (c_a), veh/h	380	0	296	0	296	0	393	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	56.3	0.0	56.2	0.0	58.1	0.0	56.6	0.0
Incr Delay (d2), s/veh	2.7	0.0	1.0	0.0	26.6	0.0	35.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.0	0.0	57.2	0.0	84.7	0.0	92.2	0.0
1st-Term Q (Q1), veh/ln	3.3	0.0	2.4	0.0	4.1	0.0	5.9	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	1.1	0.0	1.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.5	0.0	2.4	0.0	5.2	0.0	7.8	0.0
%ile Storage Ratio (RQ%)	0.40	0.00	0.19	0.00	0.64	0.00	0.71	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	593	0	1095	0	1447	0	542
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	11.6	0.0	39.1	0.0	34.5	0.0	16.4
Cycle Q Clear Time (g_c), s	0.0	11.6	0.0	39.1	0.0	34.5	0.0	16.4
Lane Grp Cap (c), veh/h	0	1590	0	1125	0	1629	0	1024
V/C Ratio (X)	0.00	0.37	0.00	0.97	0.00	0.89	0.00	0.53
Avail Cap (c_a), veh/h	0	1590	0	1125	0	1695	0	1025
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	34.4	0.0	43.3	0.0	41.5	0.0	38.4
Incr Delay (d2), s/veh	0.0	0.2	0.0	20.7	0.0	6.1	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	34.6	0.0	64.0	0.0	47.6	0.0	38.9
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	16.1	0.0	13.6	0.0	6.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	3.2	0.0	0.9	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.6	0.0	19.3	0.0	14.6	0.0	6.9
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.41	0.00	0.32	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	109	0	315	0	0	0	5
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	6.5	0.0	21.8	0.0	0.0	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	6.5	0.0	21.8	0.0	0.0	0.0	0.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	493	0	502	0	506	0	457
V/C Ratio (X)	0.00	0.22	0.00	0.63	0.00	0.00	0.00	0.01
Avail Cap (c_a), veh/h	0	493	0	502	0	526	0	457
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	32.7	0.0	37.4	0.0	0.0	0.0	32.6
Incr Delay (d2), s/veh	0.0	0.3	0.0	2.5	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.9	0.0	39.9	0.0	0.0	0.0	32.6
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	8.0	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.4	0.0	8.3	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.22	0.00	0.18	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	53.9
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 5: Bob Hope Dr & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	510	162	105	550	387	184	562	204	294	1476	210
Future Volume (veh/h)	95	510	162	105	550	387	184	562	204	294	1476	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	537	51	111	579	235	194	592	0	309	1554	221
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	119	801	357	119	801	357	231	1841		231	1626	231
Arrive On Green	0.07	0.23	0.23	0.07	0.23	0.23	0.07	0.36	0.00	0.07	0.36	0.36
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	5106	1585	3456	4508	640
Grp Volume(v), veh/h	100	537	51	111	579	235	194	592	0	309	1172	603
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1585	1728	1702	1744
Q Serve(g_s), s	4.2	10.3	1.9	4.6	11.3	10.1	4.2	6.3	0.0	5.0	25.1	25.3
Cycle Q Clear(g_c), s	4.2	10.3	1.9	4.6	11.3	10.1	4.2	6.3	0.0	5.0	25.1	25.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	119	801	357	119	801	357	231	1841		231	1228	629
V/C Ratio(X)	0.84	0.67	0.14	0.93	0.72	0.66	0.84	0.32		1.34	0.96	0.96
Avail Cap(c_a), veh/h	119	1282	572	119	1282	572	231	1841		231	1228	629
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	26.5	23.2	34.8	26.8	26.4	34.5	17.3	0.0	34.9	23.3	23.4
Incr Delay (d2), s/veh	37.1	1.0	0.2	61.1	1.3	2.1	22.2	0.1	0.0	178.8	16.1	25.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	4.0	0.7	3.9	4.4	3.6	2.3	2.1	0.0	7.6	11.1	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.7	27.4	23.4	95.8	28.1	28.4	56.7	17.4	0.0	213.7	39.5	49.2
LnGrp LOS	E	C	C	F	C	C	E	B		F	D	D
Approach Vol, veh/h		688			925			786	A		2084	
Approach Delay, s/veh		33.6			36.3			27.1			68.1	
Approach LOS		C			D			C			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	33.5	9.0	23.4	9.0	33.5	9.0	23.4				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	5.0	27.0	5.0	27.0	5.0	27.0	5.0	27.0				
Max Q Clear Time (g_c+1), s	17.0	8.3	6.6	12.3	6.2	27.3	6.2	13.3				
Green Ext Time (p_c), s	0.0	3.4	0.0	2.9	0.0	0.0	0.0	3.6				

Intersection Summary

























HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
5: Bob Hope Dr & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	510	162	105	550	387	184	562	204	294	1476	210
Future Volume (veh/h)	95	510	162	105	550	387	184	562	204	294	1476	210
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	100	537	51	111	579	235	194	592	0	309	1554	221
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	119	801	357	119	801	357	231	1841		231	1626	231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.23	0.23	0.07	0.23	0.23	0.07	0.36	0.00	0.07	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	71.7	27.4	23.4	95.8	28.1	28.4	56.7	17.4	0.0	213.7	39.5	49.2
Ln Grp LOS	E	C	C	F	C	C	E	B		F	D	D
Approach Vol, veh/h		688			925			786			2084	
Approach Delay, s/veh		33.6			36.3			27.1			68.1	
Approach LOS		C			D			C			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.0	33.5	9.0	23.4	9.0	33.5	9.0	23.4			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		5.0	27.0	5.0	27.0	5.0	27.0	5.0	27.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.8	2.7	4.6			
Max Q Clear (g_c+I1), s		7.0	8.3	6.6	12.3	6.2	27.3	6.2	13.3			
Green Ext Time (g_e), s		0.0	3.4	0.0	2.9	0.0	0.0	0.0	3.6			
Prob of Phs Call (p_c)		1.00	1.00	0.90	1.00	0.98	1.00	0.88	1.00			
Prob of Max Out (p_x)		1.00	0.02	1.00	0.06	1.00	1.00	1.00	0.14			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4508		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		640		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 5: Bob Hope Dr & Dinah Shore Dr

07/11/2019

Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	309	0	111	0	194	0	100	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	5.0	0.0	4.6	0.0	4.2	0.0	4.2	0.0
Cycle Q Clear Time (g_c), s	5.0	0.0	4.6	0.0	4.2	0.0	4.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	231	0	119	0	231	0	119	0
V/C Ratio (X)	1.34	0.00	0.93	0.00	0.84	0.00	0.84	0.00
Avail Cap (c_a), veh/h	231	0	119	0	231	0	119	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	34.9	0.0	34.8	0.0	34.5	0.0	34.5	0.0
Incr Delay (d2), s/veh	178.8	0.0	61.1	0.0	22.2	0.0	37.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	213.7	0.0	95.8	0.0	56.7	0.0	71.7	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	1.8	0.0	1.6	0.0	1.7	0.0
2nd-Term Q (Q2), veh/ln	5.7	0.0	2.0	0.0	0.7	0.0	1.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	7.6	0.0	3.9	0.0	2.3	0.0	2.9	0.0
%ile Storage Ratio (RQ%)	0.81	0.00	0.43	0.00	0.24	0.00	0.37	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	19.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	592	0	537	0	1172	0	579
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	6.3	0.0	10.3	0.0	25.1	0.0	11.3
Cycle Q Clear Time (g_c), s	0.0	6.3	0.0	10.3	0.0	25.1	0.0	11.3
Lane Grp Cap (c), veh/h	0	1841	0	801	0	1228	0	801
V/C Ratio (X)	0.00	0.32	0.00	0.67	0.00	0.96	0.00	0.72
Avail Cap (c_a), veh/h	0	1841	0	1282	0	1228	0	1282
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.3	0.0	26.5	0.0	23.3	0.0	26.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	1.0	0.0	16.1	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.4	0.0	27.4	0.0	39.5	0.0	28.1
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	3.9	0.0	8.3	0.0	4.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	2.7	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
5: Bob Hope Dr & Dinah Shore Dr

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	4.0	0.0	11.1	0.0	4.4
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.02	0.00	0.13	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	51	0	603	0	235
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1744	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	1.9	0.0	25.3	0.0	10.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.9	0.0	25.3	0.0	10.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.37	0.00	1.00
Lane Grp Cap (c), veh/h	0	572	0	357	0	629	0	357
V/C Ratio (X)	0.00	0.00	0.00	0.14	0.00	0.96	0.00	0.66
Avail Cap (c_a), veh/h	0	572	0	572	0	629	0	572
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	23.2	0.0	23.4	0.0	26.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	25.8	0.0	2.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	23.4	0.0	49.2	0.0	28.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	8.5	0.0	3.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	4.5	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.7	0.0	13.0	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.14	0.00	0.15	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Monterey Ave & Varner Rd

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	90	335	817	610	240	410	447	330	80	719	20
Future Volume (veh/h)	20	90	335	817	610	240	410	447	330	80	719	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	95	192	860	642	87	432	471	0	84	757	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	156	264	913	1103	492	562	1305		153	1001	
Arrive On Green	0.05	0.08	0.08	0.26	0.31	0.31	0.16	0.37	0.00	0.09	0.28	0.00
Sat Flow, veh/h	1781	1870	3170	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	21	95	192	860	642	87	432	471	0	84	757	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.4	5.9	7.1	29.3	18.2	4.8	14.4	11.6	0.0	5.4	23.3	0.0
Cycle Q Clear(g_c), s	1.4	5.9	7.1	29.3	18.2	4.8	14.4	11.6	0.0	5.4	23.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	82	156	264	913	1103	492	562	1305		153	1001	
V/C Ratio(X)	0.26	0.61	0.73	0.94	0.58	0.18	0.77	0.36		0.55	0.76	
Avail Cap(c_a), veh/h	163	175	296	973	1103	492	562	1305		183	1001	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.59	0.59	0.59	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.2	53.1	53.7	43.3	34.8	30.2	48.1	27.7	0.0	52.6	39.3	0.0
Incr Delay (d2), s/veh	0.6	5.0	7.7	10.6	0.5	0.1	6.2	0.8	0.0	1.1	5.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.9	3.0	13.1	7.5	1.8	6.7	5.1	0.0	2.4	10.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	58.1	61.3	53.9	35.3	30.3	54.3	28.5	0.0	53.7	44.7	0.0
LnGrp LOS	E	E	E	D	D	C	D	C		D	D	
Approach Vol, veh/h		308			1589			903	A		841	A
Approach Delay, s/veh		60.0			45.1			40.8			45.6	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	50.3	38.2	15.8	25.7	40.3	10.2	43.8				
Change Period (Y+Rc), s	5.4	6.2	6.5	* 5.8	6.2	* 6.5	* 4.7	6.5				
Max Green Setting (Gmax), s	12.3	39.9	33.8	* 11	18.4	* 34	* 11	34.0				
Max Q Clear Time (g_c+1), s	17.4	13.6	31.3	9.1	16.4	25.3	3.4	20.2				
Green Ext Time (p_c), s	0.0	3.3	0.4	0.2	0.3	2.9	0.0	3.4				

Intersection Summary

HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	90	335	817	610	240	410	447	330	80	719	20
Future Volume (veh/h)	20	90	335	817	610	240	410	447	330	80	719	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	95	192	860	642	87	432	471	0	84	757	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	82	156	264	913	1103	492	562	1305		153	1001	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.08	0.08	0.26	0.31	0.31	0.16	0.37	0.00	0.09	0.28	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.8	58.1	61.3	53.9	35.3	30.3	54.3	28.5	0.0	53.7	44.7	0.0
Ln Grp LOS	E	E	E	D	D	C	D	C		D	D	
Approach Vol, veh/h		308			1589			903			841	
Approach Delay, s/veh		60.0			45.1			40.8			45.6	
Approach LOS		E			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	3.0	3.0	2.0	3.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.7	50.3	15.8	38.2	40.3	25.7	10.2	43.8			
Change Period (Y+Rc), s		5.4	6.2	* 5.8	6.5	* 6.5	6.2	* 4.7	6.5			
Max Green (Gmax), s		12.3	39.9	* 11	33.8	* 34	18.4	* 11	34.0			
Max Allow Headway (MAH), s		2.1	5.2	4.2	2.1	4.7	3.3	2.1	4.6			
Max Q Clear (g_c+I1), s		7.4	13.6	9.1	31.3	25.3	16.4	3.4	20.2			
Green Ext Time (g_e), s		0.0	3.3	0.2	0.4	2.9	0.3	0.0	3.4			
Prob of Phs Call (p_c)		0.94	1.00	1.00	1.00	1.00	1.00	0.50	1.00			
Prob of Max Out (p_x)		0.00	0.00	1.00	0.72	0.00	1.00	0.00	0.12			
Left-Turn Movement Data												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1781			3456		3456	1781				
Through Movement Data												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			3554	1870		3554			3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			1585	3170		1585			1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		L (Prot)			L (Prot)		L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

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Lanes in Grp	1	0	0	2	0	2	1	0
Grp Vol (v), veh/h	84	0	0	860	0	432	21	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1728	0	1728	1781	0
Q Serve Time (g_s), s	5.4	0.0	0.0	29.3	0.0	14.4	1.4	0.0
Cycle Q Clear Time (g_c), s	5.4	0.0	0.0	29.3	0.0	14.4	1.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	153	0	0	913	0	562	82	0
V/C Ratio (X)	0.55	0.00	0.00	0.94	0.00	0.77	0.26	0.00
Avail Cap (c_a), veh/h	183	0	0	973	0	562	163	0
Upstream Filter (I)	1.00	0.00	0.00	0.59	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	52.6	0.0	0.0	43.3	0.0	48.1	55.2	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	10.6	0.0	6.2	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	53.7	0.0	0.0	53.9	0.0	54.3	55.8	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	0.0	11.8	0.0	6.2	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.3	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.4	0.0	0.0	13.1	0.0	6.7	0.6	0.0
%ile Storage Ratio (RQ%)	0.35	0.00	0.00	1.11	0.00	0.72	0.08	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	1	0	2	0	0	2
Grp Vol (v), veh/h	0	471	95	0	757	0	0	642
Grp Sat Flow (s), veh/h/ln	0	1777	1870	0	1777	0	0	1777
Q Serve Time (g_s), s	0.0	11.6	5.9	0.0	23.3	0.0	0.0	18.2
Cycle Q Clear Time (g_c), s	0.0	11.6	5.9	0.0	23.3	0.0	0.0	18.2
Lane Grp Cap (c), veh/h	0	1305	156	0	1001	0	0	1103
V/C Ratio (X)	0.00	0.36	0.61	0.00	0.76	0.00	0.00	0.58
Avail Cap (c_a), veh/h	0	1305	175	0	1001	0	0	1103
Upstream Filter (I)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	0.59
Uniform Delay (d1), s/veh	0.0	27.7	53.1	0.0	39.3	0.0	0.0	34.8
Incr Delay (d2), s/veh	0.0	0.8	5.0	0.0	5.3	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.5	58.1	0.0	44.7	0.0	0.0	35.3
1st-Term Q (Q1), veh/ln	0.0	4.9	2.7	0.0	9.6	0.0	0.0	7.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.2	0.0	0.7	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

6: Monterey Ave & Varner Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.1	2.9	0.0	10.3	0.0	0.0	7.5
%ile Storage Ratio (RQ%)	0.00	0.55	0.05	0.00	0.32	0.00	0.00	0.33
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		R	R		R			R
Lanes in Grp	0	1	2	0	1	0	0	1
Grp Vol (v), veh/h	0	0	192	0	0	0	0	87
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	0	1585
Q Serve Time (g_s), s	0.0	0.0	7.1	0.0	0.0	0.0	0.0	4.8
Cycle Q Clear Time (g_c), s	0.0	0.0	7.1	0.0	0.0	0.0	0.0	4.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	582	264	0	446	0	0	492
V/C Ratio (X)	0.00	0.00	0.73	0.00	0.00	0.00	0.00	0.18
Avail Cap (c_a), veh/h	0	582	296	0	446	0	0	492
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.59
Uniform Delay (d1), s/veh	0.0	0.0	53.7	0.0	0.0	0.0	0.0	30.2
Incr Delay (d2), s/veh	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	61.3	0.0	0.0	0.0	0.0	30.3
1st-Term Q (Q1), veh/ln	0.0	0.0	2.7	0.0	0.0	0.0	0.0	1.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	3.0	0.0	0.0	0.0	0.0	1.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Notes

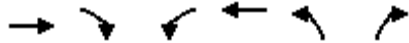
User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 7: I-10 WB Off Ramp & Varner Rd

07/11/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	↑
Traffic Volume (veh/h)	340	0	0	550	1157	40
Future Volume (veh/h)	340	0	0	550	1157	40
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	358	0	0	579	1218	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	830	0	0	830	1517	696
Arrive On Green	0.23	0.00	0.00	0.23	0.44	0.44
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	358	0	0	579	1218	10
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1728	1585
Q Serve(g_s), s	2.9	0.0	0.0	5.1	10.4	0.1
Cycle Q Clear(g_c), s	2.9	0.0	0.0	5.1	10.4	0.1
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	830	0	0	830	1517	696
V/C Ratio(X)	0.43	0.00	0.00	0.70	0.80	0.01
Avail Cap(c_a), veh/h	1060	0	0	1060	1880	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.2	0.0	0.0	12.0	8.3	5.4
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.3	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	1.3	2.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.5	0.0	0.0	13.3	10.3	5.4
LnGrp LOS	B	A	A	B	B	A
Approach Vol, veh/h	358			579	1228	
Approach Delay, s/veh	11.5			13.3	10.3	
Approach LOS	B			B	B	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		13.8			13.8	20.4
Change Period (Y+Rc), s		5.8			5.8	5.4
Max Green Setting (Gmax), s		10.2			10.2	18.6
Max Q Clear Time (g_c+1), s		4.9			7.1	12.4
Green Ext Time (p_c), s		0.8			0.9	2.6
Intersection Summary						
HCM 6th Ctrl Delay			11.3			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

07/11/2019

	→	↘	↙	←	↖	↗					
Movement	EBT	EBR	WBL	WBT	NBL	NBR					
Lane Configurations	↑↑			↑↑	↘↙	↗					
Traffic Volume (veh/h)	340	0	0	550	1157	40					
Future Volume (veh/h)	340	0	0	550	1157	40					
Number	2	12	1	6	3	18					
Initial Q, veh	0	0	0	0	0	0					
Ped-Bike Adj (A_pbT)		1.00	1.00		1.00	1.00					
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00					
Work Zone On Approach	No			No	No						
Lanes Open During Work Zone											
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870					
Adj Flow Rate, veh/h	358	0	0	579	1218	10					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95					
Percent Heavy Veh, %	2	0	0	2	2	2					
Opposing Right Turn Influence	No			Yes							
Cap, veh/h	830	0	0	830	1517	696					
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00					
Prop Arrive On Green	0.23	0.00	0.00	0.23	0.44	0.44					
Unsig. Movement Delay											
Ln Grp Delay, s/veh	11.5	0.0	0.0	13.3	10.3	5.4					
Ln Grp LOS	B	A	A	B	B	A					
Approach Vol, veh/h	358			579		1228					
Approach Delay, s/veh	11.5			13.3		10.3					
Approach LOS	B			B		B					
Timer:		1	2	3	4	5	6	7	8		
Assigned Phs			2	8			6				
Case No			8.0	9.0			8.0				
Phs Duration (G+Y+Rc), s			13.8	20.4			13.8				
Change Period (Y+Rc), s			5.8	5.4			5.8				
Max Green (Gmax), s			10.2	18.6			10.2				
Max Allow Headway (MAH), s			4.4	3.5			4.4				
Max Q Clear (g_c+I1), s			4.9	12.4			7.1				
Green Ext Time (g_e), s			0.8	2.6			0.9				
Prob of Phs Call (p_c)			0.97	1.00			1.00				
Prob of Max Out (p_x)			0.67	0.56			1.00				
Left-Turn Movement Data											
Assigned Mvmt			5	3			1				
Mvmt Sat Flow, veh/h			0	3456			0				
Through Movement Data											
Assigned Mvmt			2	8			6				
Mvmt Sat Flow, veh/h			3741	0			3741				
Right-Turn Movement Data											
Assigned Mvmt			12	18			16				
Mvmt Sat Flow, veh/h			0	1585			0				
Left Lane Group Data											
Assigned Mvmt		0	5	3	0	0	1	0	0		
Lane Assignment				L							

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

07/11/2019

Lanes in Grp	0	0	2	0	0	0	0	0
Grp Vol (v), veh/h	0	0	1218	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1728	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	10.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	10.4	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1728	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	8.0	0.0	0.0	0.0	8.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1517	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.80	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1880	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	10.3	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	2.7	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	358	0	0	0	579	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	2.9	0.0	0.0	0.0	5.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.9	0.0	0.0	0.0	5.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	830	0	0	0	830	0	0
V/C Ratio (X)	0.00	0.43	0.00	0.00	0.00	0.70	0.00	0.00
Avail Cap (c_a), veh/h	0	1060	0	0	0	1060	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.2	0.0	0.0	0.0	12.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	1.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.5	0.0	0.0	0.0	13.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	0.0	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.7	0.0	0.0	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment	R							
Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	10	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	696	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	862	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	5.4	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
 8: Monterey Ave & I-10 EB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	1212	0	0	0	0	1121	542	430	1446	0
Future Volume (veh/h)	60	0	1212	0	0	0	0	1121	542	430	1446	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	42	0	1258				0	1180	157	453	1522	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	743	0	1323				0	1523	473	513	1727	0
Arrive On Green	0.42	0.00	0.42				0.00	0.10	0.10	0.15	0.49	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	42	0	1258				0	1180	157	453	1522	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	1.7	0.0	46.0				0.0	27.1	11.1	15.4	46.2	0.0
Cycle Q Clear(g_c), s	1.7	0.0	46.0				0.0	27.1	11.1	15.4	46.2	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	743	0	1323				0	1523	473	513	1727	0
V/C Ratio(X)	0.06	0.00	0.95				0.00	0.77	0.33	0.88	0.88	0.00
Avail Cap(c_a), veh/h	775	0	1379				0	1523	473	564	1727	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.86	0.86	1.00	1.00	0.00
Uniform Delay (d), s/veh	20.9	0.0	33.8				0.0	50.2	42.9	50.1	27.7	0.0
Incr Delay (d2), s/veh	0.0	0.0	13.8				0.0	3.4	1.6	14.3	6.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	19.8				0.0	12.9	4.9	7.7	20.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	0.0	47.6				0.0	53.5	44.6	64.4	34.6	0.0
LnGrp LOS	C	A	D				A	D	D	E	C	A
Approach Vol, veh/h	1300						1337			1975		
Approach Delay, s/veh	46.8						52.5			41.4		
Approach LOS	D						D			D		
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	22.5	41.6	55.9	64.1								
Change Period (Y+Rc), s	4.7	5.8	5.8	5.8								
Max Green Setting (Gmax), s	26	31.9	52.2	56.2								
Max Q Clear Time (g_c+117), s	17.4	29.1	48.0	48.2								
Green Ext Time (p_c), s	0.4	2.1	2.1	5.9								

Intersection Summary

HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Monterey Ave & I-10 EB Ramps

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	1212	0	0	0	0	1121	542	430	1446	0
Future Volume (veh/h)	60	0	1212	0	0	0	0	1121	542	430	1446	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	42	0	1258				0	1180	157	453	1522	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	743	0	1323				0	1523	473	513	1727	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.42	0.00	0.42				0.00	0.10	0.10	0.15	0.49	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	20.9	0.0	47.6				0.0	53.5	44.6	64.4	34.6	0.0
Ln Grp LOS	C	A	D				A	D	D	E	C	A
Approach Vol, veh/h		1300						1337			1975	
Approach Delay, s/veh		46.8						52.5			41.4	
Approach LOS		D						D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		22.5	41.6		55.9		64.1					
Change Period (Y+Rc), s		* 4.7	5.8		5.8		5.8					
Max Green (Gmax), s		* 20	31.9		52.2		56.2					
Max Allow Headway (MAH), s		3.8	5.1		3.5		5.2					
Max Q Clear (g_c+I1), s		17.4	29.1		48.0		48.2					
Green Ext Time (g_e), s		0.4	2.1		2.1		5.9					
Prob of Phs Call (p_c)		1.00	1.00		1.00		1.00					
Prob of Max Out (p_x)		1.00	0.00		0.88		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5274		0		3647					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis

8: Monterey Ave & I-10 EB Ramps

07/11/2019

Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	453	0	0	42	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	15.4	0.0	0.0	1.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	15.4	0.0	0.0	1.7	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	35.8	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	513	0	0	743	0	0	0	0
V/C Ratio (X)	0.88	0.00	0.00	0.06	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	564	0	0	775	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	50.1	0.0	0.0	20.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.4	0.0	0.0	20.9	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	6.6	0.0	0.0	0.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	7.7	0.0	0.0	0.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.54	0.00	0.00	0.05	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1180	0	0	0	1522	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	27.1	0.0	0.0	0.0	46.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	27.1	0.0	0.0	0.0	46.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	1523	0	0	0	1727	0	0
V/C Ratio (X)	0.00	0.77	0.00	0.00	0.00	0.88	0.00	0.00
Avail Cap (c_a), veh/h	0	1523	0	0	0	1727	0	0
Upstream Filter (I)	0.00	0.86	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	50.2	0.0	0.0	0.0	27.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.4	0.0	0.0	0.0	6.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	53.5	0.0	0.0	0.0	34.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	12.4	0.0	0.0	0.0	19.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	1.6	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 8: Monterey Ave & I-10 EB Ramps

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	12.9	0.0	0.0	0.0	20.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.25	0.00	0.00	0.00	1.43	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	157	0	1258	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	11.1	0.0	46.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.1	0.0	46.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	473	0	1323	0	0	0	0
V/C Ratio (X)	0.00	0.33	0.00	0.95	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	473	0	1379	0	0	0	0
Upstream Filter (I)	0.00	0.86	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	42.9	0.0	33.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	13.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	44.6	0.0	47.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	17.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	2.5	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	4.9	0.0	19.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	5.03	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	46.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 9: Monterey Ave & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔↔	↑↑↑		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	341	400	309	80	335	510	272	812	40	430	1618	614
Future Volume (veh/h)	341	400	309	80	335	510	272	812	40	430	1618	614
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	359	421	142	84	353	0	286	855	42	453	1703	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	419	498	222	216	425		317	2331	114	513	2679	
Arrive On Green	0.08	0.14	0.14	0.06	0.12	0.00	0.09	0.47	0.47	0.05	0.17	0.00
Sat Flow, veh/h	5023	3554	1585	3456	3554	1585	3456	4982	244	3456	5106	1585
Grp Volume(v), veh/h	359	421	142	84	353	0	286	583	314	453	1703	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585	1728	1777	1585	1728	1702	1822	1728	1702	1585
Q Serve(g_s), s	8.5	13.9	10.2	2.8	11.7	0.0	9.8	13.2	13.3	15.6	37.2	0.0
Cycle Q Clear(g_c), s	8.5	13.9	10.2	2.8	11.7	0.0	9.8	13.2	13.3	15.6	37.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	419	498	222	216	425		317	1593	853	513	2679	
V/C Ratio(X)	0.86	0.85	0.64	0.39	0.83		0.90	0.37	0.37	0.88	0.64	
Avail Cap(c_a), veh/h	419	1036	462	230	977		317	1593	853	662	2679	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.54	0.54	0.54	1.00	1.00	0.00	0.72	0.72	0.72	0.28	0.28	0.00
Uniform Delay (d), s/veh	54.3	50.3	48.7	54.0	51.7	0.0	54.0	20.5	20.5	56.0	39.0	0.0
Incr Delay (d2), s/veh	9.0	0.8	0.6	0.4	1.6	0.0	21.1	0.5	0.9	2.9	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	6.0	3.9	1.2	5.2	0.0	5.0	4.9	5.4	7.4	16.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.3	51.2	49.3	54.5	53.3	0.0	75.0	21.0	21.4	59.0	39.3	0.0
LnGrp LOS	E	D	D	D	D		E	C	C	E	D	
Approach Vol, veh/h		922			437	A		1183			2156	A
Approach Delay, s/veh		55.6			53.5			34.2			43.4	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.5	22.5	16.0	69.0	15.0	20.0	22.8	62.1				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	35.0	35.0	11.0	44.3	10.0	33.0	23.0	32.3				
Max Q Clear Time (g_c+1/8), s	15.9	15.9	11.8	39.2	10.5	13.7	17.6	15.3				
Green Ext Time (p_c), s	0.0	0.8	0.0	2.3	0.0	0.7	0.2	1.5				

Intersection Summary

























HCM 6th Ctrl Delay	44.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	341	400	309	80	335	510	272	812	40	430	1618	614
Future Volume (veh/h)	341	400	309	80	335	510	272	812	40	430	1618	614
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	359	421	142	84	353	0	286	855	42	453	1703	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	419	498	222	216	425		317	2331	114	513	2679	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.08	0.14	0.14	0.06	0.12	0.00	0.09	0.47	0.47	0.05	0.17	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	63.3	51.2	49.3	54.5	53.3	0.0	75.0	21.0	21.4	59.0	39.3	0.0
Ln Grp LOS	E	D	D	D	D		E	C	C	E	D	
Approach Vol, veh/h		922			437			1183			2156	
Approach Delay, s/veh		55.6			53.5			34.2			43.4	
Approach LOS		E			D			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		12.5	22.5	16.0	69.0	15.0	20.0	22.8	62.1			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		8.0	35.0	11.0	44.3	10.0	33.0	23.0	32.3			
Max Allow Headway (MAH), s		1.7	2.6	1.6	2.7	1.7	2.9	1.6	2.7			
Max Q Clear (g_c+I1), s		4.8	15.9	11.8	39.2	10.5	13.7	17.6	15.3			
Green Ext Time (g_e), s		0.0	0.8	0.0	2.3	0.0	0.7	0.2	1.5			
Prob of Phs Call (p_c)		0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.01	0.00	1.00	0.00	1.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		5023		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		4982			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		244			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

07/11/2019

Lanes in Grp	2	0	2	0	3	0	2	0
Grp Vol (v), veh/h	84	0	286	0	359	0	453	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1674	0	1728	0
Q Serve Time (g_s), s	2.8	0.0	9.8	0.0	8.5	0.0	15.6	0.0
Cycle Q Clear Time (g_c), s	2.8	0.0	9.8	0.0	8.5	0.0	15.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	216	0	317	0	419	0	513	0
V/C Ratio (X)	0.39	0.00	0.90	0.00	0.86	0.00	0.88	0.00
Avail Cap (c_a), veh/h	230	0	317	0	419	0	662	0
Upstream Filter (I)	1.00	0.00	0.72	0.00	0.54	0.00	0.28	0.00
Uniform Delay (d1), s/veh	54.0	0.0	54.0	0.0	54.3	0.0	56.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	21.1	0.0	9.0	0.0	2.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	54.5	0.0	75.0	0.0	63.3	0.0	59.0	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	4.1	0.0	3.4	0.0	7.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.9	0.0	0.4	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	5.0	0.0	3.8	0.0	7.4	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.48	0.00	0.34	0.00	1.07	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	421	0	1703	0	353	0	583
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	13.9	0.0	37.2	0.0	11.7	0.0	13.2
Cycle Q Clear Time (g_c), s	0.0	13.9	0.0	37.2	0.0	11.7	0.0	13.2
Lane Grp Cap (c), veh/h	0	498	0	2679	0	425	0	1593
V/C Ratio (X)	0.00	0.85	0.00	0.64	0.00	0.83	0.00	0.37
Avail Cap (c_a), veh/h	0	1036	0	2679	0	977	0	1593
Upstream Filter (I)	0.00	0.54	0.00	0.28	0.00	1.00	0.00	0.72
Uniform Delay (d1), s/veh	0.0	50.3	0.0	39.0	0.0	51.7	0.0	20.5
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.3	0.0	1.6	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	51.2	0.0	39.3	0.0	53.3	0.0	21.0
1st-Term Q (Q1), veh/ln	0.0	5.9	0.0	16.8	0.0	5.1	0.0	4.8
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

9: Monterey Ave & Dinah Shore Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.0	0.0	16.8	0.0	5.2	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.33	0.00	0.13	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	142	0	0	0	0	0	314
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1822
Q Serve Time (g_s), s	0.0	10.2	0.0	0.0	0.0	0.0	0.0	13.3
Cycle Q Clear Time (g_c), s	0.0	10.2	0.0	0.0	0.0	0.0	0.0	13.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.13
Lane Grp Cap (c), veh/h	0	222	0	832	0	189	0	853
V/C Ratio (X)	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.37
Avail Cap (c_a), veh/h	0	462	0	832	0	436	0	853
Upstream Filter (I)	0.00	0.54	0.00	0.00	0.00	0.00	0.00	0.72
Uniform Delay (d1), s/veh	0.0	48.7	0.0	0.0	0.0	0.0	0.0	20.5
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	49.3	0.0	0.0	0.0	0.0	0.0	21.4
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	0.0	0.0	0.0	0.0	5.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.9	0.0	0.0	0.0	0.0	0.0	5.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	44.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↘	↙	↗		↑↑↑	↗		↑↑↑	↗
Traffic Volume (veh/h)	0	0	0	258	0	120	0	340	100	0	450	100
Future Volume (veh/h)	0	0	0	258	0	120	0	340	100	0	450	100
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				272	0	26	0	358	58	0	474	58
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				530	0	236	0	2898	900	0	2898	900
Arrive On Green				0.15	0.00	0.15	0.00	0.57	0.57	0.00	0.57	0.57
Sat Flow, veh/h				3563	0	1585	0	5274	1585	0	5274	1585
Grp Volume(v), veh/h				272	0	26	0	358	58	0	474	58
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1702	1585	0	1702	1585
Q Serve(g_s), s				2.2	0.0	0.5	0.0	1.0	0.5	0.0	1.4	0.5
Cycle Q Clear(g_c), s				2.2	0.0	0.5	0.0	1.0	0.5	0.0	1.4	0.5
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				530	0	236	0	2898	900	0	2898	900
V/C Ratio(X)				0.51	0.00	0.11	0.00	0.12	0.06	0.00	0.16	0.06
Avail Cap(c_a), veh/h				2022	0	900	0	2898	900	0	2898	900
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				12.4	0.0	11.7	0.0	3.2	3.1	0.0	3.3	3.1
Incr Delay (d2), s/veh				0.8	0.0	0.2	0.0	0.1	0.1	0.0	0.1	0.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				0.7	0.0	0.1	0.0	0.1	0.1	0.0	0.2	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				13.2	0.0	11.9	0.0	3.3	3.2	0.0	3.4	3.2
LnGrp LOS				B	A	B	A	A	A	A	A	A
Approach Vol, veh/h						298			416			532
Approach Delay, s/veh						13.1			3.3			3.4
Approach LOS						B			A			A
Timer - Assigned Phs				2		6		8				
Phs Duration (G+Y+Rc), s				22.5		22.5		9.2				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s				3.0		3.4		4.2				
Green Ext Time (p_c), s				2.2		2.9		0.9				

Intersection Summary




















HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	258	0	120	0	340	100	0	450	100
Future Volume (veh/h)	0	0	0	258	0	120	0	340	100	0	450	100
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				272	0	26	0	358	58	0	474	58
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Opposing Right Turn Influence				Yes			No			No		
Cap, veh/h				530	0	236	0	2898	900	0	2898	900
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.15	0.00	0.15	0.00	0.57	0.57	0.00	0.57	0.57
Unsig. Movement Delay												
Ln Grp Delay, s/veh				13.2	0.0	11.9	0.0	3.3	3.2	0.0	3.4	3.2
Ln Grp LOS				B	A	B	A	A	A	A	A	A
Approach Vol, veh/h					298			416			532	
Approach Delay, s/veh					13.1			3.3			3.4	
Approach LOS					B			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8			6					
Case No			7.0	9.0			7.0					
Phs Duration (G+Y+Rc), s			22.5	9.2			22.5					
Change Period (Y+Rc), s			4.5	4.5			4.5					
Max Green (Gmax), s			18.0	18.0			18.0					
Max Allow Headway (MAH), s			5.1	3.8			5.1					
Max Q Clear (g_c+I1), s			3.0	4.2			3.4					
Green Ext Time (g_e), s			2.2	0.9			2.9					
Prob of Phs Call (p_c)			1.00	0.93			1.00					
Prob of Max Out (p_x)			0.00	0.00			0.00					
Left-Turn Movement Data												
Assigned Mvmt			5	3			1					
Mvmt Sat Flow, veh/h			0	3563			0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			5274	0			5274					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			1585	1585			1585					
Left Lane Group Data												
Assigned Mvmt	0	5	3	0	0	1	0	0				
Lane Assignment			L									

HCM 6th Signalized Intersection Capacity Analysis
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019

Lanes in Grp	0	0	2	0	0	0	0	0
Grp Vol (v), veh/h	0	0	272	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	18.0	0.0	0.0	0.0	18.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	530	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.51	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	2022	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	13.2	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	358	0	0	0	474	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	1.0	0.0	0.0	0.0	1.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.0	0.0	0.0	0.0	1.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	2898	0	0	0	2898	0	0
V/C Ratio (X)	0.00	0.12	0.00	0.00	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	2898	0	0	0	2898	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.2	0.0	0.0	0.0	3.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.3	0.0	0.0	0.0	3.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R			R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	58	26	0	0	58	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.5	0.5	0.0	0.0	0.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.5	0.5	0.0	0.0	0.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	900	236	0	0	900	0	0
V/C Ratio (X)	0.00	0.06	0.11	0.00	0.00	0.06	0.00	0.00
Avail Cap (c_a), veh/h	0	900	900	0	0	900	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.1	11.7	0.0	0.0	3.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.2	11.9	0.0	0.0	3.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕						↑↑↑	↗	↖	↑↑↑	
Traffic Volume (veh/h)	170	0	230	0	0	0	0	270	620	100	568	40
Future Volume (veh/h)	170	0	230	0	0	0	0	270	620	100	568	40
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	0	242				0	284	292	105	598	42
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	2
Cap, veh/h	367	0	327				0	2363	734	135	3040	212
Arrive On Green	0.21	0.00	0.21				0.00	0.46	0.46	0.08	0.62	0.62
Sat Flow, veh/h	1781	0	1585				0	5274	1585	1781	4873	340
Grp Volume(v), veh/h	179	0	242				0	284	292	105	416	224
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1781	1702	1809
Q Serve(g_s), s	4.7	0.0	7.6				0.0	1.7	6.4	3.1	2.8	2.8
Cycle Q Clear(g_c), s	4.7	0.0	7.6				0.0	1.7	6.4	3.1	2.8	2.8
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	367	0	327				0	2363	734	135	2123	1129
V/C Ratio(X)	0.49	0.00	0.74				0.00	0.12	0.40	0.78	0.20	0.20
Avail Cap(c_a), veh/h	606	0	539				0	2363	734	253	2123	1129
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.5	0.0	19.7				0.0	8.1	9.4	24.0	4.3	4.3
Incr Delay (d2), s/veh	1.0	0.0	3.3				0.0	0.1	1.6	9.1	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	2.8				0.0	0.5	2.1	1.5	0.7	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.5	0.0	23.0				0.0	8.2	11.0	33.1	4.5	4.7
LnGrp LOS	B	A	C				A	A	B	C	A	A
Approach Vol, veh/h		421						576			745	
Approach Delay, s/veh		21.5						9.6			8.6	
Approach LOS		C						A			A	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	8.5	29.0	15.4	37.5								
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	5	21.0	18.0	33.0								
Max Q Clear Time (g_c+I), s	15	8.4	9.6	4.8								
Green Ext Time (p_c), s	0.0	2.4	1.4	4.5								

Intersection Summary




















HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	0	230	0	0	0	0	270	620	100	568	40
Future Volume (veh/h)	170	0	230	0	0	0	0	270	620	100	568	40
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	0	242				0	284	292	105	598	42
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	2
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	367	0	327				0	2363	734	135	3040	212
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.21	0.00	0.21				0.00	0.46	0.46	0.08	0.62	0.62
Unsig. Movement Delay												
Ln Grp Delay, s/veh	19.5	0.0	23.0				0.0	8.2	11.0	33.1	4.5	4.7
Ln Grp LOS	B	A	C				A	A	B	C	A	A
Approach Vol, veh/h		421						576			745	
Approach Delay, s/veh		21.5						9.6			8.6	
Approach LOS		C						A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		10.0		4.0					
Phs Duration (G+Y+Rc), s		8.5	29.0		15.4		37.5					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green (Gmax), s		7.5	21.0		18.0		33.0					
Max Allow Headway (MAH), s		3.8	4.6		4.8		5.3					
Max Q Clear (g_c+I1), s		5.1	8.4		9.6		4.8					
Green Ext Time (g_e), s		0.0	2.4		1.4		4.5					
Prob of Phs Call (p_c)		0.79	1.00		1.00		1.00					
Prob of Max Out (p_x)		1.00	0.00		0.29		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		1781	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5274		0		4873					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		1585		340					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

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Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	105	0	0	179	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	3.1	0.0	0.0	4.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	3.1	0.0	0.0	4.7	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	24.5	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	135	0	0	367	0	0	0	0
V/C Ratio (X)	0.78	0.00	0.00	0.49	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	253	0	0	606	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	24.0	0.0	0.0	18.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	9.1	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	33.1	0.0	0.0	19.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	0.0	1.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	0.0	1.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.26	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	284	0	0	0	416	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	1.7	0.0	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.7	0.0	0.0	0.0	2.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	2363	0	0	0	2123	0	0
V/C Ratio (X)	0.00	0.12	0.00	0.00	0.00	0.20	0.00	0.00
Avail Cap (c_a), veh/h	0	2363	0	0	0	2123	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	8.1	0.0	0.0	0.0	4.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.2	0.0	0.0	0.0	4.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	0.0	0.0	0.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.0	0.0	0.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.07	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		T+R		T+R		
Lanes in Grp	0	1	0	1	0	1	0	0
Grp Vol (v), veh/h	0	292	0	242	0	224	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1809	0	0
Q Serve Time (g_s), s	0.0	6.4	0.0	7.6	0.0	2.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.4	0.0	7.6	0.0	2.8	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.19	0.00	0.00
Lane Grp Cap (c), veh/h	0	734	0	327	0	1129	0	0
V/C Ratio (X)	0.00	0.40	0.00	0.74	0.00	0.20	0.00	0.00
Avail Cap (c_a), veh/h	0	734	0	539	0	1129	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.4	0.0	19.7	0.0	4.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	3.3	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.0	0.0	23.0	0.0	4.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	2.5	0.0	0.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.3	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	2.8	0.0	0.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	0.11	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

12: Portola Rd & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	350	150	310	40	100	0	740	540	20	50	617	130
Future Volume (veh/h)	350	150	310	40	100	0	740	540	20	50	617	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	368	158	0	42	105	0	779	568	8	53	649	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	580		209	398	177	874	2198	682	149	937	
Arrive On Green	0.13	0.16	0.00	0.06	0.11	0.00	0.25	0.43	0.43	0.04	0.18	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	368	158	0	42	105	0	779	568	8	53	649	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	8.4	3.1	0.0	0.9	2.2	0.0	17.6	5.8	0.2	1.2	9.6	0.0
Cycle Q Clear(g_c), s	8.4	3.1	0.0	0.9	2.2	0.0	17.6	5.8	0.2	1.2	9.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	450	580		209	398	177	874	2198	682	149	937	
V/C Ratio(X)	0.82	0.27		0.20	0.26	0.00	0.89	0.26	0.01	0.36	0.69	
Avail Cap(c_a), veh/h	491	1889		470	1933	862	1046	3844	1193	239	2461	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.2	29.6	0.0	36.2	32.9	0.0	29.2	14.8	13.2	37.6	30.9	0.0
Incr Delay (d2), s/veh	9.7	0.1	0.0	0.2	0.1	0.0	7.7	0.0	0.0	1.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	1.3	0.0	0.4	0.9	0.0	7.5	1.9	0.1	0.5	3.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.9	29.7	0.0	36.3	33.0	0.0	36.9	14.8	13.2	39.1	31.2	0.0
LnGrp LOS	D	C		D	C	A	D	B	B	D	C	
Approach Vol, veh/h		526	A		147		1355			702	A	
Approach Delay, s/veh		39.7			34.0		27.5			31.8		
Approach LOS		D			C		C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	16.1	28.0	21.8	10.9	20.2	8.0	41.8				
Change Period (Y+Rc), s	4.5	7.0	7.5	7.0	6.0	7.0	4.5	7.0				
Max Green Setting (Gmax), s	15.5	44.0	24.5	39.0	11.0	43.0	5.6	60.9				
Max Q Clear Time (g_c+fl), s	10.4	4.2	19.6	11.6	2.9	5.1	3.2	7.8				
Green Ext Time (p_c), s	0.2	0.4	0.9	3.2	0.0	0.6	0.0	2.3				

Intersection Summary


































HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	350	150	310	40	100	0	740	540	20	50	617	130
Future Volume (veh/h)	350	150	310	40	100	0	740	540	20	50	617	130
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	368	158	0	42	105	0	779	568	8	53	649	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	450	580		209	398	177	874	2198	682	149	937	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.16	0.00	0.06	0.11	0.00	0.25	0.43	0.43	0.04	0.18	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	43.9	29.7	0.0	36.3	33.0	0.0	36.9	14.8	13.2	39.1	31.2	0.0
Ln Grp LOS	D	C		D	C	A	D	B	B	D	C	
Approach Vol, veh/h		526			147			1355			702	
Approach Delay, s/veh		39.7			34.0			27.5			31.8	
Approach LOS		D			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.0	16.1	28.0	21.8	10.9	20.2	8.0	41.8			
Change Period (Y+Rc), s		4.5	7.0	7.5	7.0	6.0	7.0	4.5	7.0			
Max Green (Gmax), s		11.5	44.0	24.5	39.0	11.0	43.0	5.6	60.9			
Max Allow Headway (MAH), s		3.7	3.9	2.7	4.2	2.7	3.9	3.8	3.8			
Max Q Clear (g_c+I1), s		10.4	4.2	19.6	11.6	2.9	5.1	3.2	7.8			
Green Ext Time (g_e), s		0.2	0.4	0.9	3.2	0.0	0.6	0.0	2.3			
Prob of Phs Call (p_c)		1.00	0.91	1.00	1.00	0.61	0.97	0.70	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.25	0.00	0.00	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	368	0	779	0	42	0	53	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	8.4	0.0	17.6	0.0	0.9	0.0	1.2	0.0
Cycle Q Clear Time (g_c), s	8.4	0.0	17.6	0.0	0.9	0.0	1.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	450	0	874	0	209	0	149	0
V/C Ratio (X)	0.82	0.00	0.89	0.00	0.20	0.00	0.36	0.00
Avail Cap (c_a), veh/h	491	0	1046	0	470	0	239	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	34.2	0.0	29.2	0.0	36.2	0.0	37.6	0.0
Incr Delay (d2), s/veh	9.7	0.0	7.7	0.0	0.2	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	43.9	0.0	36.9	0.0	36.3	0.0	39.1	0.0
1st-Term Q (Q1), veh/ln	3.3	0.0	6.5	0.0	0.4	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.6	0.0	0.9	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.9	0.0	7.5	0.0	0.4	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.28	0.00	0.68	0.00	0.05	0.00	0.07	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	3
Grp Vol (v), veh/h	0	105	0	649	0	158	0	568
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	2.2	0.0	9.6	0.0	3.1	0.0	5.8
Cycle Q Clear Time (g_c), s	0.0	2.2	0.0	9.6	0.0	3.1	0.0	5.8
Lane Grp Cap (c), veh/h	0	398	0	937	0	580	0	2198
V/C Ratio (X)	0.00	0.26	0.00	0.69	0.00	0.27	0.00	0.26
Avail Cap (c_a), veh/h	0	1933	0	2461	0	1889	0	3844
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	32.9	0.0	30.9	0.0	29.6	0.0	14.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.0	0.0	31.2	0.0	29.7	0.0	14.8
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	3.8	0.0	1.3	0.0	1.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.9	0.0	3.9	0.0	1.3	0.0	1.9
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.10	0.00	0.02	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	0	0	0	0	8
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	177	0	291	0	259	0	682
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Avail Cap (c_a), veh/h	0	862	0	764	0	842	0	1193
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

13: Date Palm Dr & Gerald Ford Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	210	30	322	180	191	30	530	420	386	835	110
Future Volume (veh/h)	50	210	30	322	180	191	30	530	420	386	835	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	221	32	264	294	41	32	558	224	406	879	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	231	33	329	345	292	49	1160	517	386	1627	215
Arrive On Green	0.07	0.07	0.07	0.18	0.18	0.18	0.03	0.33	0.33	0.22	0.52	0.52
Sat Flow, veh/h	1781	3121	446	1781	1870	1585	1781	3554	1585	1781	3156	416
Grp Volume(v), veh/h	53	125	128	264	294	41	32	558	224	406	495	500
Grp Sat Flow(s),veh/h/ln	1781	1777	1790	1781	1870	1585	1781	1777	1585	1781	1777	1795
Q Serve(g_s), s	3.4	8.4	8.6	17.0	18.3	2.6	2.1	15.1	13.3	26.0	22.4	22.4
Cycle Q Clear(g_c), s	3.4	8.4	8.6	17.0	18.3	2.6	2.1	15.1	13.3	26.0	22.4	22.4
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	132	132	133	329	345	292	49	1160	517	386	916	926
V/C Ratio(X)	0.40	0.94	0.97	0.80	0.85	0.14	0.66	0.48	0.43	1.05	0.54	0.54
Avail Cap(c_a), veh/h	132	132	133	460	483	409	89	1160	517	386	916	926
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.0	55.3	55.4	46.8	47.3	41.0	57.8	32.3	31.7	47.0	19.5	19.5
Incr Delay (d2), s/veh	2.0	61.5	67.9	5.6	8.3	0.2	5.5	1.4	2.6	60.1	2.3	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	6.0	6.4	7.8	9.0	1.0	1.0	6.6	5.4	17.7	9.4	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.0	116.8	123.3	52.5	55.7	41.1	63.3	33.7	34.3	107.1	21.8	21.8
LnGrp LOS	D	F	F	D	E	D	E	C	C	F	C	C
Approach Vol, veh/h		306			599			814			1401	
Approach Delay, s/veh		108.8			53.3			35.1			46.5	
Approach LOS		F			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	68.3		28.4	32.0	45.6		14.0				
Change Period (Y+Rc), s	6.0	6.4		6.3	6.0	6.4		5.1				
Max Green Setting (Gmax), s	6.0	50.3		31.0	26.0	30.3		8.9				
Max Q Clear Time (g_c+14), s	14.0	24.4		20.3	28.0	17.1		10.6				
Green Ext Time (p_c), s	0.0	12.5		1.9	0.0	6.1		0.0				

Intersection Summary
























HCM 6th Ctrl Delay	50.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 13: Date Palm Dr & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	210	30	322	180	191	30	530	420	386	835	110
Future Volume (veh/h)	50	210	30	322	180	191	30	530	420	386	835	110
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	221	32	264	294	41	32	558	224	406	879	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	132	231	33	329	345	292	49	1160	517	386	1627	215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.07	0.07	0.18	0.18	0.18	0.03	0.33	0.33	0.22	0.52	0.52
Unsig. Movement Delay												
Ln Grp Delay, s/veh	55.0	116.8	123.3	52.5	55.7	41.1	63.3	33.7	34.3	107.1	21.8	21.8
Ln Grp LOS	D	F	F	D	E	D	E	C	C	F	C	C
Approach Vol, veh/h		306			599			814			1401	
Approach Delay, s/veh		108.8			53.3			35.1			46.5	
Approach LOS		F			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	4.0	10.0	9.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		9.3	68.3	14.0	28.4	32.0	45.6					
Change Period (Y+Rc), s		6.0	6.4	5.1	6.3	6.0	6.4					
Max Green (Gmax), s		6.0	50.3	8.9	31.0	26.0	30.3					
Max Allow Headway (MAH), s		2.7	7.0	5.2	4.3	2.7	6.7					
Max Q Clear (g_c+I1), s		4.1	24.4	10.6	20.3	28.0	17.1					
Green Ext Time (g_e), s		0.0	12.5	0.0	1.9	0.0	6.1					
Prob of Phs Call (p_c)		0.66	1.00	1.00	1.00	1.00	1.00					
Prob of Max Out (p_x)		1.00	0.00	1.00	0.14	1.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		1781		1781	1781	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3156	3121	1870		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			416	446	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

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Lanes in Grp	1	0	1	1	1	0	0	0
Grp Vol (v), veh/h	32	0	53	264	406	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	2.1	0.0	3.4	17.0	26.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	2.1	0.0	3.4	17.0	26.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	49	0	132	329	386	0	0	0
V/C Ratio (X)	0.66	0.00	0.40	0.80	1.05	0.00	0.00	0.00
Avail Cap (c_a), veh/h	89	0	132	460	386	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.81	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	57.8	0.0	53.0	46.8	47.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.5	0.0	2.0	5.6	60.1	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.3	0.0	55.0	52.5	107.1	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	1.5	7.3	11.2	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.5	6.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	1.6	7.8	17.7	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.31	0.00	0.41	1.99	2.73	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T	T		T		
Lanes in Grp	0	1	1	1	0	2	0	0
Grp Vol (v), veh/h	0	495	125	294	0	558	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	1777	1870	0	1777	0	0
Q Serve Time (g_s), s	0.0	22.4	8.4	18.3	0.0	15.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.4	8.4	18.3	0.0	15.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	916	132	345	0	1160	0	0
V/C Ratio (X)	0.00	0.54	0.94	0.85	0.00	0.48	0.00	0.00
Avail Cap (c_a), veh/h	0	916	132	483	0	1160	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.81	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	19.5	55.3	47.3	0.0	32.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.3	61.5	8.3	0.0	1.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.8	116.8	55.7	0.0	33.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.8	3.8	8.2	0.0	6.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	2.3	0.8	0.0	0.2	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	9.4	6.0	9.0	0.0	6.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.19	0.23	0.04	0.00	0.09	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	T+R	R		R		
Lanes in Grp	0	1	1	1	0	1	0	0
Grp Vol (v), veh/h	0	500	128	41	0	224	0	0
Grp Sat Flow (s), veh/h/ln	0	1795	1790	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	22.4	8.6	2.6	0.0	13.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.4	8.6	2.6	0.0	13.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.23	0.25	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	926	133	292	0	517	0	0
V/C Ratio (X)	0.00	0.54	0.97	0.14	0.00	0.43	0.00	0.00
Avail Cap (c_a), veh/h	0	926	133	409	0	517	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.81	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	19.5	55.4	41.0	0.0	31.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.3	67.9	0.2	0.0	2.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.8	123.3	41.1	0.0	34.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.9	3.9	1.0	0.0	5.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	2.5	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	9.5	6.4	1.0	0.0	5.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.19	0.24	0.01	0.00	1.60	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	50.9
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
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




















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	756	242	90	528	135	96	382	90	221	789	110
Future Volume (veh/h)	40	756	242	90	528	135	96	382	90	221	789	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	796	255	95	556	142	101	402	22	233	831	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	882	283	115	1016	259	128	807	360	266	954	133
Arrive On Green	0.04	0.33	0.33	0.06	0.36	0.36	0.07	0.23	0.23	0.15	0.30	0.30
Sat Flow, veh/h	1781	2647	848	1781	2805	714	1781	3554	1585	1781	3131	437
Grp Volume(v), veh/h	42	534	517	95	352	346	101	402	22	233	472	475
Grp Sat Flow(s),veh/h/ln	1781	1777	1718	1781	1777	1742	1781	1777	1585	1781	1777	1792
Q Serve(g_s), s	2.2	26.7	26.7	4.9	14.6	14.7	5.2	9.2	1.0	11.9	23.4	23.4
Cycle Q Clear(g_c), s	2.2	26.7	26.7	4.9	14.6	14.7	5.2	9.2	1.0	11.9	23.4	23.4
Prop In Lane	1.00		0.49	1.00		0.41	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	63	592	573	115	644	631	128	807	360	266	541	546
V/C Ratio(X)	0.66	0.90	0.90	0.83	0.55	0.55	0.79	0.50	0.06	0.88	0.87	0.87
Avail Cap(c_a), veh/h	115	630	609	115	644	631	153	993	443	268	611	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.3	29.6	29.6	43.0	23.6	23.6	42.5	31.3	28.2	38.7	30.6	30.6
Incr Delay (d2), s/veh	4.3	15.7	16.2	35.1	1.0	1.0	16.9	0.5	0.1	25.1	11.9	11.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0	12.9	12.5	3.2	5.7	5.7	2.8	3.8	0.4	6.8	11.0	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	45.3	45.7	78.1	24.5	24.6	59.4	31.8	28.2	63.9	42.5	42.5
LnGrp LOS	D	D	D	E	C	C	E	C	C	E	D	D
Approach Vol, veh/h		1093			793			525			1180	
Approach Delay, s/veh		45.6			31.0			37.0			46.7	
Approach LOS		D			C			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	40.2	17.9	27.6	10.0	37.5	10.7	34.8				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	30.0	33.0	14.0	26.0	6.0	33.0	8.0	32.0				
Max Q Clear Time (g_c+14.2), s	14.2	16.7	13.9	11.2	6.9	28.7	7.2	25.4				
Green Ext Time (p_c), s	0.0	3.5	0.0	2.1	0.0	2.3	0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay					41.5							
HCM 6th LOS					D							

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	756	242	90	528	135	96	382	90	221	789	110
Future Volume (veh/h)	40	756	242	90	528	135	96	382	90	221	789	110
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	796	255	95	556	142	101	402	22	233	831	116
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	63	882	283	115	1016	259	128	807	360	266	954	133
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.33	0.33	0.06	0.36	0.36	0.07	0.23	0.23	0.15	0.30	0.30
Unsig. Movement Delay												
Ln Grp Delay, s/veh	48.6	45.3	45.7	78.1	24.5	24.6	59.4	31.8	28.2	63.9	42.5	42.5
Ln Grp LOS	D	D	D	E	C	C	E	C	C	E	D	D
Approach Vol, veh/h		1093			793			525			1180	
Approach Delay, s/veh		45.6			31.0			37.0			46.7	
Approach LOS		D			C			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		7.3	40.2	17.9	27.6	10.0	37.5	10.7	34.8			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		6.0	33.0	14.0	26.0	6.0	33.0	8.0	32.0			
Max Allow Headway (MAH), s		2.7	4.9	2.7	4.9	2.7	4.9	2.7	4.9			
Max Q Clear (g_c+I1), s		4.2	16.7	13.9	11.2	6.9	28.7	7.2	25.4			
Green Ext Time (g_e), s		0.0	3.5	0.0	2.1	0.0	2.3	0.0	3.0			
Prob of Phs Call (p_c)		0.66	1.00	1.00	1.00	0.91	1.00	0.93	1.00			
Prob of Max Out (p_x)		1.00	0.09	1.00	0.03	1.00	1.00	1.00	0.79			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2805		3554		2647		3131			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			714		1585		848		437			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	42	0	233	0	95	0	101	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.2	0.0	11.9	0.0	4.9	0.0	5.2	0.0
Cycle Q Clear Time (g_c), s	2.2	0.0	11.9	0.0	4.9	0.0	5.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	63	0	266	0	115	0	128	0
V/C Ratio (X)	0.66	0.00	0.88	0.00	0.83	0.00	0.79	0.00
Avail Cap (c_a), veh/h	115	0	268	0	115	0	153	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	44.3	0.0	38.7	0.0	43.0	0.0	42.5	0.0
Incr Delay (d2), s/veh	4.3	0.0	25.1	0.0	35.1	0.0	16.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.6	0.0	63.9	0.0	78.1	0.0	59.4	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	4.9	0.0	2.0	0.0	2.2	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	1.9	0.0	1.1	0.0	0.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	6.8	0.0	3.2	0.0	2.8	0.0
%ile Storage Ratio (RQ%)	0.14	0.00	1.23	0.00	0.77	0.00	0.35	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	352	0	402	0	534	0	472
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	14.6	0.0	9.2	0.0	26.7	0.0	23.4
Cycle Q Clear Time (g_c), s	0.0	14.6	0.0	9.2	0.0	26.7	0.0	23.4
Lane Grp Cap (c), veh/h	0	644	0	807	0	592	0	541
V/C Ratio (X)	0.00	0.55	0.00	0.50	0.00	0.90	0.00	0.87
Avail Cap (c_a), veh/h	0	644	0	993	0	630	0	611
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.6	0.0	31.3	0.0	29.6	0.0	30.6
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.5	0.0	15.7	0.0	11.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.5	0.0	31.8	0.0	45.3	0.0	42.5
1st-Term Q (Q1), veh/ln	0.0	5.6	0.0	3.7	0.0	10.3	0.0	9.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	2.6	0.0	1.8

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.7	0.0	3.8	0.0	12.9	0.0	11.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.07	0.00	0.06	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	346	0	22	0	517	0	475
Grp Sat Flow (s), veh/h/ln	0	1742	0	1585	0	1718	0	1792
Q Serve Time (g_s), s	0.0	14.7	0.0	1.0	0.0	26.7	0.0	23.4
Cycle Q Clear Time (g_c), s	0.0	14.7	0.0	1.0	0.0	26.7	0.0	23.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.41	0.00	1.00	0.00	0.49	0.00	0.24
Lane Grp Cap (c), veh/h	0	631	0	360	0	573	0	546
V/C Ratio (X)	0.00	0.55	0.00	0.06	0.00	0.90	0.00	0.87
Avail Cap (c_a), veh/h	0	631	0	443	0	609	0	616
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.6	0.0	28.2	0.0	29.6	0.0	30.6
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.1	0.0	16.2	0.0	11.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.6	0.0	28.2	0.0	45.7	0.0	42.5
1st-Term Q (Q1), veh/ln	0.0	5.5	0.0	0.4	0.0	9.9	0.0	9.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	2.6	0.0	1.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.7	0.0	0.4	0.0	12.5	0.0	11.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.05	0.00	0.06	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	41.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary

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






















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑	↖
Traffic Volume (veh/h)	100	705	267	154	562	222	81	677	64	149	1334	110
Future Volume (veh/h)	100	705	267	154	562	222	81	677	64	149	1334	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	742	172	162	592	92	85	713	27	157	1404	48
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	169	885	395	180	896	400	161	1409	628	216	1465	653
Arrive On Green	0.05	0.25	0.25	0.05	0.25	0.25	0.05	0.40	0.40	0.06	0.41	0.41
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	105	742	172	162	592	92	85	713	27	157	1404	48
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	2.9	19.0	8.8	4.5	14.3	4.4	2.3	14.5	1.0	4.3	36.8	1.8
Cycle Q Clear(g_c), s	2.9	19.0	8.8	4.5	14.3	4.4	2.3	14.5	1.0	4.3	36.8	1.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	169	885	395	180	896	400	161	1409	628	216	1465	653
V/C Ratio(X)	0.62	0.84	0.44	0.90	0.66	0.23	0.53	0.51	0.04	0.73	0.96	0.07
Avail Cap(c_a), veh/h	180	1038	463	180	1038	463	180	1409	628	216	1465	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.7	34.2	30.3	45.2	32.2	28.5	44.7	21.9	17.8	44.1	27.4	17.1
Incr Delay (d2), s/veh	3.9	5.4	0.8	38.9	1.3	0.3	1.0	1.3	0.1	10.1	14.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	8.3	3.2	2.8	5.9	1.6	1.0	5.6	0.4	2.0	16.8	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.7	39.6	31.1	84.1	33.4	28.8	45.6	23.2	17.9	54.2	42.2	17.1
LnGrp LOS	D	D	C	F	C	C	D	C	B	D	D	B
Approach Vol, veh/h		1019			846			825			1609	
Approach Delay, s/veh		39.1			42.6			25.3			42.6	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	46.0	10.0	30.4	11.0	44.5	9.7	30.7				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5				
Max Green Setting (Gmax), s	5.0	39.0	5.0	28.0	6.0	38.0	5.0	28.0				
Max Q Clear Time (g_c+1/3), s	14.3	38.8	6.5	21.0	6.3	16.5	4.9	16.3				
Green Ext Time (p_c), s	0.0	0.2	0.0	2.9	0.0	4.3	0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay											38.5	
HCM 6th LOS											D	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	705	267	154	562	222	81	677	64	149	1334	110
Future Volume (veh/h)	100	705	267	154	562	222	81	677	64	149	1334	110
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	742	172	162	592	92	85	713	27	157	1404	48
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	169	885	395	180	896	400	161	1409	628	216	1465	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.25	0.25	0.05	0.25	0.25	0.05	0.40	0.40	0.06	0.41	0.41
Unsig. Movement Delay												
Ln Grp Delay, s/veh	48.7	39.6	31.1	84.1	33.4	28.8	45.6	23.2	17.9	54.2	42.2	17.1
Ln Grp LOS	D	D	C	F	C	C	D	C	B	D	D	B
Approach Vol, veh/h		1019			846			825			1609	
Approach Delay, s/veh		39.1			42.6			25.3			42.6	
Approach LOS		D			D			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.5	46.0	10.0	30.4	11.0	44.5	9.7	30.7			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5			
Max Green (Gmax), s		5.0	39.0	5.0	28.0	6.0	38.0	5.0	28.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.6	2.7	4.7	2.7	4.7			
Max Q Clear (g_c+I1), s		4.3	38.8	6.5	21.0	6.3	16.5	4.9	16.3			
Green Ext Time (g_e), s		0.0	0.2	0.0	2.9	0.0	4.3	0.0	3.0			
Prob of Phs Call (p_c)		0.90	1.00	0.99	1.00	0.98	1.00	0.94	1.00			
Prob of Max Out (p_x)		1.00	1.00	1.00	0.66	1.00	0.00	1.00	0.18			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	85	0	162	0	157	0	105	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	2.3	0.0	4.5	0.0	4.3	0.0	2.9	0.0
Cycle Q Clear Time (g_c), s	2.3	0.0	4.5	0.0	4.3	0.0	2.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	161	0	180	0	216	0	169	0
V/C Ratio (X)	0.53	0.00	0.90	0.00	0.73	0.00	0.62	0.00
Avail Cap (c_a), veh/h	180	0	180	0	216	0	180	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	44.7	0.0	45.2	0.0	44.1	0.0	44.7	0.0
Incr Delay (d2), s/veh	1.0	0.0	38.9	0.0	10.1	0.0	3.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	45.6	0.0	84.1	0.0	54.2	0.0	48.7	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	1.8	0.0	1.7	0.0	1.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.0	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	2.8	0.0	2.0	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.11	0.00	0.32	0.00	0.24	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1404	0	742	0	713	0	592
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	36.8	0.0	19.0	0.0	14.5	0.0	14.3
Cycle Q Clear Time (g_c), s	0.0	36.8	0.0	19.0	0.0	14.5	0.0	14.3
Lane Grp Cap (c), veh/h	0	1465	0	885	0	1409	0	896
V/C Ratio (X)	0.00	0.96	0.00	0.84	0.00	0.51	0.00	0.66
Avail Cap (c_a), veh/h	0	1465	0	1038	0	1409	0	1038
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.4	0.0	34.2	0.0	21.9	0.0	32.2
Incr Delay (d2), s/veh	0.0	14.8	0.0	5.4	0.0	1.3	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	42.2	0.0	39.6	0.0	23.2	0.0	33.4
1st-Term Q (Q1), veh/ln	0.0	13.8	0.0	7.6	0.0	5.4	0.0	5.7
2nd-Term Q (Q2), veh/ln	0.0	3.0	0.0	0.7	0.0	0.3	0.0	0.2

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	16.8	0.0	8.3	0.0	5.6	0.0	5.9
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.02	0.00	0.06	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	48	0	172	0	27	0	92
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.8	0.0	8.8	0.0	1.0	0.0	4.4
Cycle Q Clear Time (g_c), s	0.0	1.8	0.0	8.8	0.0	1.0	0.0	4.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	653	0	395	0	628	0	400
V/C Ratio (X)	0.00	0.07	0.00	0.44	0.00	0.04	0.00	0.23
Avail Cap (c_a), veh/h	0	653	0	463	0	628	0	463
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.1	0.0	30.3	0.0	17.8	0.0	28.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.1	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.1	0.0	31.1	0.0	17.9	0.0	28.8
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	3.1	0.0	0.3	0.0	1.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	3.2	0.0	0.4	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.58	0.00	0.06	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	38.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
 16: Monterey Ave & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↔		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	193	571	272	243	530	190	213	865	115	370	1430	142
Future Volume (veh/h)	193	571	272	243	530	190	213	865	115	370	1430	142
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	601	150	256	558	52	224	911	121	389	1505	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	721	322	310	862	384	230	1734	229	449	2263	
Arrive On Green	0.05	0.20	0.20	0.09	0.24	0.24	0.07	0.38	0.38	0.13	0.44	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4562	604	3456	5106	1585
Grp Volume(v), veh/h	203	601	150	256	558	52	224	679	353	389	1505	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1762	1728	1702	1585
Q Serve(g_s), s	6.0	19.5	10.0	8.7	16.9	3.1	7.8	18.5	18.7	13.2	27.9	0.0
Cycle Q Clear(g_c), s	6.0	19.5	10.0	8.7	16.9	3.1	7.8	18.5	18.7	13.2	27.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	173	721	322	310	862	384	230	1294	669	449	2263	
V/C Ratio(X)	1.17	0.83	0.47	0.83	0.65	0.14	0.97	0.52	0.53	0.87	0.66	
Avail Cap(c_a), veh/h	173	927	413	317	1075	479	230	1294	669	576	2263	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.87	0.87	0.87	0.94	0.94	0.94	0.67	0.67	0.00
Uniform Delay (d), s/veh	57.0	45.9	42.1	53.7	40.8	35.6	55.9	28.8	28.8	51.2	26.4	0.0
Incr Delay (d2), s/veh	117.2	4.3	0.9	13.3	0.8	0.1	49.3	1.4	2.8	6.4	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	8.7	3.8	4.2	7.1	1.2	4.8	7.3	7.9	5.9	10.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	174.2	50.2	43.0	67.0	41.6	35.7	105.2	30.2	31.6	57.5	27.4	0.0
LnGrp LOS	F	D	D	E	D	D	F	C	C	E	C	
Approach Vol, veh/h		954			866			1256			1894	A
Approach Delay, s/veh		75.5			48.8			44.0			33.6	
Approach LOS		E			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	60.2	11.0	35.8	20.6	52.6	15.8	31.1				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.7	5.0	7.0	5.0	6.7				
Max Green Setting (Gmax), s	30.0	46.0	6.0	36.3	20.0	34.0	11.0	31.3				
Max Q Clear Time (g_c+1/8), s	19.8	29.9	8.0	18.9	15.2	20.7	10.7	21.5				
Green Ext Time (p_c), s	0.0	9.7	0.0	3.1	0.3	5.7	0.0	2.9				

Intersection Summary































HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 		
Traffic Volume (veh/h)	193	571	272	243	530	190	213	865	115	370	1430	142
Future Volume (veh/h)	193	571	272	243	530	190	213	865	115	370	1430	142
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	203	601	150	256	558	52	224	911	121	389	1505	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	173	721	322	310	862	384	230	1734	229	449	2263	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.20	0.20	0.09	0.24	0.24	0.07	0.38	0.38	0.13	0.44	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	174.2	50.2	43.0	67.0	41.6	35.7	105.2	30.2	31.6	57.5	27.4	0.0
Ln Grp LOS	F	D	D	E	D	D	F	C	C	E	C	
Approach Vol, veh/h		954			866			1256			1894	
Approach Delay, s/veh		75.5			48.8			44.0			33.6	
Approach LOS		E			D			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		13.0	60.2	11.0	35.8	20.6	52.6	15.8	31.1			
Change Period (Y+Rc), s		5.0	7.0	5.0	6.7	5.0	7.0	5.0	6.7			
Max Green (Gmax), s		8.0	46.0	6.0	36.3	20.0	34.0	11.0	31.3			
Max Allow Headway (MAH), s		2.6	5.2	2.7	4.7	2.6	5.3	2.6	4.6			
Max Q Clear (g_c+I1), s		9.8	29.9	8.0	18.9	15.2	20.7	10.7	21.5			
Green Ext Time (g_e), s		0.0	9.7	0.0	3.1	0.3	5.7	0.0	2.9			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.03	0.11	0.00	1.00	0.30			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4562		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		604		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	224	0	203	0	389	0	256	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	7.8	0.0	6.0	0.0	13.2	0.0	8.7	0.0
Cycle Q Clear Time (g_c), s	7.8	0.0	6.0	0.0	13.2	0.0	8.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	230	0	173	0	449	0	310	0
V/C Ratio (X)	0.97	0.00	1.17	0.00	0.87	0.00	0.83	0.00
Avail Cap (c_a), veh/h	230	0	173	0	576	0	317	0
Upstream Filter (I)	0.94	0.00	0.82	0.00	0.67	0.00	0.87	0.00
Uniform Delay (d1), s/veh	55.9	0.0	57.0	0.0	51.2	0.0	53.7	0.0
Incr Delay (d2), s/veh	49.3	0.0	117.2	0.0	6.4	0.0	13.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	105.2	0.0	174.2	0.0	57.5	0.0	67.0	0.0
1st-Term Q (Q1), veh/ln	3.2	0.0	2.5	0.0	5.5	0.0	3.6	0.0
2nd-Term Q (Q2), veh/ln	1.6	0.0	2.8	0.0	0.4	0.0	0.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.8	0.0	5.3	0.0	5.9	0.0	4.2	0.0
%ile Storage Ratio (RQ%)	0.61	0.00	0.82	0.00	0.75	0.00	0.58	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	7.6	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1505	0	558	0	679	0	601
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	27.9	0.0	16.9	0.0	18.5	0.0	19.5
Cycle Q Clear Time (g_c), s	0.0	27.9	0.0	16.9	0.0	18.5	0.0	19.5
Lane Grp Cap (c), veh/h	0	2263	0	862	0	1294	0	721
V/C Ratio (X)	0.00	0.66	0.00	0.65	0.00	0.52	0.00	0.83
Avail Cap (c_a), veh/h	0	2263	0	1075	0	1294	0	927
Upstream Filter (I)	0.00	0.67	0.00	0.87	0.00	0.94	0.00	0.82
Uniform Delay (d1), s/veh	0.0	26.4	0.0	40.8	0.0	28.8	0.0	45.9
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.8	0.0	1.4	0.0	4.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.4	0.0	41.6	0.0	30.2	0.0	50.2
1st-Term Q (Q1), veh/ln	0.0	10.4	0.0	7.0	0.0	7.1	0.0	8.2
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.3	0.0	0.4

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.6	0.0	7.1	0.0	7.3	0.0	8.7
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.04	0.00	0.12	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	52	0	353	0	150
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1762	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	3.1	0.0	18.7	0.0	10.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.1	0.0	18.7	0.0	10.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.34	0.00	1.00
Lane Grp Cap (c), veh/h	0	703	0	384	0	669	0	322
V/C Ratio (X)	0.00	0.00	0.00	0.14	0.00	0.53	0.00	0.47
Avail Cap (c_a), veh/h	0	703	0	479	0	669	0	413
Upstream Filter (I)	0.00	0.00	0.00	0.87	0.00	0.94	0.00	0.82
Uniform Delay (d1), s/veh	0.0	0.0	0.0	35.6	0.0	28.8	0.0	42.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	2.8	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	35.7	0.0	31.6	0.0	43.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.2	0.0	7.4	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.2	0.0	7.9	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.13	0.00	0.59
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 17: Portola Rd & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↖↗↘	↖	↖↗	↖↗↘	↖	↖↗	↖↗↘	↖
Traffic Volume (veh/h)	104	633	320	100	745	340	120	856	100	80	791	97
Future Volume (veh/h)	104	633	320	100	745	340	120	856	100	80	791	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	666	337	105	784	0	126	901	27	84	833	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	737	373	305	1582		317	1098	341	286	1054	
Arrive On Green	0.09	0.32	0.32	0.09	0.31	0.00	0.09	0.22	0.22	0.08	0.21	0.00
Sat Flow, veh/h	1781	2284	1155	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	109	518	485	105	784	0	126	901	27	84	833	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1662	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	4.9	23.0	23.0	2.4	10.3	0.0	2.8	13.9	1.1	1.9	12.8	0.0
Cycle Q Clear(g_c), s	4.9	23.0	23.0	2.4	10.3	0.0	2.8	13.9	1.1	1.9	12.8	0.0
Prop In Lane	1.00		0.70	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	159	573	536	305	1582		317	1098	341	286	1054	
V/C Ratio(X)	0.69	0.90	0.90	0.34	0.50		0.40	0.82	0.08	0.29	0.79	
Avail Cap(c_a), veh/h	216	905	847	335	2478		335	2354	731	335	2354	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.4	26.7	26.7	35.3	23.2	0.0	35.3	30.8	25.8	35.5	31.0	0.0
Incr Delay (d2), s/veh	2.2	5.6	5.9	0.2	0.1	0.0	0.3	0.6	0.0	0.2	0.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	9.3	8.7	0.9	3.7	0.0	1.1	5.1	0.4	0.7	4.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.6	32.3	32.6	35.6	23.3	0.0	35.6	31.4	25.9	35.7	31.5	0.0
LnGrp LOS	D	C	C	D	C		D	C	C	D	C	
Approach Vol, veh/h		1112			889	A		1054			917	A
Approach Delay, s/veh		33.0			24.7			31.8			31.9	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.8	24.7	12.3	33.6	12.6	24.0	13.3	32.5				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7				
Max Green Setting (Gmax), s	38.0	38.0	8.0	42.0	8.0	38.0	10.0	* 40				
Max Q Clear Time (g_c+1), s	15.9	15.9	4.4	25.0	4.8	14.8	6.9	12.3				
Green Ext Time (p_c), s	0.0	1.9	0.0	1.6	0.0	1.8	0.0	1.7				

Intersection Summary

HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
17: Portola Rd & Gerald Ford Dr

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	633	320	100	745	340	120	856	100	80	791	97
Future Volume (veh/h)	104	633	320	100	745	340	120	856	100	80	791	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	666	337	105	784	0	126	901	27	84	833	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	159	737	373	305	1582		317	1098	341	286	1054	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.32	0.32	0.09	0.31	0.00	0.09	0.22	0.22	0.08	0.21	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	38.6	32.3	32.6	35.6	23.3	0.0	35.6	31.4	25.9	35.7	31.5	0.0
Ln Grp LOS	D	C	C	D	C		D	C	C	D	C	
Approach Vol, veh/h		1112			889			1054			917	
Approach Delay, s/veh		33.0			24.7			31.8			31.9	
Approach LOS		C			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		11.8	24.7	12.3	33.6	12.6	24.0	13.3	32.5			
Change Period (Y+Rc), s		5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7			
Max Green (Gmax), s		8.0	38.0	8.0	42.0	8.0	38.0	10.0	* 40			
Max Allow Headway (MAH), s		1.7	2.7	1.7	2.8	1.6	2.8	1.6	2.8			
Max Q Clear (g_c+I1), s		3.9	15.9	4.4	25.0	4.8	14.8	6.9	12.3			
Green Ext Time (g_e), s		0.0	1.9	0.0	1.6	0.0	1.8	0.0	1.7			
Prob of Phs Call (p_c)		0.85	1.00	0.91	1.00	0.94	1.00	0.92	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.01	0.00	0.04	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		2284		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1155		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

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Lanes in Grp	2	0	2	0	2	0	1	0
Grp Vol (v), veh/h	84	0	105	0	126	0	109	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1781	0
Q Serve Time (g_s), s	1.9	0.0	2.4	0.0	2.8	0.0	4.9	0.0
Cycle Q Clear Time (g_c), s	1.9	0.0	2.4	0.0	2.8	0.0	4.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	286	0	305	0	317	0	159	0
V/C Ratio (X)	0.29	0.00	0.34	0.00	0.40	0.00	0.69	0.00
Avail Cap (c_a), veh/h	335	0	335	0	335	0	216	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	35.5	0.0	35.3	0.0	35.3	0.0	36.4	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.2	0.0	0.3	0.0	2.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	35.7	0.0	35.6	0.0	35.6	0.0	38.6	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.9	0.0	1.1	0.0	2.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.7	0.0	0.9	0.0	1.1	0.0	2.0	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.09	0.00	0.11	0.00	0.32	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	3	0	3
Grp Vol (v), veh/h	0	901	0	518	0	833	0	784
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1702
Q Serve Time (g_s), s	0.0	13.9	0.0	23.0	0.0	12.8	0.0	10.3
Cycle Q Clear Time (g_c), s	0.0	13.9	0.0	23.0	0.0	12.8	0.0	10.3
Lane Grp Cap (c), veh/h	0	1098	0	573	0	1054	0	1582
V/C Ratio (X)	0.00	0.82	0.00	0.90	0.00	0.79	0.00	0.50
Avail Cap (c_a), veh/h	0	2354	0	905	0	2354	0	2478
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.8	0.0	26.7	0.0	31.0	0.0	23.2
Incr Delay (d2), s/veh	0.0	0.6	0.0	5.6	0.0	0.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.4	0.0	32.3	0.0	31.5	0.0	23.3
1st-Term Q (Q1), veh/ln	0.0	5.1	0.0	8.4	0.0	4.8	0.0	3.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.9	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.1	0.0	9.3	0.0	4.8	0.0	3.7
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.05	0.00	0.09	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	27	0	485	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1662	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.1	0.0	23.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	23.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.70	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	341	0	536	0	327	0	491
V/C Ratio (X)	0.00	0.08	0.00	0.90	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	731	0	847	0	731	0	769
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	25.8	0.0	26.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	5.9	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.9	0.0	32.6	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	7.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	8.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 18: Cook St & I-10 WB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕	↗		↕	↗		↕	↗
Traffic Volume (veh/h)	0	0	0	890	0	120	0	670	370	0	570	50
Future Volume (veh/h)	0	0	0	890	0	120	0	670	370	0	570	50
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				937	0	113	0	705	0	0	600	53
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				1006	0	895	0	1192		0	1603	140
Arrive On Green				0.56	0.00	0.56	0.00	0.11	0.00	0.00	0.34	0.34
Sat Flow, veh/h				1781	0	1585	0	3647	1585	0	4949	419
Grp Volume(v), veh/h				937	0	113	0	705	0	0	426	227
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1777	1585	0	1702	1795
Q Serve(g_s), s				53.1	0.0	3.7	0.0	20.8	0.0	0.0	10.5	10.6
Cycle Q Clear(g_c), s				53.1	0.0	3.7	0.0	20.8	0.0	0.0	10.5	10.6
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.23
Lane Grp Cap(c), veh/h				1006	0	895	0	1192		0	1141	602
V/C Ratio(X)				0.93	0.00	0.13	0.00	0.59		0.00	0.37	0.38
Avail Cap(c_a), veh/h				1134	0	1009	0	1192		0	1141	602
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.73	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				22.0	0.0	11.2	0.0	41.7	0.0	0.0	27.8	27.8
Incr Delay (d2), s/veh				12.6	0.0	0.1	0.0	1.6	0.0	0.0	0.9	1.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				24.1	0.0	1.3	0.0	10.2	0.0	0.0	4.1	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				34.6	0.0	11.3	0.0	43.3	0.0	0.0	28.7	29.6
LnGrp LOS				C	A	B	A	D		A	C	C
Approach Vol, veh/h					1050			705	A		653	
Approach Delay, s/veh					32.1			43.3			29.0	
Approach LOS					C			D			C	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		42.9				42.9		67.1				
Change Period (Y+Rc), s		6.0				6.0		5.0				
Max Green Setting (Gmax), s		29.0				29.0		70.0				
Max Q Clear Time (g_c+I1), s		22.8				12.6		55.1				
Green Ext Time (p_c), s		2.5				3.2		7.0				

Intersection Summary



















HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	890	0	120	0	670	370	0	570	50
Future Volume (veh/h)	0	0	0	890	0	120	0	670	370	0	570	50
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				937	0	113	0	705	0	0	600	53
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Opposing Right Turn Influence				Yes			No			No		
Cap, veh/h				1006	0	895	0	1192		0	1603	140
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green				0.56	0.00	0.56	0.00	0.11	0.00	0.00	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh				34.6	0.0	11.3	0.0	43.3	0.0	0.0	28.7	29.6
Ln Grp LOS				C	A	B	A	D		A	C	C
Approach Vol, veh/h					1050			705			653	
Approach Delay, s/veh					32.1			43.3			29.0	
Approach LOS					C			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8			6					
Case No			7.0	11.0			8.0					
Phs Duration (G+Y+Rc), s			42.9	67.1			42.9					
Change Period (Y+Rc), s			6.0	5.0			6.0					
Max Green (Gmax), s			29.0	70.0			29.0					
Max Allow Headway (MAH), s			5.2	5.2			4.8					
Max Q Clear (g_c+I1), s			22.8	55.1			12.6					
Green Ext Time (g_e), s			2.5	7.0			3.2					
Prob of Phs Call (p_c)			1.00	1.00			1.00					
Prob of Max Out (p_x)			0.00	0.44			0.00					
Left-Turn Movement Data												
Assigned Mvmt			5	3			1					
Mvmt Sat Flow, veh/h			0	1781			0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			3647	0			4949					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			1585	1585			419					
Left Lane Group Data												
Assigned Mvmt	0	5	3	0	0	1	0	0				
Lane Assignment			L+T									

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

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Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	937	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	53.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	53.1	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	36.9	0.0	0.0	0.0	36.9	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1006	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.93	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1134	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	22.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	12.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	34.6	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	20.6	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	3.5	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	24.1	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.70	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	705	0	0	0	426	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	20.8	0.0	0.0	0.0	10.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	20.8	0.0	0.0	0.0	10.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	1192	0	0	0	1141	0	0
V/C Ratio (X)	0.00	0.59	0.00	0.00	0.00	0.37	0.00	0.00
Avail Cap (c_a), veh/h	0	1192	0	0	0	1141	0	0
Upstream Filter (I)	0.00	0.73	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	41.7	0.0	0.0	0.0	27.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.0	0.0	0.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	43.3	0.0	0.0	0.0	28.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	9.9	0.0	0.0	0.0	4.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	10.2	0.0	0.0	0.0	4.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	0.00	0.00	0.29	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	113	0	0	227	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1795	0	0
Q Serve Time (g_s), s	0.0	0.0	3.7	0.0	0.0	10.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	3.7	0.0	0.0	10.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.23	0.00	0.00
Lane Grp Cap (c), veh/h	0	532	895	0	0	602	0	0
V/C Ratio (X)	0.00	0.00	0.13	0.00	0.00	0.38	0.00	0.00
Avail Cap (c_a), veh/h	0	532	1009	0	0	602	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	11.2	0.0	0.0	27.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.0	0.0	1.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	11.3	0.0	0.0	29.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.3	0.0	0.0	4.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.3	0.0	0.0	4.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.04	0.00	0.00	0.33	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	34.5
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 19: Cook St & I-10 EB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	220	0	1135	0	0	0	0	820	412	80	1380	0	
Future Volume (veh/h)	220	0	1135	0	0	0	0	820	412	80	1380	0	
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0	
Adj Flow Rate, veh/h	232	0	1153				0	863	434	84	1453	0	
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0	
Cap, veh/h	719	0	1280				0	1345	626	107	2534	0	
Arrive On Green	0.40	0.00	0.40				0.00	0.39	0.39	0.02	0.16	0.00	
Sat Flow, veh/h	1781	0	3170				0	3572	1585	1781	5274	0	
Grp Volume(v), veh/h	232	0	1153				0	863	434	84	1453	0	
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1781	1702	0	
Q Serve(g_s), s	9.8	0.0	37.5				0.0	22.6	25.1	5.2	28.9	0.0	
Cycle Q Clear(g_c), s	9.8	0.0	37.5				0.0	22.6	25.1	5.2	28.9	0.0	
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00	
Lane Grp Cap(c), veh/h	719	0	1280				0	1345	626	107	2534	0	
V/C Ratio(X)	0.32	0.00	0.90				0.00	0.64	0.69	0.78	0.57	0.00	
Avail Cap(c_a), veh/h	826	0	1470				0	1345	626	154	2534	0	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00	
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.85	0.85	0.89	0.89	0.00	
Uniform Delay (d), s/veh	22.5	0.0	30.7				0.0	27.0	27.7	53.2	35.3	0.0	
Incr Delay (d2), s/veh	0.3	0.0	7.3				0.0	2.0	5.3	8.2	0.8	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.1	0.0	15.2				0.0	8.7	9.6	2.6	13.4	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	22.7	0.0	38.0				0.0	29.0	33.0	61.4	36.1	0.0	
LnGrp LOS	C	A	D				A	C	C	E	D	A	
Approach Vol, veh/h		1385						1297			1537		
Approach Delay, s/veh		35.4						30.3			37.5		
Approach LOS		D						C			D		
Timer - Assigned Phs	1	2	4	6									
Phs Duration (G+Y+Rc), s	11.1	49.4	49.4	60.6									
Change Period (Y+Rc), s	4.5	6.0	5.0	6.0									
Max Green Setting (Gmax), s	9.5	34.0	51.0	48.0									
Max Q Clear Time (g_c+1), s	17.2	27.1	39.5	30.9									
Green Ext Time (p_c), s	0.0	4.1	4.9	9.8									

Intersection Summary

HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	0	1135	0	0	0	0	820	412	80	1380	0
Future Volume (veh/h)	220	0	1135	0	0	0	0	820	412	80	1380	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	232	0	1153				0	863	434	84	1453	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	719	0	1280				0	1345	626	107	2534	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	0.33	0.33	1.00
Prop Arrive On Green	0.40	0.00	0.40				0.00	0.39	0.39	0.02	0.16	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	22.7	0.0	38.0				0.0	29.0	33.0	61.4	36.1	0.0
Ln Grp LOS	C	A	D				A	C	C	E	D	A
Approach Vol, veh/h		1385						1297			1537	
Approach Delay, s/veh		35.4						30.3			37.5	
Approach LOS		D						C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	8.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		11.1	49.4		49.4		60.6					
Change Period (Y+Rc), s		4.5	6.0		5.0		6.0					
Max Green (Gmax), s		9.5	34.0		51.0		48.0					
Max Allow Headway (MAH), s		2.8	4.8		4.0		5.2					
Max Q Clear (g_c+I1), s		7.2	27.1		39.5		30.9					
Green Ext Time (g_e), s		0.0	4.1		4.9		9.8					
Prob of Phs Call (p_c)		0.92	1.00		1.00		1.00					
Prob of Max Out (p_x)		1.00	0.00		0.36		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		1781	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			3572		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

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Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	84	0	0	232	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	5.2	0.0	0.0	9.8	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	5.2	0.0	0.0	9.8	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	43.4	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	107	0	0	719	0	0	0	0
V/C Ratio (X)	0.78	0.00	0.00	0.32	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	154	0	0	826	0	0	0	0
Upstream Filter (I)	0.89	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	53.2	0.0	0.0	22.5	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	8.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	61.4	0.0	0.0	22.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	2.4	0.0	0.0	4.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	2.6	0.0	0.0	4.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.00	0.14	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment	T			T				
Lanes in Grp	0	2	0	0	0	3	0	0
Grp Vol (v), veh/h	0	863	0	0	0	1453	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	22.6	0.0	0.0	0.0	28.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.6	0.0	0.0	0.0	28.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	1345	0	0	0	2534	0	0
V/C Ratio (X)	0.00	0.64	0.00	0.00	0.00	0.57	0.00	0.00
Avail Cap (c_a), veh/h	0	1345	0	0	0	2534	0	0
Upstream Filter (I)	0.00	0.85	0.00	0.00	0.00	0.89	0.00	0.00
Uniform Delay (d1), s/veh	0.0	27.0	0.0	0.0	0.0	35.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.0	0.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.0	0.0	0.0	0.0	36.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.4	0.0	0.0	0.0	13.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	8.7	0.0	0.0	0.0	13.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.00	0.00	0.71	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	434	0	1153	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	25.1	0.0	37.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	25.1	0.0	37.5	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	626	0	1280	0	0	0	0
V/C Ratio (X)	0.00	0.69	0.00	0.90	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	626	0	1470	0	0	0	0
Upstream Filter (I)	0.00	0.85	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	27.7	0.0	30.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	5.3	0.0	7.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.0	0.0	38.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.6	0.0	13.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	1.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	9.6	0.0	15.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.93	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	34.6
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

20: Cook St & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	380	210	222	50	230	160	372	692	40	250	1677	583
Future Volume (veh/h)	380	210	222	50	230	160	372	692	40	250	1677	583
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	400	221	0	53	242	17	392	728	19	263	1765	439
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	468	639		164	327	146	460	2171	674	334	1984	616
Arrive On Green	0.14	0.18	0.00	0.05	0.09	0.09	0.13	0.43	0.43	0.10	0.39	0.39
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	400	221	0	53	242	17	392	728	19	263	1765	439
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.7	5.2	0.0	1.4	6.3	0.9	10.5	9.1	0.7	7.1	30.7	22.2
Cycle Q Clear(g_c), s	10.7	5.2	0.0	1.4	6.3	0.9	10.5	9.1	0.7	7.1	30.7	22.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	468	639		164	327	146	460	2171	674	334	1984	616
V/C Ratio(X)	0.85	0.35		0.32	0.74	0.12	0.85	0.34	0.03	0.79	0.89	0.71
Avail Cap(c_a), veh/h	572	1748		218	1385	618	583	2501	777	619	2555	793
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	34.0	0.0	43.7	42.0	39.5	40.2	18.3	15.9	41.9	27.1	24.5
Incr Delay (d2), s/veh	8.9	0.1	0.0	0.4	1.2	0.1	8.0	0.0	0.0	1.6	3.0	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	2.1	0.0	0.6	2.7	0.4	4.7	3.2	0.2	2.9	11.4	7.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.0	34.2	0.0	44.1	43.2	39.7	48.2	18.3	15.9	43.5	30.1	25.8
LnGrp LOS	D	C		D	D	D	D	B	B	D	C	C
Approach Vol, veh/h		621	A		312			1139			2467	
Approach Delay, s/veh		43.7			43.2			28.6			30.8	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	5.2	47.2	10.0	22.6	18.6	43.7	18.4	14.2				
Change Period (Y+Rc), s	6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5				
Max Green Setting (Gmax), s	46.5	6.0	46.7	16.0	47.5	15.7	37.0					
Max Q Clear Time (g_c+1.9), s	11.1	3.4	7.2	12.5	32.7	12.7	8.3					
Green Ext Time (p_c), s	0.1	1.5	0.0	0.4	0.1	4.2	0.1	0.4				

Intersection Summary

























HCM 6th Ctrl Delay	32.8
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 20: Cook St & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	380	210	222	50	230	160	372	692	40	250	1677	583
Future Volume (veh/h)	380	210	222	50	230	160	372	692	40	250	1677	583
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	400	221	0	53	242	17	392	728	19	263	1765	439
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	468	639		164	327	146	460	2171	674	334	1984	616
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.14	0.18	0.00	0.05	0.09	0.09	0.13	0.43	0.43	0.10	0.39	0.39
Unsig. Movement Delay												
Ln Grp Delay, s/veh	49.0	34.2	0.0	44.1	43.2	39.7	48.2	18.3	15.9	43.5	30.1	25.8
Ln Grp LOS	D	C		D	D	D	D	B	B	D	C	C
Approach Vol, veh/h		621			312			1139			2467	
Approach Delay, s/veh		43.7			43.2			28.6			30.8	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.2	47.2	10.0	22.6	18.6	43.7	18.4	14.2			
Change Period (Y+Rc), s		6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5			
Max Green (Gmax), s		17.0	46.5	6.0	46.7	16.0	47.5	15.7	37.0			
Max Allow Headway (MAH), s		1.6	2.7	1.7	2.8	1.6	2.6	1.7	2.8			
Max Q Clear (g_c+I1), s		9.1	11.1	3.4	7.2	12.5	32.7	12.7	8.3			
Green Ext Time (g_e), s		0.1	1.5	0.0	0.4	0.1	4.2	0.1	0.4			
Prob of Phs Call (p_c)		1.00	1.00	0.75	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.03	0.00	0.02	0.09	0.08	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 20: Cook St & Gerald Ford Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	263	0	53	0	392	0	400	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	7.1	0.0	1.4	0.0	10.5	0.0	10.7	0.0
Cycle Q Clear Time (g_c), s	7.1	0.0	1.4	0.0	10.5	0.0	10.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	334	0	164	0	460	0	468	0
V/C Ratio (X)	0.79	0.00	0.32	0.00	0.85	0.00	0.85	0.00
Avail Cap (c_a), veh/h	619	0	218	0	583	0	572	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	41.9	0.0	43.7	0.0	40.2	0.0	40.1	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.4	0.0	8.0	0.0	8.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	43.5	0.0	44.1	0.0	48.2	0.0	49.0	0.0
1st-Term Q (Q1), veh/ln	2.8	0.0	0.6	0.0	4.2	0.0	4.3	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.5	0.0	0.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.9	0.0	0.6	0.0	4.7	0.0	4.9	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.09	0.00	0.56	0.00	0.55	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	728	0	221	0	1765	0	242
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	9.1	0.0	5.2	0.0	30.7	0.0	6.3
Cycle Q Clear Time (g_c), s	0.0	9.1	0.0	5.2	0.0	30.7	0.0	6.3
Lane Grp Cap (c), veh/h	0	2171	0	639	0	1984	0	327
V/C Ratio (X)	0.00	0.34	0.00	0.35	0.00	0.89	0.00	0.74
Avail Cap (c_a), veh/h	0	2501	0	1748	0	2555	0	1385
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.3	0.0	34.0	0.0	27.1	0.0	42.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	3.0	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.3	0.0	34.2	0.0	30.1	0.0	43.2
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	2.1	0.0	10.9	0.0	2.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.2	0.0	2.1	0.0	11.4	0.0	2.7
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.07	0.00	0.19	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	19	0	0	0	439	0	17
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.7	0.0	0.0	0.0	22.2	0.0	0.9
Cycle Q Clear Time (g_c), s	0.0	0.7	0.0	0.0	0.0	22.2	0.0	0.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	674	0	285	0	616	0	146
V/C Ratio (X)	0.00	0.03	0.00	0.00	0.00	0.71	0.00	0.12
Avail Cap (c_a), veh/h	0	777	0	780	0	793	0	618
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.9	0.0	0.0	0.0	24.5	0.0	39.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.9	0.0	0.0	0.0	25.8	0.0	39.7
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.0	0.0	7.5	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	7.7	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	1.12	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	32.8
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 21: SR-111 & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖↗↘↙	↖	↗	↖↗	↖↗↘↙	↖
Traffic Volume (veh/h)	30	48	30	480	70	539	30	1145	320	424	1370	40
Future Volume (veh/h)	30	48	30	480	70	539	30	1145	320	424	1370	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	51	32	505	74	0	32	1205	0	446	1442	17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	101	64	607	455		48	1537		416	2015	625
Arrive On Green	0.03	0.09	0.09	0.18	0.24	0.00	0.03	0.30	0.00	0.12	0.39	0.39
Sat Flow, veh/h	1781	1075	674	3456	1870	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	32	0	83	505	74	0	32	1205	0	446	1442	17
Grp Sat Flow(s),veh/h/ln	1781	0	1749	1728	1870	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	1.2	0.0	3.0	9.4	2.1	0.0	1.2	14.3	0.0	8.0	15.8	0.4
Cycle Q Clear(g_c), s	1.2	0.0	3.0	9.4	2.1	0.0	1.2	14.3	0.0	8.0	15.8	0.4
Prop In Lane	1.00		0.39	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	48	0	165	607	455		48	1537		416	2015	625
V/C Ratio(X)	0.67	0.00	0.50	0.83	0.16		0.67	0.78		1.07	0.72	0.03
Avail Cap(c_a), veh/h	107	0	250	781	577		134	2460		416	2691	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.0	0.0	28.6	26.4	19.8	0.0	32.0	21.2	0.0	29.2	17.0	12.3
Incr Delay (d2), s/veh	5.9	0.0	2.4	4.9	0.2	0.0	5.9	0.3	0.0	64.5	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	1.3	3.8	0.8	0.0	0.5	4.8	0.0	6.8	5.3	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	0.0	30.9	31.3	20.0	0.0	37.9	21.6	0.0	93.7	17.3	12.3
LnGrp LOS	D	A	C	C	B		D	C		F	B	B
Approach Vol, veh/h		115			579	A		1237	A		1905	
Approach Delay, s/veh		32.9			29.9			22.0			35.1	
Approach LOS		C			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	13.3	5.8	31.7	5.8	23.1	12.0	25.5				
Change Period (Y+Rc), s	4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5				
Max Green Setting (Gmax), s	15.0	9.5	5.0	35.0	4.0	20.5	8.0	32.0				
Max Q Clear Time (g_c+I1), s	11.4	5.0	3.2	17.8	3.2	4.1	10.0	16.3				
Green Ext Time (p_c), s	0.3	0.1	0.0	5.2	0.0	0.2	0.0	3.6				

Intersection Summary






























HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 21: SR-111 & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  		 	  	
Traffic Volume (veh/h)	30	48	30	480	70	539	30	1145	320	424	1370	40
Future Volume (veh/h)	30	48	30	480	70	539	30	1145	320	424	1370	40
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	51	32	505	74	0	32	1205	0	446	1442	17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	48	101	64	607	455		48	1537		416	2015	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.03	0.09	0.09	0.18	0.24	0.00	0.03	0.30	0.00	0.12	0.39	0.39
Unsig. Movement Delay												
Ln Grp Delay, s/veh	37.9	0.0	30.9	31.3	20.0	0.0	37.9	21.6	0.0	93.7	17.3	12.3
Ln Grp LOS	D	A	C	C	B		D	C		F	B	B
Approach Vol, veh/h		115			579			1237			1905	
Approach Delay, s/veh		32.9			29.9			22.0			35.1	
Approach LOS		C			C			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.7	13.3	5.8	31.7	5.8	23.1	12.0	25.5			
Change Period (Y+Rc), s		4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5			
Max Green (Gmax), s		15.0	9.5	5.0	35.0	4.0	20.5	8.0	32.0			
Max Allow Headway (MAH), s		2.2	5.0	2.2	3.5	2.2	4.8	2.2	3.3			
Max Q Clear (g_c+I1), s		11.4	5.0	3.2	17.8	3.2	4.1	10.0	16.3			
Green Ext Time (g_e), s		0.3	0.1	0.0	5.2	0.0	0.2	0.0	3.6			
Prob of Phs Call (p_c)		1.00	0.78	0.45	1.00	0.45	0.74	1.00	1.00			
Prob of Max Out (p_x)		0.18	1.00	1.00	0.08	1.00	0.00	1.00	0.04			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		1781		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1075		5106		1870		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			674		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	1	0	1	0	2	0
Grp Vol (v), veh/h	505	0	32	0	32	0	446	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	9.4	0.0	1.2	0.0	1.2	0.0	8.0	0.0
Cycle Q Clear Time (g_c), s	9.4	0.0	1.2	0.0	1.2	0.0	8.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	607	0	48	0	48	0	416	0
V/C Ratio (X)	0.83	0.00	0.67	0.00	0.67	0.00	1.07	0.00
Avail Cap (c_a), veh/h	781	0	134	0	107	0	416	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.4	0.0	32.0	0.0	32.0	0.0	29.2	0.0
Incr Delay (d2), s/veh	4.9	0.0	5.9	0.0	5.9	0.0	64.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.3	0.0	37.9	0.0	37.9	0.0	93.7	0.0
1st-Term Q (Q1), veh/ln	3.4	0.0	0.5	0.0	0.5	0.0	3.0	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.1	0.0	0.1	0.0	3.7	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.8	0.0	0.5	0.0	0.5	0.0	6.8	0.0
%ile Storage Ratio (RQ%)	0.77	0.00	0.09	0.00	0.03	0.00	0.54	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	7.4	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	3	0	1	0	3
Grp Vol (v), veh/h	0	0	0	1442	0	74	0	1205
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	15.8	0.0	2.1	0.0	14.3
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	15.8	0.0	2.1	0.0	14.3
Lane Grp Cap (c), veh/h	0	0	0	2015	0	455	0	1537
V/C Ratio (X)	0.00	0.00	0.00	0.72	0.00	0.16	0.00	0.78
Avail Cap (c_a), veh/h	0	0	0	2691	0	577	0	2460
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	17.0	0.0	19.8	0.0	21.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.3	0.0	0.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	17.3	0.0	20.0	0.0	21.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	5.2	0.0	0.8	0.0	4.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	5.3	0.0	0.8	0.0	4.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	83	0	17	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1749	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	3.0	0.0	0.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.0	0.0	0.4	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.39	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	165	0	625	0	385	0	477
V/C Ratio (X)	0.00	0.50	0.00	0.03	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	250	0	835	0	489	0	764
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	28.6	0.0	12.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.9	0.0	12.3	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	0.1	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
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




















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖↗		↖	↖↗		↖	↖	↖↗	↖	↖↗	
Traffic Volume (veh/h)	20	583	300	60	884	40	150	20	40	20	30	50
Future Volume (veh/h)	20	583	300	60	884	40	150	20	40	20	30	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	614	316	63	931	42	158	21	17	21	32	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	227	943	485	230	1438	65	609	748	634	649	711	634
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	578	2269	1168	602	3463	156	1313	1870	1585	1370	1777	1585
Grp Volume(v), veh/h	21	481	449	63	478	495	158	21	17	21	32	53
Grp Sat Flow(s),veh/h/ln	578	1777	1660	602	1777	1842	1313	1870	1585	1370	1777	1585
Q Serve(g_s), s	2.0	14.1	14.1	6.1	14.0	14.0	5.5	0.4	0.4	0.6	0.7	1.3
Cycle Q Clear(g_c), s	15.9	14.1	14.1	20.2	14.0	14.0	6.9	0.4	0.4	1.1	0.7	1.3
Prop In Lane	1.00		0.70	1.00		0.08	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	227	738	690	230	738	765	609	748	634	649	711	634
V/C Ratio(X)	0.09	0.65	0.65	0.27	0.65	0.65	0.26	0.03	0.03	0.03	0.05	0.08
Avail Cap(c_a), veh/h	227	738	690	230	738	765	609	748	634	649	711	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.6	15.2	15.2	23.3	15.2	15.2	14.2	11.8	11.8	12.2	11.9	12.1
Incr Delay (d2), s/veh	0.8	4.4	4.7	2.9	4.4	4.2	1.0	0.1	0.1	0.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.5	5.2	1.0	5.9	6.1	1.5	0.2	0.1	0.2	0.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	19.7	20.0	26.2	19.5	19.4	15.3	11.9	11.9	12.2	11.9	12.2
LnGrp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		951			1036			196			106	
Approach Delay, s/veh		19.9			19.9			14.6			12.1	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.5		31.5		33.5		31.5				
Change Period (Y+Rc), s		6.5		5.5		6.5		5.5				
Max Green Setting (Gmax), s		27.0		26.0		27.0		26.0				
Max Q Clear Time (g_c+I1), s		17.9		3.3		22.2		8.9				
Green Ext Time (p_c), s		3.8		0.5		2.7		0.5				
Intersection Summary												
HCM 6th Ctrl Delay					19.1							
HCM 6th LOS					B							

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	583	300	60	884	40	150	20	40	20	30	50
Future Volume (veh/h)	20	583	300	60	884	40	150	20	40	20	30	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	614	316	63	931	42	158	21	17	21	32	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	227	943	485	230	1438	65	609	748	634	649	711	634
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.40	0.40	0.40	0.40	0.40	0.40
Unsig. Movement Delay												
Ln Grp Delay, s/veh	22.4	19.7	20.0	26.2	19.5	19.4	15.3	11.9	11.9	12.2	11.9	12.2
Ln Grp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		951			1036			196			106	
Approach Delay, s/veh		19.9			19.9			14.6			12.1	
Approach LOS		B			B			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		5.0			
Phs Duration (G+Y+Rc), s			33.5		31.5		33.5		31.5			
Change Period (Y+Rc), s			6.5		5.5		6.5		5.5			
Max Green (Gmax), s			27.0		26.0		27.0		26.0			
Max Allow Headway (MAH), s			5.1		5.1		5.4		4.0			
Max Q Clear (g_c+I1), s			17.9		3.3		22.2		8.9			
Green Ext Time (g_e), s			3.8		0.5		2.7		0.5			
Prob of Phs Call (p_c)			1.00		0.85		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.00		0.00		0.00			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			578		1370		602		1313			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2269		1777		3463		1870			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1168		1585		156		1585			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	21	0	21	0	63	0	158
Grp Sat Flow (s), veh/h/ln	0	578	0	1370	0	602	0	1313
Q Serve Time (g_s), s	0.0	2.0	0.0	0.6	0.0	6.1	0.0	5.5
Cycle Q Clear Time (g_c), s	0.0	15.9	0.0	1.1	0.0	20.2	0.0	6.9
Perm LT Sat Flow (s_l), veh/h/ln	0	578	0	1370	0	602	0	1313
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	27.0	0.0	26.0	0.0	27.0	0.0	26.0
Perm LT Serve Time (g_u), s	0.0	13.0	0.0	25.6	0.0	12.9	0.0	24.7
Perm LT Q Serve Time (g_ps), s	0.0	2.0	0.0	0.6	0.0	6.1	0.0	5.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	227	0	649	0	230	0	609
V/C Ratio (X)	0.00	0.09	0.00	0.03	0.00	0.27	0.00	0.26
Avail Cap (c_a), veh/h	0	227	0	649	0	230	0	609
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.6	0.0	12.2	0.0	23.3	0.0	14.2
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.0	0.0	2.9	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.4	0.0	12.2	0.0	26.2	0.0	15.3
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.8	0.0	1.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	0.2	0.0	1.0	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.05	0.00	0.20	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	481	0	32	0	478	0	21
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1870
Q Serve Time (g_s), s	0.0	14.1	0.0	0.7	0.0	14.0	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	14.1	0.0	0.7	0.0	14.0	0.0	0.4
Lane Grp Cap (c), veh/h	0	738	0	711	0	738	0	748
V/C Ratio (X)	0.00	0.65	0.00	0.05	0.00	0.65	0.00	0.03
Avail Cap (c_a), veh/h	0	738	0	711	0	738	0	748
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.2	0.0	11.9	0.0	15.2	0.0	11.8
Incr Delay (d2), s/veh	0.0	4.4	0.0	0.0	0.0	4.4	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.7	0.0	11.9	0.0	19.5	0.0	11.9
1st-Term Q (Q1), veh/ln	0.0	4.6	0.0	0.3	0.0	5.0	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	0.0	0.0	0.9	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.5	0.0	0.3	0.0	5.9	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	449	0	53	0	495	0	17
Grp Sat Flow (s), veh/h/ln	0	1660	0	1585	0	1842	0	1585
Q Serve Time (g_s), s	0.0	14.1	0.0	1.3	0.0	14.0	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	14.1	0.0	1.3	0.0	14.0	0.0	0.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.70	0.00	1.00	0.00	0.08	0.00	1.00
Lane Grp Cap (c), veh/h	0	690	0	634	0	765	0	634
V/C Ratio (X)	0.00	0.65	0.00	0.08	0.00	0.65	0.00	0.03
Avail Cap (c_a), veh/h	0	690	0	634	0	765	0	634
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.2	0.0	12.1	0.0	15.2	0.0	11.8
Incr Delay (d2), s/veh	0.0	4.7	0.0	0.1	0.0	4.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	12.2	0.0	19.4	0.0	11.9
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	0.4	0.0	5.2	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	0.0	0.0	0.9	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.2	0.0	0.4	0.0	6.1	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.01	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	19.1
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
 23: Frank Sinatra Dr & Bob Hope Dr






























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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕		↖↗	↕	↖	↖↗	↕		↖↗	↕	↖
Traffic Volume (veh/h)	52	302	315	399	679	107	125	573	141	152	1367	200
Future Volume (veh/h)	52	302	315	399	679	107	125	573	141	152	1367	200
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	318	332	420	715	37	132	603	148	160	1439	112
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	429	377	484	1221	545	191	1447	348	223	1851	575
Arrive On Green	0.04	0.24	0.24	0.14	0.34	0.34	0.06	0.35	0.35	0.06	0.36	0.36
Sat Flow, veh/h	3456	1777	1559	3456	3554	1585	3456	4095	985	3456	5106	1585
Grp Volume(v), veh/h	55	318	332	420	715	37	132	499	252	160	1439	112
Grp Sat Flow(s),veh/h/ln	1728	1777	1559	1728	1777	1585	1728	1702	1675	1728	1702	1585
Q Serve(g_s), s	1.6	17.3	21.5	12.5	17.3	1.6	3.9	11.6	12.0	4.8	26.2	5.1
Cycle Q Clear(g_c), s	1.6	17.3	21.5	12.5	17.3	1.6	3.9	11.6	12.0	4.8	26.2	5.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.59	1.00		1.00
Lane Grp Cap(c), veh/h	132	429	377	484	1221	545	191	1203	592	223	1851	575
V/C Ratio(X)	0.42	0.74	0.88	0.87	0.59	0.07	0.69	0.41	0.43	0.72	0.78	0.19
Avail Cap(c_a), veh/h	165	492	431	528	1356	605	198	1203	592	297	1851	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.3	36.7	38.3	44.1	28.3	23.1	48.6	25.7	25.8	48.1	29.7	22.9
Incr Delay (d2), s/veh	1.6	5.1	17.2	13.2	0.5	0.1	8.7	1.1	2.2	4.5	3.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	7.8	9.6	6.0	6.9	0.6	1.9	4.6	4.9	2.1	10.4	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.8	41.8	55.5	57.3	28.8	23.2	57.3	26.7	28.0	52.5	32.9	23.7
LnGrp LOS	D	D	E	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		705			1172			883			1711	
Approach Delay, s/veh		49.0			38.8			31.7			34.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	44.5	18.7	31.8	10.8	43.5	8.0	42.5				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	30.0	38.0	16.0	29.0	9.0	35.0	5.0	40.0				
Max Q Clear Time (g_c+1/3), s	15.0	28.2	14.5	23.5	6.8	14.0	3.6	19.3				
Green Ext Time (p_c), s	0.0	6.2	0.2	1.8	0.1	4.5	0.0	4.4				
Intersection Summary												
HCM 6th Ctrl Delay											37.2	
HCM 6th LOS											D	

HCM 6th Signalized Intersection Capacity Analysis
 23: Frank Sinatra Dr & Bob Hope Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  		
Traffic Volume (veh/h)	52	302	315	399	679	107	125	573	141	152	1367	200
Future Volume (veh/h)	52	302	315	399	679	107	125	573	141	152	1367	200
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	318	332	420	715	37	132	603	148	160	1439	112
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	132	429	377	484	1221	545	191	1447	348	223	1851	575
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.04	0.24	0.24	0.14	0.34	0.34	0.06	0.35	0.35	0.06	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	50.8	41.8	55.5	57.3	28.8	23.2	57.3	26.7	28.0	52.5	32.9	23.7
Ln Grp LOS	D	D	E	E	C	C	E	C	C	D	C	C
Approach Vol, veh/h		705			1172			883			1711	
Approach Delay, s/veh		49.0			38.8			31.7			34.2	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.8	44.5	18.7	31.8	10.8	43.5	8.0	42.5			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		6.0	38.0	16.0	29.0	9.0	35.0	5.0	40.0			
Max Allow Headway (MAH), s		3.2	4.7	3.2	5.1	3.2	5.0	3.2	4.8			
Max Q Clear (g_c+I1), s		5.9	28.2	14.5	23.5	6.8	14.0	3.6	19.3			
Green Ext Time (g_e), s		0.0	6.2	0.2	1.8	0.1	4.5	0.0	4.4			
Prob of Phs Call (p_c)		0.98	1.00	1.00	1.00	0.99	1.00	0.80	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.92	1.00	0.00	1.00	0.03			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		1777		4095		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1559		985		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	132	0	420	0	160	0	55	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	3.9	0.0	12.5	0.0	4.8	0.0	1.6	0.0
Cycle Q Clear Time (g_c), s	3.9	0.0	12.5	0.0	4.8	0.0	1.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	191	0	484	0	223	0	132	0
V/C Ratio (X)	0.69	0.00	0.87	0.00	0.72	0.00	0.42	0.00
Avail Cap (c_a), veh/h	198	0	528	0	297	0	165	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	48.6	0.0	44.1	0.0	48.1	0.0	49.3	0.0
Incr Delay (d2), s/veh	8.7	0.0	13.2	0.0	4.5	0.0	1.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	57.3	0.0	57.3	0.0	52.5	0.0	50.8	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	5.1	0.0	2.0	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.9	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.9	0.0	6.0	0.0	2.1	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.15	0.00	1.21	0.00	0.17	0.00	0.07	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	2	0	2
Grp Vol (v), veh/h	0	1439	0	318	0	499	0	715
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	26.2	0.0	17.3	0.0	11.6	0.0	17.3
Cycle Q Clear Time (g_c), s	0.0	26.2	0.0	17.3	0.0	11.6	0.0	17.3
Lane Grp Cap (c), veh/h	0	1851	0	429	0	1203	0	1221
V/C Ratio (X)	0.00	0.78	0.00	0.74	0.00	0.41	0.00	0.59
Avail Cap (c_a), veh/h	0	1851	0	492	0	1203	0	1356
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.7	0.0	36.7	0.0	25.7	0.0	28.3
Incr Delay (d2), s/veh	0.0	3.3	0.0	5.1	0.0	1.1	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.9	0.0	41.8	0.0	26.7	0.0	28.8
1st-Term Q (Q1), veh/ln	0.0	9.9	0.0	7.2	0.0	4.5	0.0	6.9
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.6	0.0	0.2	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.4	0.0	7.8	0.0	4.6	0.0	6.9
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.04	0.00	0.08	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	112	0	332	0	252	0	37
Grp Sat Flow (s), veh/h/ln	0	1585	0	1559	0	1675	0	1585
Q Serve Time (g_s), s	0.0	5.1	0.0	21.5	0.0	12.0	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	5.1	0.0	21.5	0.0	12.0	0.0	1.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.59	0.00	1.00
Lane Grp Cap (c), veh/h	0	575	0	377	0	592	0	545
V/C Ratio (X)	0.00	0.19	0.00	0.88	0.00	0.43	0.00	0.07
Avail Cap (c_a), veh/h	0	575	0	431	0	592	0	605
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.9	0.0	38.3	0.0	25.8	0.0	23.1
Incr Delay (d2), s/veh	0.0	0.8	0.0	17.2	0.0	2.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.7	0.0	55.5	0.0	28.0	0.0	23.2
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	7.8	0.0	4.5	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.8	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	9.6	0.0	4.9	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.32	0.00	0.05	0.00	0.08	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	37.2
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
 24: Monterey Ave & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↖		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	88	367	158	200	822	137	85	861	160	118	1568	250
Future Volume (veh/h)	88	367	158	200	822	137	85	861	160	118	1568	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	386	60	211	865	144	89	906	168	124	1651	175
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	868	387	266	995	444	138	2019	373	144	2389	742
Arrive On Green	0.04	0.24	0.24	0.08	0.28	0.28	0.04	0.47	0.47	0.08	0.94	0.94
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4331	800	3456	5106	1585
Grp Volume(v), veh/h	93	386	60	211	865	144	89	711	363	124	1651	175
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1726	1728	1702	1585
Q Serve(g_s), s	3.2	11.0	3.6	7.2	27.8	8.6	3.0	16.9	17.0	4.3	7.1	1.1
Cycle Q Clear(g_c), s	3.2	11.0	3.6	7.2	27.8	8.6	3.0	16.9	17.0	4.3	7.1	1.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	143	868	387	266	995	444	138	1587	805	144	2389	742
V/C Ratio(X)	0.65	0.44	0.15	0.79	0.87	0.32	0.65	0.45	0.45	0.86	0.69	0.24
Avail Cap(c_a), veh/h	144	1036	462	346	1273	568	173	1587	805	144	2389	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.96	0.96	0.96	0.55	0.55	0.55	0.88	0.88	0.88	0.86	0.86	0.86
Uniform Delay (d), s/veh	56.7	38.4	35.6	54.4	41.1	34.2	56.8	21.6	21.6	54.7	2.3	2.1
Incr Delay (d2), s/veh	7.6	0.1	0.1	3.9	2.6	0.1	2.2	0.8	1.6	32.6	1.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	4.6	1.3	3.3	12.4	3.2	1.3	6.4	6.7	2.4	1.3	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.2	38.6	35.7	58.3	43.7	34.3	59.0	22.4	23.3	87.3	3.7	2.7
LnGrp LOS	E	D	D	E	D	C	E	C	C	F	A	A
Approach Vol, veh/h		539			1220			1163			1950	
Approach Delay, s/veh		42.7			45.1			25.5			8.9	
Approach LOS		D			D			C			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	62.6	8.9	39.6	9.0	62.4	13.2	35.3				
Change Period (Y+Rc), s	4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0				
Max Green Setting (Gmax), s	6.0	46.5	5.0	* 43	5.0	47.5	12.0	35.0				
Max Q Clear Time (g_c+1/2g), s	11.0	9.1	5.2	29.8	6.3	19.0	9.2	13.0				
Green Ext Time (p_c), s	0.0	9.1	0.0	3.8	0.0	4.1	0.0	1.4				

Intersection Summary




































HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 24: Monterey Ave & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  	 	  	 	
Traffic Volume (veh/h)	88	367	158	200	822	137	85	861	160	118	1568	250
Future Volume (veh/h)	88	367	158	200	822	137	85	861	160	118	1568	250
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	386	60	211	865	144	89	906	168	124	1651	175
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	143	868	387	266	995	444	138	2019	373	144	2389	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.04	0.24	0.24	0.08	0.28	0.28	0.04	0.47	0.47	0.08	0.94	0.94
Unsig. Movement Delay												
Ln Grp Delay, s/veh	64.2	38.6	35.7	58.3	43.7	34.3	59.0	22.4	23.3	87.3	3.7	2.7
Ln Grp LOS	E	D	D	E	D	C	E	C	C	F	A	A
Approach Vol, veh/h		539			1220			1163			1950	
Approach Delay, s/veh		42.7			45.1			25.5			8.9	
Approach LOS		D			D			C			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		8.8	62.6	8.9	39.6	9.0	62.4	13.2	35.3			
Change Period (Y+Rc), s		4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0			
Max Green (Gmax), s		6.0	46.5	5.0	* 43	5.0	47.5	12.0	35.0			
Max Allow Headway (MAH), s		1.8	3.7	1.7	4.1	1.6	3.8	1.8	3.7			
Max Q Clear (g_c+I1), s		5.0	9.1	5.2	29.8	6.3	19.0	9.2	13.0			
Green Ext Time (g_e), s		0.0	9.1	0.0	3.8	0.0	4.1	0.0	1.4			
Prob of Phs Call (p_c)		0.95	1.00	0.95	1.00	0.98	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.15	1.00	0.00	0.10	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4331		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		800		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 24: Monterey Ave & Frank Sinatra Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	89	0	93	0	124	0	211	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	3.0	0.0	3.2	0.0	4.3	0.0	7.2	0.0
Cycle Q Clear Time (g_c), s	3.0	0.0	3.2	0.0	4.3	0.0	7.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	138	0	143	0	144	0	266	0
V/C Ratio (X)	0.65	0.00	0.65	0.00	0.86	0.00	0.79	0.00
Avail Cap (c_a), veh/h	173	0	144	0	144	0	346	0
Upstream Filter (I)	0.88	0.00	0.96	0.00	0.86	0.00	0.55	0.00
Uniform Delay (d1), s/veh	56.8	0.0	56.7	0.0	54.7	0.0	54.4	0.0
Incr Delay (d2), s/veh	2.2	0.0	7.6	0.0	32.6	0.0	3.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.0	0.0	64.2	0.0	87.3	0.0	58.3	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	1.3	0.0	1.7	0.0	3.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.7	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.3	0.0	1.5	0.0	2.4	0.0	3.3	0.0
%ile Storage Ratio (RQ%)	0.13	0.00	0.24	0.00	0.30	0.00	0.59	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1651	0	865	0	711	0	386
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	7.1	0.0	27.8	0.0	16.9	0.0	11.0
Cycle Q Clear Time (g_c), s	0.0	7.1	0.0	27.8	0.0	16.9	0.0	11.0
Lane Grp Cap (c), veh/h	0	2389	0	995	0	1587	0	868
V/C Ratio (X)	0.00	0.69	0.00	0.87	0.00	0.45	0.00	0.44
Avail Cap (c_a), veh/h	0	2389	0	1273	0	1587	0	1036
Upstream Filter (I)	0.00	0.86	0.00	0.55	0.00	0.88	0.00	0.96
Uniform Delay (d1), s/veh	0.0	2.3	0.0	41.1	0.0	21.6	0.0	38.4
Incr Delay (d2), s/veh	0.0	1.4	0.0	2.6	0.0	0.8	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.7	0.0	43.7	0.0	22.4	0.0	38.6
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	12.1	0.0	6.2	0.0	4.6
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.4	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

24: Monterey Ave & Frank Sinatra Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	12.4	0.0	6.4	0.0	4.6
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.05	0.00	0.03	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	175	0	144	0	363	0	60
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1726	0	1585
Q Serve Time (g_s), s	0.0	1.1	0.0	8.6	0.0	17.0	0.0	3.6
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	8.6	0.0	17.0	0.0	3.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.46	0.00	1.00
Lane Grp Cap (c), veh/h	0	742	0	444	0	805	0	387
V/C Ratio (X)	0.00	0.24	0.00	0.32	0.00	0.45	0.00	0.15
Avail Cap (c_a), veh/h	0	742	0	568	0	805	0	462
Upstream Filter (I)	0.00	0.86	0.00	0.55	0.00	0.88	0.00	0.96
Uniform Delay (d1), s/veh	0.0	2.1	0.0	34.2	0.0	21.6	0.0	35.6
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.1	0.0	1.6	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.7	0.0	34.3	0.0	23.3	0.0	35.7
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	3.2	0.0	6.3	0.0	1.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	3.2	0.0	6.7	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.58	0.00	0.03	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 25: Portola Rd & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	460	140	220	858	90	130	700	105	60	690	51
Future Volume (veh/h)	66	460	140	220	858	90	130	700	105	60	690	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	484	42	232	903	31	137	737	111	63	726	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	885	395	231	1044	466	190	973	145	144	927	69
Arrive On Green	0.08	0.25	0.25	0.13	0.29	0.29	0.11	0.22	0.22	0.08	0.19	0.19
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	4484	670	1781	4851	359
Grp Volume(v), veh/h	69	484	42	232	903	31	137	558	290	63	508	272
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1702	1750	1781	1702	1806
Q Serve(g_s), s	2.6	8.2	1.4	9.0	16.7	1.0	5.2	10.7	10.8	2.3	9.9	10.0
Cycle Q Clear(g_c), s	2.6	8.2	1.4	9.0	16.7	1.0	5.2	10.7	10.8	2.3	9.9	10.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.38	1.00		0.20
Lane Grp Cap(c), veh/h	151	885	395	231	1044	466	190	739	380	144	650	345
V/C Ratio(X)	0.46	0.55	0.11	1.01	0.87	0.07	0.72	0.76	0.76	0.44	0.78	0.79
Avail Cap(c_a), veh/h	205	1636	730	231	1687	752	205	1640	843	205	1640	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.3	22.7	20.1	30.3	23.2	17.7	30.0	25.5	25.5	30.4	26.7	26.8
Incr Delay (d2), s/veh	0.8	0.2	0.0	60.8	1.6	0.0	8.8	0.6	1.2	0.8	0.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.0	0.5	7.3	6.1	0.3	2.4	3.8	4.0	0.9	3.5	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	22.9	20.2	91.1	24.8	17.7	38.9	26.1	26.8	31.2	27.5	28.3
LnGrp LOS	C	C	C	F	C	B	D	C	C	C	C	C
Approach Vol, veh/h		595			1166			985			843	
Approach Delay, s/veh		23.7			37.8			28.1			28.1	
Approach LOS		C			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	21.6	14.0	23.3	12.4	19.8	10.9	26.4				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0				
Max Green Setting (Gmax), s	33.5	33.5	9.0	32.0	8.0	33.5	8.0	33.0				
Max Q Clear Time (g_c+1/3), s	12.8	12.8	11.0	10.2	7.2	12.0	4.6	18.7				
Green Ext Time (p_c), s	0.0	1.5	0.0	0.9	0.0	1.3	0.0	1.7				
Intersection Summary												
HCM 6th Ctrl Delay					30.5							
HCM 6th LOS					C							

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑↑		↘	↑↑↑	
Traffic Volume (veh/h)	66	460	140	220	858	90	130	700	105	60	690	51
Future Volume (veh/h)	66	460	140	220	858	90	130	700	105	60	690	51
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	69	484	42	232	903	31	137	737	111	63	726	54
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	151	885	395	231	1044	466	190	973	145	144	927	69
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.25	0.25	0.13	0.29	0.29	0.11	0.22	0.22	0.08	0.19	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	31.1	22.9	20.2	91.1	24.8	17.7	38.9	26.1	26.8	31.2	27.5	28.3
Ln Grp LOS	C	C	C	F	C	B	D	C	C	C	C	C
Approach Vol, veh/h		595			1166			985			843	
Approach Delay, s/veh		23.7			37.8			28.1			28.1	
Approach LOS		C			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		10.6	21.6	14.0	23.3	12.4	19.8	10.9	26.4			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0			
Max Green (Gmax), s		8.0	33.5	9.0	32.0	8.0	33.5	8.0	33.0			
Max Allow Headway (MAH), s		1.6	2.8	1.6	2.7	1.6	2.8	1.6	2.7			
Max Q Clear (g_c+I1), s		4.3	12.8	11.0	10.2	7.2	12.0	4.6	18.7			
Green Ext Time (g_e), s		0.0	1.5	0.0	0.9	0.0	1.3	0.0	1.7			
Prob of Phs Call (p_c)		0.70	1.00	0.99	1.00	0.93	1.00	0.74	1.00			
Prob of Max Out (p_x)		0.00	0.00	1.00	0.00	1.00	0.00	0.01	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			4484		3554		4851		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			670		1585		359		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	63	0	232	0	137	0	69	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.3	0.0	9.0	0.0	5.2	0.0	2.6	0.0
Cycle Q Clear Time (g_c), s	2.3	0.0	9.0	0.0	5.2	0.0	2.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	144	0	231	0	190	0	151	0
V/C Ratio (X)	0.44	0.00	1.01	0.00	0.72	0.00	0.46	0.00
Avail Cap (c_a), veh/h	205	0	231	0	205	0	205	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	30.4	0.0	30.3	0.0	30.0	0.0	30.3	0.0
Incr Delay (d2), s/veh	0.8	0.0	60.8	0.0	8.8	0.0	0.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.2	0.0	91.1	0.0	38.9	0.0	31.1	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	3.4	0.0	2.0	0.0	1.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	3.9	0.0	0.5	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.9	0.0	7.3	0.0	2.4	0.0	1.0	0.0
%ile Storage Ratio (RQ%)	0.13	0.00	1.28	0.00	0.24	0.00	0.21	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	558	0	484	0	508	0	903
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	10.7	0.0	8.2	0.0	9.9	0.0	16.7
Cycle Q Clear Time (g_c), s	0.0	10.7	0.0	8.2	0.0	9.9	0.0	16.7
Lane Grp Cap (c), veh/h	0	739	0	885	0	650	0	1044
V/C Ratio (X)	0.00	0.76	0.00	0.55	0.00	0.78	0.00	0.87
Avail Cap (c_a), veh/h	0	1640	0	1636	0	1640	0	1687
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.5	0.0	22.7	0.0	26.7	0.0	23.2
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.2	0.0	0.8	0.0	1.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.1	0.0	22.9	0.0	27.5	0.0	24.8
1st-Term Q (Q1), veh/ln	0.0	3.7	0.0	2.9	0.0	3.5	0.0	5.8
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.8	0.0	3.0	0.0	3.5	0.0	6.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.01	0.00	0.02	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	290	0	42	0	272	0	31
Grp Sat Flow (s), veh/h/ln	0	1750	0	1585	0	1806	0	1585
Q Serve Time (g_s), s	0.0	10.8	0.0	1.4	0.0	10.0	0.0	1.0
Cycle Q Clear Time (g_c), s	0.0	10.8	0.0	1.4	0.0	10.0	0.0	1.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.38	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	380	0	395	0	345	0	466
V/C Ratio (X)	0.00	0.76	0.00	0.11	0.00	0.79	0.00	0.07
Avail Cap (c_a), veh/h	0	843	0	730	0	870	0	752
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.5	0.0	20.1	0.0	26.8	0.0	17.7
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.8	0.0	20.2	0.0	28.3	0.0	17.7
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	0.5	0.0	3.7	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.0	0.0	0.5	0.0	3.9	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.05	0.00	0.02	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.5
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	272	295	148	50	467	282	314	810	30	362	1440	437
Future Volume (veh/h)	272	295	148	50	467	282	314	810	30	362	1440	437
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	286	311	32	53	492	126	331	853	32	381	1516	288
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	697	311	234	598	267	407	1218	46	371	1728	536
Arrive On Green	0.10	0.20	0.20	0.07	0.17	0.17	0.12	0.35	0.35	0.11	0.34	0.34
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3493	131	3456	5106	1585
Grp Volume(v), veh/h	286	311	32	53	492	126	331	434	451	381	1516	288
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1847	1728	1702	1585
Q Serve(g_s), s	6.8	6.5	1.4	1.2	11.2	6.0	7.8	17.7	17.7	9.0	23.4	12.3
Cycle Q Clear(g_c), s	6.8	6.5	1.4	1.2	11.2	6.0	7.8	17.7	17.7	9.0	23.4	12.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.07	1.00		1.00
Lane Grp Cap(c), veh/h	330	697	311	234	598	267	407	620	644	371	1728	536
V/C Ratio(X)	0.87	0.45	0.10	0.23	0.82	0.47	0.81	0.70	0.70	1.03	0.88	0.54
Avail Cap(c_a), veh/h	330	1589	709	330	1589	709	453	784	815	371	2131	661
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	29.7	27.7	37.0	33.7	31.5	36.1	23.5	23.5	37.4	26.1	22.4
Incr Delay (d2), s/veh	20.2	0.2	0.1	0.2	1.1	0.5	8.8	1.2	1.2	54.0	3.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	2.5	0.5	0.5	4.5	2.1	3.5	6.6	6.9	6.3	8.7	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	29.9	27.7	37.2	34.8	32.0	44.9	24.7	24.7	91.4	29.4	22.7
LnGrp LOS	E	C	C	D	C	C	D	C	C	F	C	C
Approach Vol, veh/h		629			671			1216			2185	
Approach Delay, s/veh		42.4			34.4			30.2			39.3	
Approach LOS		D			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	23.5	14.9	34.9	13.0	21.1	14.0	35.8				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5				
Max Green Setting (Gmax), s	30.0	37.5	11.0	35.0	8.0	37.5	9.0	37.0				
Max Q Clear Time (g_c+1), s	13.2	8.5	9.8	25.4	8.8	13.2	11.0	19.7				
Green Ext Time (p_c), s	0.0	0.6	0.0	2.9	0.0	0.9	0.0	1.3				

Intersection Summary

























HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 26: Cook St & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	272	295	148	50	467	282	314	810	30	362	1440	437
Future Volume (veh/h)	272	295	148	50	467	282	314	810	30	362	1440	437
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	286	311	32	53	492	126	331	853	32	381	1516	288
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	330	697	311	234	598	267	407	1218	46	371	1728	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.20	0.20	0.07	0.17	0.17	0.12	0.35	0.35	0.11	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	57.7	29.9	27.7	37.2	34.8	32.0	44.9	24.7	24.7	91.4	29.4	22.7
Ln Grp LOS	E	C	C	D	C	C	D	C	C	F	C	C
Approach Vol, veh/h	629			671			1216			2185		
Approach Delay, s/veh	42.4			34.4			30.2			39.3		
Approach LOS	D			C			C			D		
Timer:	1 2 3 4 5 6 7 8											
Assigned Phs	1 2 3 4 5 6 7 8											
Case No	2.0 3.0 2.0 3.0 2.0 3.0 2.0 4.0											
Phs Duration (G+Y+Rc), s	10.7 23.5 14.9 34.9 13.0 21.1 14.0 35.8											
Change Period (Y+Rc), s	5.0 7.0 5.0 6.5 5.0 7.0 5.0 6.5											
Max Green (Gmax), s	8.0 37.5 11.0 35.0 8.0 37.5 9.0 37.0											
Max Allow Headway (MAH), s	1.6 2.7 1.6 2.6 1.6 2.6 1.6 2.7											
Max Q Clear (g_c+I1), s	3.2 8.5 9.8 25.4 8.8 13.2 11.0 19.7											
Green Ext Time (g_e), s	0.0 0.6 0.0 2.9 0.0 0.9 0.0 1.3											
Prob of Phs Call (p_c)	0.71 1.00 1.00 1.00 1.00 1.00 1.00 1.00											
Prob of Max Out (p_x)	0.00 0.00 1.00 0.16 1.00 0.00 1.00 0.00											
Left-Turn Movement Data												
Assigned Mvmt	1 3 5 7											
Mvmt Sat Flow, veh/h	3456 3456 3456 3456											
Through Movement Data												
Assigned Mvmt	2 4 6 8											
Mvmt Sat Flow, veh/h	3554 5106 3554 3493											
Right-Turn Movement Data												
Assigned Mvmt	12 14 16 18											
Mvmt Sat Flow, veh/h	1585 1585 1585 131											
Left Lane Group Data												
Assigned Mvmt	1 0 3 0 5 0 7 0											
Lane Assignment	L (Prot) L (Prot) L (Prot) L (Prot)											

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	53	0	331	0	286	0	381	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	1.2	0.0	7.8	0.0	6.8	0.0	9.0	0.0
Cycle Q Clear Time (g_c), s	1.2	0.0	7.8	0.0	6.8	0.0	9.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	234	0	407	0	330	0	371	0
V/C Ratio (X)	0.23	0.00	0.81	0.00	0.87	0.00	1.03	0.00
Avail Cap (c_a), veh/h	330	0	453	0	330	0	371	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	37.0	0.0	36.1	0.0	37.4	0.0	37.4	0.0
Incr Delay (d2), s/veh	0.2	0.0	8.8	0.0	20.2	0.0	54.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	37.2	0.0	44.9	0.0	57.7	0.0	91.4	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	3.0	0.0	2.7	0.0	3.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.5	0.0	0.9	0.0	2.8	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.5	0.0	3.5	0.0	3.6	0.0	6.3	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.64	0.00	0.65	0.00	0.76	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	1
Grp Vol (v), veh/h	0	311	0	1516	0	492	0	434
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1777
Q Serve Time (g_s), s	0.0	6.5	0.0	23.4	0.0	11.2	0.0	17.7
Cycle Q Clear Time (g_c), s	0.0	6.5	0.0	23.4	0.0	11.2	0.0	17.7
Lane Grp Cap (c), veh/h	0	697	0	1728	0	598	0	620
V/C Ratio (X)	0.00	0.45	0.00	0.88	0.00	0.82	0.00	0.70
Avail Cap (c_a), veh/h	0	1589	0	2131	0	1589	0	784
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.7	0.0	26.1	0.0	33.7	0.0	23.5
Incr Delay (d2), s/veh	0.0	0.2	0.0	3.3	0.0	1.1	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.9	0.0	29.4	0.0	34.8	0.0	24.7
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	8.2	0.0	4.4	0.0	6.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.5	0.0	0.1	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	8.7	0.0	4.5	0.0	6.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.07	0.00	0.07	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	32	0	288	0	126	0	451
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1847
Q Serve Time (g_s), s	0.0	1.4	0.0	12.3	0.0	6.0	0.0	17.7
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	12.3	0.0	6.0	0.0	17.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.07
Lane Grp Cap (c), veh/h	0	311	0	536	0	267	0	644
V/C Ratio (X)	0.00	0.10	0.00	0.54	0.00	0.47	0.00	0.70
Avail Cap (c_a), veh/h	0	709	0	661	0	709	0	815
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.7	0.0	22.4	0.0	31.5	0.0	23.5
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	0.5	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.7	0.0	22.7	0.0	32.0	0.0	24.7
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	4.0	0.0	2.1	0.0	6.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	4.1	0.0	2.1	0.0	6.9
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.47	0.00	0.13	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary

27: Bob Hope Dr & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	650	180	275	600	364	95	336	121	478	1357	180
Future Volume (veh/h)	140	650	180	275	600	364	95	336	121	478	1357	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	684	54	289	632	255	100	354	39	503	1428	189
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	718	320	290	957	427	131	1125	502	557	1387	182
Arrive On Green	0.10	0.20	0.20	0.16	0.27	0.27	0.04	0.32	0.32	0.16	0.44	0.44
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3153	413
Grp Volume(v), veh/h	147	684	54	289	632	255	100	354	39	503	798	819
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1789
Q Serve(g_s), s	11.4	26.6	3.9	22.7	22.1	19.6	4.0	10.6	2.4	20.0	61.6	61.6
Cycle Q Clear(g_c), s	11.4	26.6	3.9	22.7	22.1	19.6	4.0	10.6	2.4	20.0	61.6	61.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	170	718	320	290	957	427	131	1125	502	557	782	787
V/C Ratio(X)	0.86	0.95	0.17	1.00	0.66	0.60	0.76	0.31	0.08	0.90	1.02	1.04
Avail Cap(c_a), veh/h	202	718	320	290	957	427	131	1125	502	694	782	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.4	55.2	46.1	58.6	45.4	44.5	66.7	36.3	33.5	57.6	39.2	39.2
Incr Delay (d2), s/veh	23.9	22.5	0.2	51.7	1.6	2.0	21.1	0.1	0.0	11.7	37.5	43.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	13.9	1.6	14.1	9.7	7.8	2.1	4.5	0.9	9.4	33.3	34.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.3	77.6	46.3	110.3	47.0	46.5	87.8	36.4	33.6	69.3	76.7	82.3
LnGrp LOS	F	E	D	F	D	D	F	D	C	E	F	F
Approach Vol, veh/h		885			1176			493			2120	
Approach Delay, s/veh		77.2			62.4			46.6			77.1	
Approach LOS		E			E			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.8	68.1	17.9	44.2	27.1	50.8	27.3	34.8				
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5				
Max Green Setting (Gmax), s	5.3	61.6	15.9	35.2	28.1	38.8	22.8	28.3				
Max Q Clear Time (g_c+10), s	10.0	63.6	13.4	24.1	22.0	12.6	24.7	28.6				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.9	0.6	1.8	0.0	0.0				

Intersection Summary

























HCM 6th Ctrl Delay	70.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	650	180	275	600	364	95	336	121	478	1357	180
Future Volume (veh/h)	140	650	180	275	600	364	95	336	121	478	1357	180
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	684	54	289	632	255	100	354	39	503	1428	189
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	170	718	320	290	957	427	131	1125	502	557	1387	182
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.20	0.20	0.16	0.27	0.27	0.04	0.32	0.32	0.16	0.44	0.44
Unsig. Movement Delay												
Ln Grp Delay, s/veh	86.3	77.6	46.3	110.3	47.0	46.5	87.8	36.4	33.6	69.3	76.7	82.3
Ln Grp LOS	F	E	D	F	D	D	F	D	C	E	F	F
Approach Vol, veh/h		885			1176			493			2120	
Approach Delay, s/veh		77.2			62.4			46.6			77.1	
Approach LOS		E			E			D			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.8	68.1	17.9	44.2	27.1	50.8	27.3	34.8			
Change Period (Y+Rc), s		4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5			
Max Green (Gmax), s		5.3	61.6	15.9	35.2	28.1	38.8	22.8	28.3			
Max Allow Headway (MAH), s		2.7	4.4	2.7	4.1	2.7	4.3	2.7	4.3			
Max Q Clear (g_c+I1), s		6.0	63.6	13.4	24.1	22.0	12.6	24.7	28.6			
Green Ext Time (g_e), s		0.0	0.0	0.0	2.9	0.6	1.8	0.0	0.0			
Prob of Phs Call (p_c)		0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	1.00	1.00	0.17	0.05	0.00	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3153		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			413		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	100	0	147	0	503	0	289	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	4.0	0.0	11.4	0.0	20.0	0.0	22.7	0.0
Cycle Q Clear Time (g_c), s	4.0	0.0	11.4	0.0	20.0	0.0	22.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	131	0	170	0	557	0	290	0
V/C Ratio (X)	0.76	0.00	0.86	0.00	0.90	0.00	1.00	0.00
Avail Cap (c_a), veh/h	131	0	202	0	694	0	290	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	66.7	0.0	62.4	0.0	57.6	0.0	58.6	0.0
Incr Delay (d2), s/veh	21.1	0.0	23.9	0.0	11.7	0.0	51.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	87.8	0.0	86.3	0.0	69.3	0.0	110.3	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	5.1	0.0	8.5	0.0	9.9	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	1.1	0.0	0.9	0.0	4.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.1	0.0	6.2	0.0	9.4	0.0	14.1	0.0
%ile Storage Ratio (RQ%)	0.60	0.00	1.01	0.00	1.04	0.00	1.19	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	2	0	2
Grp Vol (v), veh/h	0	798	0	632	0	354	0	684
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	61.6	0.0	22.1	0.0	10.6	0.0	26.6
Cycle Q Clear Time (g_c), s	0.0	61.6	0.0	22.1	0.0	10.6	0.0	26.6
Lane Grp Cap (c), veh/h	0	782	0	957	0	1125	0	718
V/C Ratio (X)	0.00	1.02	0.00	0.66	0.00	0.31	0.00	0.95
Avail Cap (c_a), veh/h	0	782	0	957	0	1125	0	718
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	39.2	0.0	45.4	0.0	36.3	0.0	55.2
Incr Delay (d2), s/veh	0.0	37.5	0.0	1.6	0.0	0.1	0.0	22.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	76.7	0.0	47.0	0.0	36.4	0.0	77.6
1st-Term Q (Q1), veh/ln	0.0	25.1	0.0	9.5	0.0	4.5	0.0	11.6
2nd-Term Q (Q2), veh/ln	0.0	8.1	0.0	0.2	0.0	0.0	0.0	2.2

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	33.3	0.0	9.7	0.0	4.5	0.0	13.9
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.05	0.00	0.02	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	819	0	255	0	39	0	54
Grp Sat Flow (s), veh/h/ln	0	1789	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	61.6	0.0	19.6	0.0	2.4	0.0	3.9
Cycle Q Clear Time (g_c), s	0.0	61.6	0.0	19.6	0.0	2.4	0.0	3.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.23	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	787	0	427	0	502	0	320
V/C Ratio (X)	0.00	1.04	0.00	0.60	0.00	0.08	0.00	0.17
Avail Cap (c_a), veh/h	0	787	0	427	0	502	0	320
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	39.2	0.0	44.5	0.0	33.5	0.0	46.1
Incr Delay (d2), s/veh	0.0	43.1	0.0	2.0	0.0	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	82.3	0.0	46.5	0.0	33.6	0.0	46.3
1st-Term Q (Q1), veh/ln	0.0	25.3	0.0	7.5	0.0	0.9	0.0	1.5
2nd-Term Q (Q2), veh/ln	0.0	9.4	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	34.7	0.0	7.8	0.0	0.9	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.24	0.00	2.33	0.00	0.15	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	70.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	181	758	210	180	1151	190	393	735	240	208	1373	215
Future Volume (veh/h)	181	758	210	180	1151	190	393	735	240	208	1373	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	798	0	189	1212	0	414	774	131	219	1445	108
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	1297		243	1316		461	1934	600	274	1658	515
Arrive On Green	0.07	0.25	0.00	0.07	0.26	0.00	0.04	0.13	0.13	0.08	0.32	0.32
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	191	798	0	189	1212	0	414	774	131	219	1445	108
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	6.6	16.6	0.0	6.5	27.7	0.0	14.3	16.8	8.9	7.5	32.0	5.9
Cycle Q Clear(g_c), s	6.6	16.6	0.0	6.5	27.7	0.0	14.3	16.8	8.9	7.5	32.0	5.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	230	1297		243	1316		461	1934	600	274	1658	515
V/C Ratio(X)	0.83	0.62		0.78	0.92		0.90	0.40	0.22	0.80	0.87	0.21
Avail Cap(c_a), veh/h	230	1362		259	1404		461	1934	600	346	1658	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.42	0.42	0.00	0.20	0.20	0.00	0.86	0.86	0.86	0.65	0.65	0.65
Uniform Delay (d), s/veh	55.3	39.6	0.0	54.9	43.3	0.0	56.6	39.9	36.5	54.3	38.2	29.4
Incr Delay (d2), s/veh	9.7	0.2	0.0	2.5	2.2	0.0	17.5	0.5	0.7	5.3	4.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	6.7	0.0	2.8	11.4	0.0	7.7	7.7	3.7	3.3	13.1	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.0	39.8	0.0	57.4	45.6	0.0	74.0	40.5	37.2	59.6	42.6	30.0
LnGrp LOS	E	D		E	D		E	D	D	E	D	C
Approach Vol, veh/h		989	A		1401	A		1319			1772	
Approach Delay, s/veh		44.7			47.2			50.7			43.9	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.5	52.9	14.4	37.2	22.0	46.4	14.0	37.6				
Change Period (Y+Rc), s	6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7				
Max Green Setting (Gmax), s	12.0	40.9	9.0	32.0	16.0	36.9	8.0	33.0				
Max Q Clear Time (g_c+1), s	19.5	18.8	8.5	18.6	16.3	34.0	8.6	29.7				
Green Ext Time (p_c), s	0.0	1.7	0.0	1.6	0.0	1.3	0.0	1.2				

Intersection Summary

HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 28: Monterey Ave & Country Club Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	758	210	180	1151	190	393	735	240	208	1373	215
Future Volume (veh/h)	181	758	210	180	1151	190	393	735	240	208	1373	215
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	191	798	0	189	1212	0	414	774	131	219	1445	108
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	230	1297		243	1316		461	1934	600	274	1658	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.25	0.00	0.07	0.26	0.00	0.04	0.13	0.13	0.08	0.32	0.32
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.0	39.8	0.0	57.4	45.6	0.0	74.0	40.5	37.2	59.6	42.6	30.0
Ln Grp LOS	E	D		E	D		E	D	D	E	D	C
Approach Vol, veh/h		989			1401			1319			1772	
Approach Delay, s/veh		44.7			47.2			50.7			43.9	
Approach LOS		D			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		15.5	52.9	14.4	37.2	22.0	46.4	14.0	37.6			
Change Period (Y+Rc), s		6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7			
Max Green (Gmax), s		12.0	40.9	9.0	32.0	16.0	36.9	8.0	33.0			
Max Allow Headway (MAH), s		1.6	2.7	1.7	2.8	1.7	2.7	1.7	2.8			
Max Q Clear (g_c+I1), s		9.5	18.8	8.5	18.6	16.3	34.0	8.6	29.7			
Green Ext Time (g_e), s		0.0	1.7	0.0	1.6	0.0	1.3	0.0	1.2			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.10	0.00	1.00	0.00	1.00	0.00	1.00	0.84			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	219	0	189	0	414	0	191	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	7.5	0.0	6.5	0.0	14.3	0.0	6.6	0.0
Cycle Q Clear Time (g_c), s	7.5	0.0	6.5	0.0	14.3	0.0	6.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	274	0	243	0	461	0	230	0
V/C Ratio (X)	0.80	0.00	0.78	0.00	0.90	0.00	0.83	0.00
Avail Cap (c_a), veh/h	346	0	259	0	461	0	230	0
Upstream Filter (I)	0.65	0.00	0.20	0.00	0.86	0.00	0.42	0.00
Uniform Delay (d1), s/veh	54.3	0.0	54.9	0.0	56.6	0.0	55.3	0.0
Incr Delay (d2), s/veh	5.3	0.0	2.5	0.0	17.5	0.0	9.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.6	0.0	57.4	0.0	74.0	0.0	65.0	0.0
1st-Term Q (Q1), veh/ln	3.1	0.0	2.7	0.0	6.6	0.0	2.8	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.1	0.0	1.1	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.3	0.0	2.8	0.0	7.7	0.0	3.1	0.0
%ile Storage Ratio (RQ%)	0.02	0.00	0.32	0.00	0.77	0.00	0.56	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	3	0	3
Grp Vol (v), veh/h	0	774	0	798	0	1445	0	1212
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	16.8	0.0	16.6	0.0	32.0	0.0	27.7
Cycle Q Clear Time (g_c), s	0.0	16.8	0.0	16.6	0.0	32.0	0.0	27.7
Lane Grp Cap (c), veh/h	0	1934	0	1297	0	1658	0	1316
V/C Ratio (X)	0.00	0.40	0.00	0.62	0.00	0.87	0.00	0.92
Avail Cap (c_a), veh/h	0	1934	0	1362	0	1658	0	1404
Upstream Filter (I)	0.00	0.86	0.00	0.42	0.00	0.65	0.00	0.20
Uniform Delay (d1), s/veh	0.0	39.9	0.0	39.6	0.0	38.2	0.0	43.3
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.2	0.0	4.4	0.0	2.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	40.5	0.0	39.8	0.0	42.6	0.0	45.6
1st-Term Q (Q1), veh/ln	0.0	7.6	0.0	6.6	0.0	12.4	0.0	11.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.7	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.7	0.0	6.7	0.0	13.1	0.0	11.4
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.03	0.00	0.06	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	131	0	0	0	108	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	8.9	0.0	0.0	0.0	5.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.9	0.0	0.0	0.0	5.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	600	0	403	0	515	0	409
V/C Ratio (X)	0.00	0.22	0.00	0.00	0.00	0.21	0.00	0.00
Avail Cap (c_a), veh/h	0	600	0	423	0	515	0	436
Upstream Filter (I)	0.00	0.86	0.00	0.00	0.00	0.65	0.00	0.00
Uniform Delay (d1), s/veh	0.0	36.5	0.0	0.0	0.0	29.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	37.2	0.0	0.0	0.0	30.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.5	0.0	0.0	0.0	2.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.7	0.0	0.0	0.0	2.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.48	0.00	0.00	0.00	0.13	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 29: Portola Ave & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	577	274	180	1149	80	282	810	190	140	820	60
Future Volume (veh/h)	70	577	274	180	1149	80	282	810	190	140	820	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	607	160	189	1209	29	297	853	106	147	863	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	1083	483	212	1265	564	296	1150	513	170	849	62
Arrive On Green	0.07	0.30	0.30	0.12	0.36	0.36	0.17	0.32	0.32	0.10	0.25	0.25
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3358	245
Grp Volume(v), veh/h	74	607	160	189	1209	29	297	853	106	147	457	469
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1826
Q Serve(g_s), s	5.6	19.8	10.8	14.5	46.0	1.7	23.0	29.6	6.7	11.3	35.0	35.0
Cycle Q Clear(g_c), s	5.6	19.8	10.8	14.5	46.0	1.7	23.0	29.6	6.7	11.3	35.0	35.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.13
Lane Grp Cap(c), veh/h	121	1083	483	212	1265	564	296	1150	513	170	449	462
V/C Ratio(X)	0.61	0.56	0.33	0.89	0.96	0.05	1.00	0.74	0.21	0.86	1.02	1.02
Avail Cap(c_a), veh/h	129	1083	483	309	1292	576	296	1150	513	193	449	462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.7	40.3	37.2	60.0	43.5	29.2	57.7	41.7	33.9	61.7	51.7	51.7
Incr Delay (d2), s/veh	4.9	0.4	0.1	15.0	15.3	0.0	53.1	2.3	0.1	26.3	46.6	46.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	8.5	4.1	7.2	21.9	0.6	14.4	12.8	2.5	6.2	20.7	21.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.6	40.7	37.3	75.1	58.8	29.2	110.8	44.0	34.0	88.0	98.3	97.7
LnGrp LOS	E	D	D	E	E	C	F	D	C	F	F	F
Approach Vol, veh/h		841			1427			1256			1073	
Approach Delay, s/veh		42.5			60.4			58.9			96.6	
Approach LOS		D			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.4	55.0	28.0	41.0	21.5	47.9	18.2	50.8				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	10.0	50.3	23.0	35.0	24.0	36.3	15.0	43.0				
Max Q Clear Time (g_c+1), s	17.6	48.0	25.0	37.0	16.5	21.8	13.3	31.6				
Green Ext Time (p_c), s	0.0	1.3	0.0	0.0	0.0	2.3	0.0	2.9				

Intersection Summary

























HCM 6th Ctrl Delay	65.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	577	274	180	1149	80	282	810	190	140	820	60
Future Volume (veh/h)	70	577	274	180	1149	80	282	810	190	140	820	60
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	607	160	189	1209	29	297	853	106	147	863	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	121	1083	483	212	1265	564	296	1150	513	170	849	62
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.30	0.30	0.12	0.36	0.36	0.17	0.32	0.32	0.10	0.25	0.25
Unsig. Movement Delay												
Ln Grp Delay, s/veh	67.6	40.7	37.3	75.1	58.8	29.2	110.8	44.0	34.0	88.0	98.3	97.7
Ln Grp LOS	E	D	D	E	E	C	F	D	C	F	F	F
Approach Vol, veh/h		841			1427			1256			1073	
Approach Delay, s/veh		42.5			60.4			58.9			96.6	
Approach LOS		D			E			E			F	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.4	55.0	28.0	41.0	21.5	47.9	18.2	50.8			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		10.0	50.3	23.0	35.0	24.0	36.3	15.0	43.0			
Max Allow Headway (MAH), s		1.7	3.8	1.7	3.8	1.7	3.6	1.6	3.7			
Max Q Clear (g_c+I1), s		7.6	48.0	25.0	37.0	16.5	21.8	13.3	31.6			
Green Ext Time (g_e), s		0.0	1.3	0.0	0.0	0.0	2.3	0.0	2.9			
Prob of Phs Call (p_c)		0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.15	1.00	1.00	1.00	0.00	0.02	0.82	0.12			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3358		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		245		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	74	0	297	0	189	0	147	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.6	0.0	23.0	0.0	14.5	0.0	11.3	0.0
Cycle Q Clear Time (g_c), s	5.6	0.0	23.0	0.0	14.5	0.0	11.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	121	0	296	0	212	0	170	0
V/C Ratio (X)	0.61	0.00	1.00	0.00	0.89	0.00	0.86	0.00
Avail Cap (c_a), veh/h	129	0	296	0	309	0	193	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	62.7	0.0	57.7	0.0	60.0	0.0	61.7	0.0
Incr Delay (d2), s/veh	4.9	0.0	53.1	0.0	15.0	0.0	26.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	67.6	0.0	110.8	0.0	75.1	0.0	88.0	0.0
1st-Term Q (Q1), veh/ln	2.5	0.0	10.0	0.0	6.4	0.0	4.9	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	4.4	0.0	0.9	0.0	1.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.6	0.0	14.4	0.0	7.2	0.0	6.2	0.0
%ile Storage Ratio (RQ%)	0.34	0.00	2.29	0.00	1.02	0.00	0.80	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	1209	0	457	0	607	0	853
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	46.0	0.0	35.0	0.0	19.8	0.0	29.6
Cycle Q Clear Time (g_c), s	0.0	46.0	0.0	35.0	0.0	19.8	0.0	29.6
Lane Grp Cap (c), veh/h	0	1265	0	449	0	1083	0	1150
V/C Ratio (X)	0.00	0.96	0.00	1.02	0.00	0.56	0.00	0.74
Avail Cap (c_a), veh/h	0	1292	0	449	0	1083	0	1150
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	43.5	0.0	51.7	0.0	40.3	0.0	41.7
Incr Delay (d2), s/veh	0.0	15.3	0.0	46.6	0.0	0.4	0.0	2.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	58.8	0.0	98.3	0.0	40.7	0.0	44.0
1st-Term Q (Q1), veh/ln	0.0	19.2	0.0	14.9	0.0	8.4	0.0	12.5
2nd-Term Q (Q2), veh/ln	0.0	2.7	0.0	5.8	0.0	0.1	0.0	0.4

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	21.9	0.0	20.7	0.0	8.5	0.0	12.8
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	0.62	0.00	0.04	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	29	0	469	0	160	0	106
Grp Sat Flow (s), veh/h/ln	0	1585	0	1826	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.7	0.0	35.0	0.0	10.8	0.0	6.7
Cycle Q Clear Time (g_c), s	0.0	1.7	0.0	35.0	0.0	10.8	0.0	6.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.13	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	564	0	462	0	483	0	513
V/C Ratio (X)	0.00	0.05	0.00	1.02	0.00	0.33	0.00	0.21
Avail Cap (c_a), veh/h	0	576	0	462	0	483	0	513
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.2	0.0	51.7	0.0	37.2	0.0	33.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	46.0	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.2	0.0	97.7	0.0	37.3	0.0	34.0
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	15.3	0.0	4.1	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	5.9	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	21.2	0.0	4.1	0.0	2.5
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.63	0.00	1.04	0.00	0.40
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	65.2
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 30: Monterey Ave & Hovley Ln W
























07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	20	150	10	192	20	1166	110	254	1380	10
Future Volume (veh/h)	10	10	20	150	10	192	20	1166	110	254	1380	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	21	158	11	30	21	1227	116	267	1453	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	85	162	240	276	234	52	2639	249	295	3618	27
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.03	0.56	0.56	0.11	0.46	0.46
Sat Flow, veh/h	1366	575	1098	1377	1870	1585	1781	4745	449	1781	5228	40
Grp Volume(v), veh/h	11	0	32	158	11	30	21	880	463	267	946	518
Grp Sat Flow(s),veh/h/ln	1366	0	1673	1377	1870	1585	1781	1702	1790	1781	1702	1863
Q Serve(g_s), s	0.8	0.0	2.0	13.5	0.6	2.0	1.4	18.6	18.6	17.8	22.0	22.0
Cycle Q Clear(g_c), s	1.4	0.0	2.0	15.5	0.6	2.0	1.4	18.6	18.6	17.8	22.0	22.0
Prop In Lane	1.00		0.66	1.00		1.00	1.00		0.25	1.00		0.02
Lane Grp Cap(c), veh/h	255	0	247	240	276	234	52	1893	995	295	2356	1290
V/C Ratio(X)	0.04	0.00	0.13	0.66	0.04	0.13	0.40	0.46	0.47	0.91	0.40	0.40
Avail Cap(c_a), veh/h	406	0	432	393	483	409	104	1893	995	430	2356	1290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.65	0.65	0.65	0.48	0.48	0.48
Uniform Delay (d), s/veh	44.5	0.0	44.4	51.2	43.8	44.4	57.2	15.9	15.9	52.4	15.8	15.8
Incr Delay (d2), s/veh	0.0	0.0	0.1	1.1	0.0	0.1	1.2	0.5	1.0	7.3	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.8	4.6	0.3	0.8	0.6	6.7	7.1	8.6	9.0	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.5	0.0	44.5	52.3	43.9	44.5	58.4	16.5	17.0	59.7	16.0	16.2
LnGrp LOS	D	A	D	D	D	D	E	B	B	E	B	B
Approach Vol, veh/h		43			199			1364			1731	
Approach Delay, s/veh		44.5			50.7			17.3			22.8	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.8	72.4		22.7	8.5	88.8		22.7				
Change Period (Y+Rc), s	5.0	5.7		5.0	5.0	5.7		5.0				
Max Green Setting (Gmax), s	29.0	44.3		31.0	7.0	66.3		31.0				
Max Q Clear Time (g_c+1/9), s	119.8	20.6		4.0	3.4	24.0		17.5				
Green Ext Time (p_c), s	0.1	5.5		0.0	0.0	3.0		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				22.5								
HCM 6th LOS				C								

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	20	150	10	192	20	1166	110	254	1380	10
Future Volume (veh/h)	10	10	20	150	10	192	20	1166	110	254	1380	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	21	158	11	30	21	1227	116	267	1453	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	255	85	162	240	276	234	52	2639	249	295	3618	27
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Prop Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.03	0.56	0.56	0.11	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	44.5	0.0	44.5	52.3	43.9	44.5	58.4	16.5	17.0	59.7	16.0	16.2
Ln Grp LOS	D	A	D	D	D	D	E	B	B	E	B	B
Approach Vol, veh/h	43		199				1364			1731		
Approach Delay, s/veh	44.5		50.7				17.3			22.8		
Approach LOS	D		D				B			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1		2		4		5		6		8	
Case No	2.0		4.0		6.0		2.0		4.0		5.0	
Phs Duration (G+Y+Rc), s	24.8		72.4		22.7		8.5		88.8		22.7	
Change Period (Y+Rc), s	5.0		5.7		5.0		5.0		5.7		5.0	
Max Green (Gmax), s	29.0		44.3		31.0		7.0		66.3		31.0	
Max Allow Headway (MAH), s	1.7		3.8		3.1		1.7		2.8		2.8	
Max Q Clear (g_c+I1), s	19.8		20.6		4.0		3.4		24.0		17.5	
Green Ext Time (g_e), s	0.1		5.5		0.0		0.0		3.0		0.2	
Prob of Phs Call (p_c)	1.00		1.00		1.00		0.50		1.00		1.00	
Prob of Max Out (p_x)	0.00		0.00		0.00		0.00		0.00		0.00	
Left-Turn Movement Data												
Assigned Mvmt	1		7				5		3			
Mvmt Sat Flow, veh/h	1781		1366				1781		1377			
Through Movement Data												
Assigned Mvmt	2		4				6		8			
Mvmt Sat Flow, veh/h	4745		575				5228		1870			
Right-Turn Movement Data												
Assigned Mvmt	12		14				16		18			
Mvmt Sat Flow, veh/h	449		1098				40		1585			
Left Lane Group Data												
Assigned Mvmt	1		0		0		7		5		0	
Lane Assignment	L (Prot)		L L (Prot)				L		L			

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

07/11/2019

Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	267	0	0	11	21	0	0	158
Grp Sat Flow (s), veh/h/ln	1781	0	0	1366	1781	0	0	1377
Q Serve Time (g_s), s	17.8	0.0	0.0	0.8	1.4	0.0	0.0	13.5
Cycle Q Clear Time (g_c), s	17.8	0.0	0.0	1.4	1.4	0.0	0.0	15.5
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1366	0	0	0	1377
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	17.7	0.0	0.0	0.0	17.7
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	17.1	0.0	0.0	0.0	15.7
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.8	0.0	0.0	0.0	13.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	295	0	0	255	52	0	0	240
V/C Ratio (X)	0.91	0.00	0.00	0.04	0.40	0.00	0.00	0.66
Avail Cap (c_a), veh/h	430	0	0	406	104	0	0	393
Upstream Filter (I)	0.48	0.00	0.00	1.00	0.65	0.00	0.00	1.00
Uniform Delay (d1), s/veh	52.4	0.0	0.0	44.5	57.2	0.0	0.0	51.2
Incr Delay (d2), s/veh	7.3	0.0	0.0	0.0	1.2	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.7	0.0	0.0	44.5	58.4	0.0	0.0	52.3
1st-Term Q (Q1), veh/ln	8.0	0.0	0.0	0.3	0.6	0.0	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	8.6	0.0	0.0	0.3	0.6	0.0	0.0	4.6
%ile Storage Ratio (RQ%)	1.10	0.00	0.00	0.01	0.17	0.00	0.00	1.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	2	0	0	0	2	0	1
Grp Vol (v), veh/h	0	880	0	0	0	946	0	11
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	18.6	0.0	0.0	0.0	22.0	0.0	0.6
Cycle Q Clear Time (g_c), s	0.0	18.6	0.0	0.0	0.0	22.0	0.0	0.6
Lane Grp Cap (c), veh/h	0	1893	0	0	0	2356	0	276
V/C Ratio (X)	0.00	0.46	0.00	0.00	0.00	0.40	0.00	0.04
Avail Cap (c_a), veh/h	0	1893	0	0	0	2356	0	483
Upstream Filter (I)	0.00	0.65	0.00	0.00	0.00	0.48	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.9	0.0	0.0	0.0	15.8	0.0	43.8
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.5	0.0	0.0	0.0	16.0	0.0	43.9
1st-Term Q (Q1), veh/ln	0.0	6.5	0.0	0.0	0.0	8.9	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.7	0.0	0.0	0.0	9.0	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.12	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	463	0	32	0	518	0	30
Grp Sat Flow (s), veh/h/ln	0	1790	0	1673	0	1863	0	1585
Q Serve Time (g_s), s	0.0	18.6	0.0	2.0	0.0	22.0	0.0	2.0
Cycle Q Clear Time (g_c), s	0.0	18.6	0.0	2.0	0.0	22.0	0.0	2.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.25	0.00	0.66	0.00	0.02	0.00	1.00
Lane Grp Cap (c), veh/h	0	995	0	247	0	1290	0	234
V/C Ratio (X)	0.00	0.47	0.00	0.13	0.00	0.40	0.00	0.13
Avail Cap (c_a), veh/h	0	995	0	432	0	1290	0	409
Upstream Filter (I)	0.00	0.65	0.00	1.00	0.00	0.48	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.9	0.0	44.4	0.0	15.8	0.0	44.4
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.1	0.0	0.4	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.0	0.0	44.5	0.0	16.2	0.0	44.5
1st-Term Q (Q1), veh/ln	0.0	6.9	0.0	0.8	0.0	9.8	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.1	0.0	0.8	0.0	9.9	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.04	0.00	0.13	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 31: Monterey Ave & Fred Waring Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔↔↔↔↔	↔↔↔↔↔↔		↔↔↔↔↔↔	↔↔↔↔↔↔	↔	↔↔↔↔↔↔	↔↔↔↔↔↔		↔↔↔↔↔↔	↔↔↔↔↔↔	↔
Traffic Volume (veh/h)	190	420	50	390	880	369	60	787	210	287	883	180
Future Volume (veh/h)	190	420	50	390	880	369	60	787	210	287	883	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	442	53	411	926	0	63	828	221	302	929	80
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	1420	167	466	1877		202	1092	290	357	1617	502
Arrive On Green	0.07	0.31	0.31	0.13	0.37	0.00	0.06	0.27	0.27	0.10	0.32	0.32
Sat Flow, veh/h	3456	4630	546	3456	5106	1585	3456	4018	1065	3456	5106	1585
Grp Volume(v), veh/h	200	323	172	411	926	0	63	701	348	302	929	80
Grp Sat Flow(s),veh/h/ln	1728	1702	1772	1728	1702	1585	1728	1702	1679	1728	1702	1585
Q Serve(g_s), s	6.8	8.7	8.9	14.0	16.8	0.0	2.1	22.6	22.9	10.3	18.2	4.4
Cycle Q Clear(g_c), s	6.8	8.7	8.9	14.0	16.8	0.0	2.1	22.6	22.9	10.3	18.2	4.4
Prop In Lane	1.00		0.31	1.00		1.00	1.00		0.63	1.00		1.00
Lane Grp Cap(c), veh/h	255	1044	543	466	1877		202	926	456	357	1617	502
V/C Ratio(X)	0.78	0.31	0.32	0.88	0.49		0.31	0.76	0.76	0.85	0.57	0.16
Avail Cap(c_a), veh/h	346	1044	543	605	1877		230	926	456	461	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	54.6	31.9	31.9	51.0	29.3	0.0	54.2	40.0	40.1	52.9	34.2	29.5
Incr Delay (d2), s/veh	5.5	0.8	1.5	10.0	0.9	0.0	0.3	5.8	11.5	8.2	1.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	3.6	4.0	6.5	6.8	0.0	0.9	9.9	10.5	4.7	7.4	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.1	32.6	33.5	61.0	30.2	0.0	54.5	45.8	51.6	61.1	35.6	30.1
LnGrp LOS	E	C	C	E	C		D	D	D	E	D	C
Approach Vol, veh/h		695			1337	A		1112			1311	
Approach Delay, s/veh		40.7			39.7			48.1			41.1	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.9	50.1	12.0	44.0	21.2	42.8	17.4	38.6				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0				
Max Green Setting (Gmax), s	12.0	40.0	8.0	38.0	21.0	31.0	16.0	30.0				
Max Q Clear Time (g_c+1), s	19.8	18.8	4.1	20.2	16.0	10.9	12.3	24.9				
Green Ext Time (p_c), s	0.0	2.2	0.0	2.0	0.2	0.9	0.1	1.4				

Intersection Summary


































HCM 6th Ctrl Delay	42.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 31: Monterey Ave & Fred Waring Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		  	 	
Traffic Volume (veh/h)	190	420	50	390	880	369	60	787	210	287	883	180
Future Volume (veh/h)	190	420	50	390	880	369	60	787	210	287	883	180
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	200	442	53	411	926	0	63	828	221	302	929	80
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	255	1420	167	466	1877		202	1092	290	357	1617	502
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.31	0.31	0.13	0.37	0.00	0.06	0.27	0.27	0.10	0.32	0.32
Unsig. Movement Delay												
Ln Grp Delay, s/veh	60.1	32.6	33.5	61.0	30.2	0.0	54.5	45.8	51.6	61.1	35.6	30.1
Ln Grp LOS	E	C	C	E	C		D	D	D	E	D	C
Approach Vol, veh/h		695			1337			1112			1311	
Approach Delay, s/veh		40.7			39.7			48.1			41.1	
Approach LOS		D			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		13.9	50.1	12.0	44.0	21.2	42.8	17.4	38.6			
Change Period (Y+Rc), s		5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0			
Max Green (Gmax), s		12.0	40.0	8.0	38.0	21.0	31.0	16.0	30.0			
Max Allow Headway (MAH), s		1.7	2.9	1.7	2.7	1.7	2.9	1.7	3.0			
Max Q Clear (g_c+I1), s		8.8	18.8	4.1	20.2	16.0	10.9	12.3	24.9			
Green Ext Time (g_e), s		0.0	2.2	0.0	2.0	0.2	0.9	0.1	1.4			
Prob of Phs Call (p_c)		1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.02	0.00	0.00	0.00	0.00	0.00	0.01	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		4630		4018			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		546		1065			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	200	0	63	0	411	0	302	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	6.8	0.0	2.1	0.0	14.0	0.0	10.3	0.0
Cycle Q Clear Time (g_c), s	6.8	0.0	2.1	0.0	14.0	0.0	10.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	255	0	202	0	466	0	357	0
V/C Ratio (X)	0.78	0.00	0.31	0.00	0.88	0.00	0.85	0.00
Avail Cap (c_a), veh/h	346	0	230	0	605	0	461	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.90	0.00
Uniform Delay (d1), s/veh	54.6	0.0	54.2	0.0	51.0	0.0	52.9	0.0
Incr Delay (d2), s/veh	5.5	0.0	0.3	0.0	10.0	0.0	8.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	60.1	0.0	54.5	0.0	61.0	0.0	61.1	0.0
1st-Term Q (Q1), veh/ln	2.9	0.0	0.9	0.0	5.9	0.0	4.3	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.6	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.1	0.0	0.9	0.0	6.5	0.0	4.7	0.0
%ile Storage Ratio (RQ%)	0.58	0.00	0.13	0.00	0.95	0.00	0.89	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	2	0	2
Grp Vol (v), veh/h	0	926	0	929	0	323	0	701
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	16.8	0.0	18.2	0.0	8.7	0.0	22.6
Cycle Q Clear Time (g_c), s	0.0	16.8	0.0	18.2	0.0	8.7	0.0	22.6
Lane Grp Cap (c), veh/h	0	1877	0	1617	0	1044	0	926
V/C Ratio (X)	0.00	0.49	0.00	0.57	0.00	0.31	0.00	0.76
Avail Cap (c_a), veh/h	0	1877	0	1617	0	1044	0	926
Upstream Filter (I)	0.00	1.00	0.00	0.90	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.3	0.0	34.2	0.0	31.9	0.0	40.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	1.3	0.0	0.8	0.0	5.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.2	0.0	35.6	0.0	32.6	0.0	45.8
1st-Term Q (Q1), veh/ln	0.0	6.6	0.0	7.2	0.0	3.5	0.0	9.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	0.1	0.0	0.7

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.8	0.0	7.4	0.0	3.6	0.0	9.9
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.02	0.00	0.03	0.00	0.20
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	80	0	172	0	348
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1772	0	1679
Q Serve Time (g_s), s	0.0	0.0	0.0	4.4	0.0	8.9	0.0	22.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.4	0.0	8.9	0.0	22.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.31	0.00	0.63
Lane Grp Cap (c), veh/h	0	583	0	502	0	543	0	456
V/C Ratio (X)	0.00	0.00	0.00	0.16	0.00	0.32	0.00	0.76
Avail Cap (c_a), veh/h	0	583	0	502	0	543	0	456
Upstream Filter (I)	0.00	0.00	0.00	0.90	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	29.5	0.0	31.9	0.0	40.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	1.5	0.0	11.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	30.1	0.0	33.5	0.0	51.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.6	0.0	3.7	0.0	9.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.2	0.0	1.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.7	0.0	4.0	0.0	10.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.58	0.00	0.04	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	42.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

32: Monterey Ave & SR-111

07/11/2019





































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	130	890	230	280	897	199	260	729	200	369	717	170
Future Volume (veh/h)	130	890	230	280	897	199	260	729	200	369	717	170
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	937	86	295	944	144	274	767	103	388	755	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	585	1659	515	585	1659	515	332	850	379	317	835	372
Arrive On Green	0.17	0.32	0.32	0.17	0.32	0.32	0.10	0.24	0.24	0.09	0.23	0.23
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	137	937	86	295	944	144	274	767	103	388	755	44
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	4.1	18.2	4.6	9.3	18.4	8.1	9.3	25.1	6.3	11.0	24.8	2.6
Cycle Q Clear(g_c), s	4.1	18.2	4.6	9.3	18.4	8.1	9.3	25.1	6.3	11.0	24.8	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	585	1659	515	585	1659	515	332	850	379	317	835	372
V/C Ratio(X)	0.23	0.56	0.17	0.50	0.57	0.28	0.83	0.90	0.27	1.22	0.90	0.12
Avail Cap(c_a), veh/h	585	1659	515	585	1659	515	403	1185	528	317	1096	489
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	33.5	28.9	45.3	33.5	30.1	53.3	44.3	37.2	54.5	44.6	36.1
Incr Delay (d2), s/veh	0.1	1.4	0.7	0.3	1.4	1.4	9.5	6.1	0.1	126.0	7.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	7.5	1.8	3.9	7.5	3.2	4.4	11.4	2.4	10.2	11.4	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.2	34.9	29.6	45.6	35.0	31.4	62.7	50.4	37.3	180.5	52.1	36.2
LnGrp LOS	D	C	C	D	C	C	E	D	D	F	D	D
Approach Vol, veh/h		1160			1383			1144			1187	
Approach Delay, s/veh		35.5			36.8			52.1			93.5	
Approach LOS		D			D			D			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.3	45.0	16.5	33.2	25.3	45.0	16.0	33.7				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	39.0	39.0	14.0	37.0	9.0	39.0	11.0	40.0				
Max Q Clear Time (g_c+I1), s	20.2	20.2	11.3	26.8	6.1	20.4	13.0	27.1				
Green Ext Time (p_c), s	0.0	2.2	0.1	1.4	0.0	2.2	0.0	1.6				

Intersection Summary

HCM 6th Ctrl Delay	53.9
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis
 32: Monterey Ave & SR-111

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	
Traffic Volume (veh/h)	130	890	230	280	897	199	260	729	200	369	717	170
Future Volume (veh/h)	130	890	230	280	897	199	260	729	200	369	717	170
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	137	937	86	295	944	144	274	767	103	388	755	44
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	585	1659	515	585	1659	515	332	850	379	317	835	372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.17	0.32	0.32	0.17	0.32	0.32	0.10	0.24	0.24	0.09	0.23	0.23
Unsig. Movement Delay												
Ln Grp Delay, s/veh	43.2	34.9	29.6	45.6	35.0	31.4	62.7	50.4	37.3	180.5	52.1	36.2
Ln Grp LOS	D	C	C	D	C	C	E	D	D	F	D	D
Approach Vol, veh/h		1160			1383			1144			1187	
Approach Delay, s/veh		35.5			36.8			52.1			93.5	
Approach LOS		D			D			D			F	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		2	1	4	3	6	5	8	7			
Case No		3.0	2.0	3.0	2.0	3.0	2.0	3.0	2.0			
Phs Duration (G+Y+Rc), s		45.0	25.3	33.2	16.5	45.0	25.3	33.7	16.0			
Change Period (Y+Rc), s		6.0	5.0	5.0	5.0	6.0	5.0	5.0	5.0			
Max Green (Gmax), s		39.0	9.0	37.0	14.0	39.0	9.0	40.0	11.0			
Max Allow Headway (MAH), s		2.8	1.7	2.9	1.7	2.8	1.7	2.8	1.7			
Max Q Clear (g_c+I1), s		20.2	11.3	26.8	11.3	20.4	6.1	27.1	13.0			
Green Ext Time (g_e), s		2.2	0.0	1.4	0.1	2.2	0.0	1.6	0.0			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	0.99	1.00	1.00			
Prob of Max Out (p_x)		0.00	1.00	0.02	0.11	0.00	0.03	0.01	1.00			
Left-Turn Movement Data												
Assigned Mvmt			1		3		5		7			
Mvmt Sat Flow, veh/h			3456		3456		3456		3456			
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		5106		3554		5106		3554				
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		0	1	0	3	0	5	0	7			
Lane Assignment			L (Prot)		L (Prot)		L (Prot)		L (Prot)			

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	295	0	274	0	137	0	388
Grp Sat Flow (s), veh/h/ln	0	1728	0	1728	0	1728	0	1728
Q Serve Time (g_s), s	0.0	9.3	0.0	9.3	0.0	4.1	0.0	11.0
Cycle Q Clear Time (g_c), s	0.0	9.3	0.0	9.3	0.0	4.1	0.0	11.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	585	0	332	0	585	0	317
V/C Ratio (X)	0.00	0.50	0.00	0.83	0.00	0.23	0.00	1.22
Avail Cap (c_a), veh/h	0	585	0	403	0	585	0	317
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	45.3	0.0	53.3	0.0	43.1	0.0	54.5
Incr Delay (d2), s/veh	0.0	0.3	0.0	9.5	0.0	0.1	0.0	126.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	45.6	0.0	62.7	0.0	43.2	0.0	180.5
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	4.0	0.0	1.7	0.0	4.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	5.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.9	0.0	4.4	0.0	1.7	0.0	10.2
%ile Storage Ratio (RQ%)	0.00	0.54	0.00	1.24	0.00	0.18	0.00	1.36
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.8
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Middle Lane Group Data								
Assigned Mvmt	2	0	4	0	6	0	8	0
Lane Assignment	T		T		T		T	
Lanes in Grp	3	0	2	0	3	0	2	0
Grp Vol (v), veh/h	937	0	755	0	944	0	767	0
Grp Sat Flow (s), veh/h/ln	1702	0	1777	0	1702	0	1777	0
Q Serve Time (g_s), s	18.2	0.0	24.8	0.0	18.4	0.0	25.1	0.0
Cycle Q Clear Time (g_c), s	18.2	0.0	24.8	0.0	18.4	0.0	25.1	0.0
Lane Grp Cap (c), veh/h	1659	0	835	0	1659	0	850	0
V/C Ratio (X)	0.56	0.00	0.90	0.00	0.57	0.00	0.90	0.00
Avail Cap (c_a), veh/h	1659	0	1096	0	1659	0	1185	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	33.5	0.0	44.6	0.0	33.5	0.0	44.3	0.0
Incr Delay (d2), s/veh	1.4	0.0	7.5	0.0	1.4	0.0	6.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	34.9	0.0	52.1	0.0	35.0	0.0	50.4	0.0
1st-Term Q (Q1), veh/ln	7.2	0.0	10.5	0.0	7.3	0.0	10.7	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.9	0.0	0.2	0.0	0.7	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	7.5	0.0	11.4	0.0	7.5	0.0	11.4	0.0
%ile Storage Ratio (RQ%)	0.16	0.00	0.24	0.00	0.08	0.00	0.23	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	12	0	14	0	16	0	18	0
Lane Assignment	R		R		R		R	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	86	0	44	0	144	0	103	0
Grp Sat Flow (s), veh/h/ln	1585	0	1585	0	1585	0	1585	0
Q Serve Time (g_s), s	4.6	0.0	2.6	0.0	8.1	0.0	6.3	0.0
Cycle Q Clear Time (g_c), s	4.6	0.0	2.6	0.0	8.1	0.0	6.3	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	515	0	372	0	515	0	379	0
V/C Ratio (X)	0.17	0.00	0.12	0.00	0.28	0.00	0.27	0.00
Avail Cap (c_a), veh/h	515	0	489	0	515	0	528	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	28.9	0.0	36.1	0.0	30.1	0.0	37.2	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.1	0.0	1.4	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	29.6	0.0	36.2	0.0	31.4	0.0	37.3	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	1.0	0.0	3.0	0.0	2.4	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	1.0	0.0	3.2	0.0	2.4	0.0
%ile Storage Ratio (RQ%)	0.11	0.00	0.02	0.00	1.25	0.00	0.47	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	53.9
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
 33: Gerald Ford Dr & Oasis Way






















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑		↘	↑↑	↘	↘	↘		↘	↘	
Traffic Volume (veh/h)	30	873	20	27	801	60	77	0	66	30	0	40
Future Volume (veh/h)	30	873	20	27	801	60	77	0	66	30	0	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	919	21	28	843	29	81	0	69	32	0	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	464	1637	37	440	1638	730	510	0	305	485	0	305
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.19	0.00	0.19	0.19	0.00	0.19
Sat Flow, veh/h	635	3551	81	596	3554	1585	1365	0	1585	1332	0	1585
Grp Volume(v), veh/h	32	460	480	28	843	29	81	0	69	32	0	42
Grp Sat Flow(s),veh/h/ln	635	1777	1856	596	1777	1585	1365	0	1585	1332	0	1585
Q Serve(g_s), s	1.0	4.9	4.9	0.9	4.4	0.3	1.4	0.0	1.0	0.5	0.0	0.6
Cycle Q Clear(g_c), s	5.3	4.9	4.9	5.8	4.4	0.3	1.9	0.0	1.0	1.5	0.0	0.6
Prop In Lane	1.00		0.04	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	464	819	855	440	1638	730	510	0	305	485	0	305
V/C Ratio(X)	0.07	0.56	0.56	0.06	0.51	0.04	0.16	0.00	0.23	0.07	0.00	0.14
Avail Cap(c_a), veh/h	611	1232	1286	578	2463	1099	1193	0	1099	1152	0	1099
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.8	5.1	5.1	7.2	4.9	3.8	9.5	0.0	8.8	9.5	0.0	8.7
Incr Delay (d2), s/veh	0.1	0.6	0.6	0.1	0.3	0.0	0.1	0.0	0.4	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.8	0.8	0.0	0.1	0.0	0.3	0.0	0.2	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.9	5.7	5.7	7.3	5.2	3.9	9.6	0.0	9.2	9.5	0.0	8.9
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		972			900			150				74
Approach Delay, s/veh		5.7			5.2			9.4				9.2
Approach LOS		A			A			A				A
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		16.5		9.5		16.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		3.9		7.3		3.5		7.8				
Green Ext Time (p_c), s		0.5		4.6		0.2		3.9				
Intersection Summary												
HCM 6th Ctrl Delay					5.9							
HCM 6th LOS					A							

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	873	20	27	801	60	77	0	66	30	0	40
Future Volume (veh/h)	30	873	20	27	801	60	77	0	66	30	0	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	919	21	28	843	29	81	0	69	32	0	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	464	1637	37	440	1638	730	510	0	305	485	0	305
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.19	0.00	0.19	0.19	0.00	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	6.9	5.7	5.7	7.3	5.2	3.9	9.6	0.0	9.2	9.5	0.0	8.9
Ln Grp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		972			900			150			74	
Approach Delay, s/veh		5.7			5.2			9.4			9.2	
Approach LOS		A			A			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		5.0			
Phs Duration (G+Y+Rc), s			9.5		16.5		9.5		16.5			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			18.0		18.0		18.0		18.0			
Max Allow Headway (MAH), s			4.6		5.3		4.9		4.9			
Max Q Clear (g_c+I1), s			3.9		7.3		3.5		7.8			
Green Ext Time (g_e), s			0.5		4.6		0.2		3.9			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.55		0.00		0.41			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1365		635		1332		596			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			0		3551		0		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		81		1585		1585			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	81	0	32	0	32	0	28
Grp Sat Flow (s), veh/h/ln	0	1365	0	635	0	1332	0	596
Q Serve Time (g_s), s	0.0	1.4	0.0	1.0	0.0	0.5	0.0	0.9
Cycle Q Clear Time (g_c), s	0.0	1.9	0.0	5.3	0.0	1.5	0.0	5.8
Perm LT Sat Flow (s_l), veh/h/ln	0	1365	0	635	0	1332	0	596
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	5.0	0.0	12.0	0.0	5.0	0.0	12.0
Perm LT Serve Time (g_u), s	0.0	4.4	0.0	7.6	0.0	4.0	0.0	7.1
Perm LT Q Serve Time (g_ps), s	0.0	1.4	0.0	1.0	0.0	0.5	0.0	0.9
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	510	0	464	0	485	0	440
V/C Ratio (X)	0.00	0.16	0.00	0.07	0.00	0.07	0.00	0.06
Avail Cap (c_a), veh/h	0	1193	0	611	0	1152	0	578
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.5	0.0	6.8	0.0	9.5	0.0	7.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.6	0.0	6.9	0.0	9.5	0.0	7.3
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	0.1	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	0.1	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.02	0.00	0.01	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	460	0	0	0	843
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	4.9	0.0	0.0	0.0	4.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.9	0.0	0.0	0.0	4.4
Lane Grp Cap (c), veh/h	0	0	0	819	0	0	0	1638
V/C Ratio (X)	0.00	0.00	0.00	0.56	0.00	0.00	0.00	0.51
Avail Cap (c_a), veh/h	0	0	0	1232	0	0	0	2463
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	5.1	0.0	0.0	0.0	4.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	5.7	0.0	0.0	0.0	5.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	69	0	480	0	42	0	29
Grp Sat Flow (s), veh/h/ln	0	1585	0	1856	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.0	0.0	4.9	0.0	0.6	0.0	0.3
Cycle Q Clear Time (g_c), s	0.0	1.0	0.0	4.9	0.0	0.6	0.0	0.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.04	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	305	0	855	0	305	0	730
V/C Ratio (X)	0.00	0.23	0.00	0.56	0.00	0.14	0.00	0.04
Avail Cap (c_a), veh/h	0	1099	0	1286	0	1099	0	1099
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.8	0.0	5.1	0.0	8.7	0.0	3.8
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.6	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.2	0.0	5.7	0.0	8.9	0.0	3.9
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.6	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.8	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.9
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
 34: Monterey Ave & Shadow Ridge Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔	↔		↔	↑↑↑	↔	↔	↑↑↑	
Traffic Volume (veh/h)	152	0	43	50	0	80	66	1161	40	30	1793	128
Future Volume (veh/h)	152	0	43	50	0	80	66	1161	40	30	1793	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	0	45	53	0	84	69	1222	26	32	1887	135
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	0	155	74	0	112	88	3378	1049	58	3139	224
Arrive On Green	0.06	0.00	0.10	0.04	0.00	0.07	0.10	1.00	1.00	0.07	1.00	1.00
Sat Flow, veh/h	3456	0	1585	1781	0	1585	1781	5106	1585	1781	4865	347
Grp Volume(v), veh/h	160	0	45	53	0	84	69	1222	26	32	1318	704
Grp Sat Flow(s),veh/h/ln	1728	0	1585	1781	0	1585	1781	1702	1585	1781	1702	1808
Q Serve(g_s), s	5.5	0.0	3.2	3.5	0.0	6.2	4.5	0.0	0.0	2.1	0.0	0.0
Cycle Q Clear(g_c), s	5.5	0.0	3.2	3.5	0.0	6.2	4.5	0.0	0.0	2.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	222	0	155	74	0	112	88	3378	1049	58	2196	1166
V/C Ratio(X)	0.72	0.00	0.29	0.72	0.00	0.75	0.79	0.36	0.02	0.55	0.60	0.60
Avail Cap(c_a), veh/h	475	0	351	134	0	239	126	3378	1049	96	2196	1166
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.96	0.96	0.61	0.61	0.61
Uniform Delay (d), s/veh	55.1	0.0	50.3	56.8	0.0	54.7	53.5	0.0	0.0	55.2	0.0	0.0
Incr Delay (d2), s/veh	4.3	0.0	0.4	4.8	0.0	9.7	17.8	0.3	0.0	1.8	0.7	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	1.3	1.7	0.0	2.8	2.3	0.1	0.0	0.9	0.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	0.0	50.7	61.6	0.0	64.4	71.3	0.3	0.0	57.0	0.7	1.4
LnGrp LOS	E	A	D	E	A	E	E	A	A	E	A	A
Approach Vol, veh/h		205			137			1317			2054	
Approach Delay, s/veh		57.5			63.3			4.0			1.9	
Approach LOS		E			E			A			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	84.4	9.0	16.2	8.4	86.4	12.2	13.0				
Change Period (Y+Rc), s	4.5	7.0	4.0	* 4.5	4.5	7.0	4.5	4.5				
Max Green Setting (Gmax), s	10.5	56.4	9.0	* 27	6.5	58.4	16.5	18.1				
Max Q Clear Time (g_c+1), s	10.5	2.0	5.5	5.2	4.1	2.0	7.5	8.2				
Green Ext Time (p_c), s	0.0	4.7	0.0	0.1	0.0	2.7	0.3	0.2				

Intersection Summary
































HCM 6th Ctrl Delay	8.0
HCM 6th LOS	A

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	  	
Traffic Volume (veh/h)	152	0	43	50	0	80	66	1161	40	30	1793	128
Future Volume (veh/h)	152	0	43	50	0	80	66	1161	40	30	1793	128
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	160	0	45	53	0	84	69	1222	26	32	1887	135
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	222	0	155	74	0	112	88	3378	1049	58	3139	224
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Prop Arrive On Green	0.06	0.00	0.10	0.04	0.00	0.07	0.10	1.00	1.00	0.07	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	59.4	0.0	50.7	61.6	0.0	64.4	71.3	0.3	0.0	57.0	0.7	1.4
Ln Grp LOS	E	A	D	E	A	E	E	A	A	E	A	A
Approach Vol, veh/h		205			137			1317			2054	
Approach Delay, s/veh		57.5			63.3			4.0			1.9	
Approach LOS		E			E			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	4.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		10.4	84.4	9.0	16.2	8.4	86.4	12.2	13.0			
Change Period (Y+Rc), s		4.5	7.0	4.0	* 4.5	4.5	7.0	4.5	4.5			
Max Green (Gmax), s		8.5	56.4	9.0	* 27	6.5	58.4	16.5	18.1			
Max Allow Headway (MAH), s		3.6	2.8	1.8	3.6	1.6	2.7	3.8	5.6			
Max Q Clear (g_c+I1), s		6.5	2.0	5.5	5.2	4.1	2.0	7.5	8.2			
Green Ext Time (g_e), s		0.0	4.7	0.0	0.1	0.0	2.7	0.3	0.2			
Prob of Phs Call (p_c)		0.90	1.00	0.83	0.78	0.66	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.01	0.00	0.09	0.00	0.01	0.05			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			4865		0		5106		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			347		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	69	0	53	0	32	0	160	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	4.5	0.0	3.5	0.0	2.1	0.0	5.5	0.0
Cycle Q Clear Time (g_c), s	4.5	0.0	3.5	0.0	2.1	0.0	5.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	88	0	74	0	58	0	222	0
V/C Ratio (X)	0.79	0.00	0.72	0.00	0.55	0.00	0.72	0.00
Avail Cap (c_a), veh/h	126	0	134	0	96	0	475	0
Upstream Filter (I)	0.96	0.00	1.00	0.00	0.61	0.00	1.00	0.00
Uniform Delay (d1), s/veh	53.5	0.0	56.8	0.0	55.2	0.0	55.1	0.0
Incr Delay (d2), s/veh	17.8	0.0	4.8	0.0	1.8	0.0	4.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	71.3	0.0	61.6	0.0	57.0	0.0	59.4	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	1.6	0.0	0.9	0.0	2.4	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.1	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.3	0.0	1.7	0.0	0.9	0.0	2.5	0.0
%ile Storage Ratio (RQ%)	0.39	0.00	0.04	0.00	0.16	0.00	0.42	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	3	0	0
Grp Vol (v), veh/h	0	1318	0	0	0	1222	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	2196	0	0	0	3378	0	0
V/C Ratio (X)	0.00	0.60	0.00	0.00	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	2196	0	0	0	3378	0	0
Upstream Filter (I)	0.00	0.61	0.00	0.00	0.00	0.96	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.7	0.0	0.0	0.0	0.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	704	0	45	0	26	0	84
Grp Sat Flow (s), veh/h/ln	0	1808	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	3.2	0.0	0.0	0.0	6.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.2	0.0	0.0	0.0	6.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.19	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1166	0	155	0	1049	0	112
V/C Ratio (X)	0.00	0.60	0.00	0.29	0.00	0.02	0.00	0.75
Avail Cap (c_a), veh/h	0	1166	0	351	0	1049	0	239
Upstream Filter (I)	0.00	0.61	0.00	1.00	0.00	0.96	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	50.3	0.0	0.0	0.0	54.7
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.4	0.0	0.0	0.0	9.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	1.4	0.0	50.7	0.0	0.0	0.0	64.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.3	0.0	0.0	0.0	2.5
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	1.3	0.0	0.0	0.0	2.8
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.05	0.00	0.00	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.0
HCM 6th LOS	A

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 35: Bob Hope Dr & Sunny Lands Center





















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↘		↗	↕		↗	↘	
Traffic Volume (veh/h)	0	0	10	28	0	84	10	722	10	29	1716	10
Future Volume (veh/h)	0	0	10	28	0	84	10	722	10	29	1716	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	11	29	0	88	11	760	11	31	1806	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	0	149	300	0	149	272	2455	36	596	2479	15
Arrive On Green	0.00	0.00	0.09	0.09	0.00	0.09	0.68	0.68	0.68	0.68	0.68	0.68
Sat Flow, veh/h	0	0	1585	1404	0	1585	257	3586	52	698	3621	22
Grp Volume(v), veh/h	0	0	11	29	0	88	11	377	394	31	885	932
Grp Sat Flow(s),veh/h/ln	0	0	1585	1404	0	1585	257	1777	1861	698	1777	1866
Q Serve(g_s), s	0.0	0.0	0.3	0.8	0.0	2.2	1.1	3.4	3.4	0.8	12.7	12.8
Cycle Q Clear(g_c), s	0.0	0.0	0.3	1.0	0.0	2.2	13.9	3.4	3.4	4.2	12.7	12.8
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.03	1.00		0.01
Lane Grp Cap(c), veh/h	0	0	149	300	0	149	272	1216	1274	596	1216	1278
V/C Ratio(X)	0.00	0.00	0.07	0.10	0.00	0.59	0.04	0.31	0.31	0.05	0.73	0.73
Avail Cap(c_a), veh/h	0	0	706	793	0	706	305	1438	1506	683	1438	1510
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	16.8	17.3	0.0	17.7	8.4	2.6	2.6	3.4	4.0	4.0
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.1	0.0	3.7	0.1	0.1	0.1	0.0	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.2	0.0	0.8	0.0	0.0	0.0	0.1	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	17.0	17.4	0.0	21.4	8.5	2.7	2.7	3.4	5.6	5.5
LnGrp LOS	A	A	B	B	A	C	A	A	A	A	A	A
Approach Vol, veh/h		11			117			782			1848	
Approach Delay, s/veh		17.0			20.4			2.8			5.5	
Approach LOS		B			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.3		8.3		32.3		8.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		32.9		18.1		32.9		18.1				
Max Q Clear Time (g_c+I1), s		15.9		2.3		14.8		4.2				
Green Ext Time (p_c), s		4.0		0.0		13.1		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				5.4								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	10	28	0	84	10	722	10	29	1716	10
Future Volume (veh/h)	0	0	10	28	0	84	10	722	10	29	1716	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	11	29	0	88	11	760	11	31	1806	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	0	0	149	300	0	149	272	2455	36	596	2479	15
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.00	0.09	0.09	0.00	0.09	0.68	0.68	0.68	0.68	0.68	0.68
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	0.0	17.0	17.4	0.0	21.4	8.5	2.7	2.7	3.4	5.6	5.5
Ln Grp LOS	A	A	B	B	A	C	A	A	A	A	A	A
Approach Vol, veh/h		11			117			782			1848	
Approach Delay, s/veh		17.0			20.4			2.8			5.5	
Approach LOS		B			C			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		8.0		6.0		6.0		6.0	
Phs Duration (G+Y+Rc), s			32.3		8.3		32.3		8.3		8.3	
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5		4.5	
Max Green (Gmax), s			32.9		18.1		32.9		18.1		18.1	
Max Allow Headway (MAH), s			4.9		5.6		5.3		5.1		5.1	
Max Q Clear (g_c+I1), s			15.9		2.3		14.8		4.2		4.2	
Green Ext Time (g_e), s			4.0		0.0		13.1		0.4		0.4	
Prob of Phs Call (p_c)			1.00		0.76		1.00		0.76		0.76	
Prob of Max Out (p_x)			0.11		0.00		0.73		0.00		0.00	
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			257		0		698		1404			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3586		0		3621		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			52		1585		22		1585			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L				L		L			

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Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	11	0	0	0	31	0	29
Grp Sat Flow (s), veh/h/ln	0	257	0	0	0	698	0	1404
Q Serve Time (g_s), s	0.0	1.1	0.0	0.0	0.0	0.8	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	13.9	0.0	0.0	0.0	4.2	0.0	1.0
Perm LT Sat Flow (s_l), veh/h/ln	0	257	0	0	0	698	0	1404
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	27.8	0.0	0.0	0.0	27.8	0.0	3.8
Perm LT Serve Time (g_u), s	0.0	15.1	0.0	0.0	0.0	24.4	0.0	3.6
Perm LT Q Serve Time (g_ps), s	0.0	1.1	0.0	0.0	0.0	0.8	0.0	0.8
Time to First Blk (g_f), s	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	272	0	0	0	596	0	300
V/C Ratio (X)	0.00	0.04	0.00	0.00	0.00	0.05	0.00	0.10
Avail Cap (c_a), veh/h	0	305	0	0	0	683	0	793
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	8.4	0.0	0.0	0.0	3.4	0.0	17.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	8.5	0.0	0.0	0.0	3.4	0.0	17.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	377	0	0	0	885	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.4	0.0	0.0	0.0	12.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.4	0.0	0.0	0.0	12.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	1216	0	0	0	1216	0	0
V/C Ratio (X)	0.00	0.31	0.00	0.00	0.00	0.73	0.00	0.00
Avail Cap (c_a), veh/h	0	1438	0	0	0	1438	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	2.6	0.0	0.0	0.0	4.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.7	0.0	0.0	0.0	5.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	394	0	11	0	932	0	88
Grp Sat Flow (s), veh/h/ln	0	1861	0	1585	0	1866	0	1585
Q Serve Time (g_s), s	0.0	3.4	0.0	0.3	0.0	12.8	0.0	2.2
Cycle Q Clear Time (g_c), s	0.0	3.4	0.0	0.3	0.0	12.8	0.0	2.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.03	0.00	1.00	0.00	0.01	0.00	1.00
Lane Grp Cap (c), veh/h	0	1274	0	149	0	1278	0	149
V/C Ratio (X)	0.00	0.31	0.00	0.07	0.00	0.73	0.00	0.59
Avail Cap (c_a), veh/h	0	1506	0	706	0	1510	0	706
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	2.6	0.0	16.8	0.0	4.0	0.0	17.7
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	1.5	0.0	3.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	2.7	0.0	17.0	0.0	5.5	0.0	21.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.1	0.0	1.3	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.1	0.0	1.8	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	5.4
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	49	47	18	1218	1984	17
Future Volume (veh/h)	49	47	18	1218	1984	17
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	43	19	1282	2088	18
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	118	105	272	4002	4092	35
Arrive On Green	0.07	0.07	1.00	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	194	5274	5390	45
Grp Volume(v), veh/h	52	43	19	1282	1361	745
Grp Sat Flow(s),veh/h/ln	1781	1585	194	1702	1702	1862
Q Serve(g_s), s	1.7	1.6	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.7	1.6	0.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			0.02
Lane Grp Cap(c), veh/h	118	105	272	4002	2668	1460
V/C Ratio(X)	0.44	0.41	0.07	0.32	0.51	0.51
Avail Cap(c_a), veh/h	537	478	272	4002	2668	1460
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.87	0.87	0.75	0.75
Uniform Delay (d), s/veh	26.9	26.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.6	2.5	0.4	0.2	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.6	0.0	0.1	0.2	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.5	29.4	0.4	0.2	0.5	1.0
LnGrp LOS	C	C	A	A	A	A
Approach Vol, veh/h	95			1301	2106	
Approach Delay, s/veh	29.5			0.2	0.7	
Approach LOS	C			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		51.5		8.5		51.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		32.9		18.1		32.9
Max Q Clear Time (g_c+I1), s		2.0		3.7		2.0
Green Ext Time (p_c), s		10.5		0.2		17.6
Intersection Summary						
HCM 6th Ctrl Delay			1.3			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	↶	↷	↶	↑↑↑	↑↑↑	↷			
Traffic Volume (veh/h)	49	47	18	1218	1984	17			
Future Volume (veh/h)	49	47	18	1218	1984	17			
Number	7	14	5	2	6	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00	1.00			1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	52	43	19	1282	2088	18			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes		Yes						
Cap, veh/h	118	105	272	4002	4092	35			
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.33	1.33			
Prop Arrive On Green	0.07	0.07	1.00	1.00	1.00	1.00			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	29.5	29.4	0.4	0.2	0.5	1.0			
Ln Grp LOS	C	C	A	A	A	A			
Approach Vol, veh/h	95			1301	2106				
Approach Delay, s/veh	29.5			0.2	0.7				
Approach LOS	C			A	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		8.0		
Phs Duration (G+Y+Rc), s			51.5		8.5		51.5		
Change Period (Y+Rc), s			4.5		4.5		4.5		
Max Green (Gmax), s			32.9		18.1		32.9		
Max Allow Headway (MAH), s			4.9		3.9		4.7		
Max Q Clear (g_c+I1), s			2.0		3.7		2.0		
Green Ext Time (g_e), s			10.5		0.2		17.6		
Prob of Phs Call (p_c)			1.00		0.79		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			194		1781		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			5274		0		5390		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		45		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

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Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	19	0	52	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	194	0	1781	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	194	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	47.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	47.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	47.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	272	0	118	0	0	0	0
V/C Ratio (X)	0.00	0.07	0.00	0.44	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	272	0	537	0	0	0	0
Upstream Filter (I)	0.00	0.87	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	26.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	2.6	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.4	0.0	29.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.39	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1282	0	0	0	1361	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	4002	0	0	0	2668	0	0
V/C Ratio (X)	0.00	0.32	0.00	0.00	0.00	0.51	0.00	0.00
Avail Cap (c_a), veh/h	0	4002	0	0	0	2668	0	0
Upstream Filter (I)	0.00	0.87	0.00	0.00	0.00	0.75	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.2	0.0	0.0	0.0	0.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 36: Monterey Ave & Project Access Intersection South

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		T+R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	43	0	745	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1862	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	0.02	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	105	0	1460	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.41	0.00	0.51	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	478	0	1460	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.75	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	26.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.5	0.0	1.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	29.4	0.0	1.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.6	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	1.3
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
 37: Kavendish Way & Frank Sinatra Dr




















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	554	10	10	1142	20	10	0	10	49	0	43
Future Volume (veh/h)	12	554	10	10	1142	20	10	0	10	49	0	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	583	11	11	1202	21	11	0	11	52	0	45
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	369	1767	33	586	1770	31	283	51	139	517	0	286
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.18	0.00	0.18	0.18	0.00	0.18
Sat Flow, veh/h	456	3568	67	823	3574	62	491	283	774	1404	0	1585
Grp Volume(v), veh/h	13	290	304	11	598	625	22	0	0	52	0	45
Grp Sat Flow(s),veh/h/ln	456	1777	1858	823	1777	1859	1547	0	0	1404	0	1585
Q Serve(g_s), s	0.6	2.7	2.7	0.2	7.1	7.1	0.0	0.0	0.0	0.5	0.0	0.7
Cycle Q Clear(g_c), s	7.7	2.7	2.7	3.0	7.1	7.1	0.3	0.0	0.0	0.8	0.0	0.7
Prop In Lane	1.00		0.04	1.00		0.03	0.50		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	369	880	920	586	880	921	474	0	0	517	0	286
V/C Ratio(X)	0.04	0.33	0.33	0.02	0.68	0.68	0.05	0.00	0.00	0.10	0.00	0.16
Avail Cap(c_a), veh/h	439	1153	1206	713	1153	1206	1160	0	0	1174	0	1029
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	4.2	4.2	5.1	5.3	5.3	9.4	0.0	0.0	9.6	0.0	9.6
Incr Delay (d2), s/veh	0.0	0.2	0.2	0.0	1.1	1.0	0.0	0.0	0.0	0.1	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.4	0.4	0.0	0.3	0.3	0.1	0.0	0.0	0.2	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	8.3	4.4	4.4	5.1	6.4	6.3	9.5	0.0	0.0	9.7	0.0	9.8
LnGrp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h	607		1234				22		97			
Approach Delay, s/veh	4.5		6.3				9.5		9.8			
Approach LOS	A		A				A		A			
Timer - Assigned Phs	2		4				6		8			
Phs Duration (G+Y+Rc), s	9.5		18.2				9.5		18.2			
Change Period (Y+Rc), s	4.5		4.5				4.5		4.5			
Max Green Setting (Gmax), s	18.0		18.0				18.0		18.0			
Max Q Clear Time (g_c+1), s	2.3		9.7				2.8		9.1			
Green Ext Time (p_c), s	0.0		2.4				0.3		4.6			
Intersection Summary												
HCM 6th Ctrl Delay			6.0									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	554	10	10	1142	20	10	0	10	49	0	43
Future Volume (veh/h)	12	554	10	10	1142	20	10	0	10	49	0	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	13	583	11	11	1202	21	11	0	11	52	0	45
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	369	1767	33	586	1770	31	283	51	139	517	0	286
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.18	0.00	0.18	0.18	0.00	0.18
Unsig. Movement Delay												
Ln Grp Delay, s/veh	8.3	4.4	4.4	5.1	6.4	6.3	9.5	0.0	0.0	9.7	0.0	9.8
Ln Grp LOS	A	A	A	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		607			1234			22			97	
Approach Delay, s/veh		4.5			6.3			9.5			9.8	
Approach LOS		A			A			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4			6			8	
Case No			8.0		6.0			6.0			6.0	
Phs Duration (G+Y+Rc), s			9.5		18.2			9.5			18.2	
Change Period (Y+Rc), s			4.5		4.5			4.5			4.5	
Max Green (Gmax), s			18.0		18.0			18.0			18.0	
Max Allow Headway (MAH), s			5.5		5.3			4.6			4.8	
Max Q Clear (g_c+I1), s			2.3		9.7			2.8			9.1	
Green Ext Time (g_e), s			0.0		2.4			0.3			4.6	
Prob of Phs Call (p_c)			1.00		1.00			1.00			1.00	
Prob of Max Out (p_x)			0.00		0.54			0.00			0.68	
Left-Turn Movement Data												
Assigned Mvmt			5		7			1			3	
Mvmt Sat Flow, veh/h			491		456			1404			823	
Through Movement Data												
Assigned Mvmt			2		4			6			8	
Mvmt Sat Flow, veh/h			283		3568			0			3574	
Right-Turn Movement Data												
Assigned Mvmt			12		14			16			18	
Mvmt Sat Flow, veh/h			774		67			1585			62	
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L+T+R		L		L		L			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	22	0	13	0	52	0	11
Grp Sat Flow (s), veh/h/ln	0	1547	0	456	0	1404	0	823
Q Serve Time (g_s), s	0.0	0.0	0.0	0.6	0.0	0.5	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	7.7	0.0	0.8	0.0	3.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1383	0	456	0	1404	0	823
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	1781	0	0
Perm LT Eff Green (g_p), s	0.0	5.0	0.0	13.7	0.0	5.0	0.0	13.7
Perm LT Serve Time (g_u), s	0.0	4.3	0.0	6.6	0.0	4.7	0.0	11.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.6	0.0	0.5	0.0	0.2
Time to First Blk (g_f), s	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.50	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	474	0	369	0	517	0	586
V/C Ratio (X)	0.00	0.05	0.00	0.04	0.00	0.10	0.00	0.02
Avail Cap (c_a), veh/h	0	1160	0	439	0	1174	0	713
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.4	0.0	8.3	0.0	9.6	0.0	5.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.5	0.0	8.3	0.0	9.7	0.0	5.1
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	290	0	0	0	598
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	2.7	0.0	0.0	0.0	7.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.7	0.0	0.0	0.0	7.1
Lane Grp Cap (c), veh/h	0	0	0	880	0	0	0	880
V/C Ratio (X)	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.68
Avail Cap (c_a), veh/h	0	0	0	1153	0	0	0	1153
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	4.2	0.0	0.0	0.0	5.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	4.4	0.0	0.0	0.0	6.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				T+R		T+R		T+R
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	304	0	45	0	625
Grp Sat Flow (s), veh/h/ln	0	0	0	1858	0	1585	0	1859
Q Serve Time (g_s), s	0.0	0.0	0.0	2.7	0.0	0.7	0.0	7.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.7	0.0	0.7	0.0	7.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.50	0.00	0.04	0.00	1.00	0.00	0.03
Lane Grp Cap (c), veh/h	0	0	0	920	0	286	0	921
V/C Ratio (X)	0.00	0.00	0.00	0.33	0.00	0.16	0.00	0.68
Avail Cap (c_a), veh/h	0	0	0	1206	0	1029	0	1206
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	4.2	0.0	9.6	0.0	5.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.3	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	4.4	0.0	9.8	0.0	6.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↙	↖	↗	↘↙	↘↖			↗↘	↗
Traffic Volume (veh/h)	0	0	0	1060	0	190	1058	450	0	0	455	430
Future Volume (veh/h)	0	0	0	1060	0	190	1058	450	0	0	455	430
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1116	0	0	1114	474	0	0	479	82
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				1236	0		1121	2672	0	0	740	230
Arrive On Green				0.35	0.00	0.00	0.32	0.52	0.00	0.00	0.14	0.14
Sat Flow, veh/h				3563	0	1585	3456	5274	0	0	5274	1585
Grp Volume(v), veh/h				1116	0	0	1114	474	0	0	479	82
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1728	1702	0	0	1702	1585
Q Serve(g_s), s				22.0	0.0	0.0	23.8	3.6	0.0	0.0	6.5	3.5
Cycle Q Clear(g_c), s				22.0	0.0	0.0	23.8	3.6	0.0	0.0	6.5	3.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		1.00
Lane Grp Cap(c), veh/h				1236	0		1121	2672	0	0	740	230
V/C Ratio(X)				0.90	0.00		0.99	0.18	0.00	0.00	0.65	0.36
Avail Cap(c_a), veh/h				1358	0		1121	3603	0	0	1670	518
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				23.0	0.0	0.0	24.9	9.3	0.0	0.0	29.8	28.5
Incr Delay (d2), s/veh				8.0	0.0	0.0	25.3	0.0	0.0	0.0	0.7	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.9	0.0	0.0	12.0	1.0	0.0	0.0	2.4	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				31.0	0.0	0.0	50.2	9.3	0.0	0.0	30.6	29.2
LnGrp LOS				C	A		D	A	A	A	C	C
Approach Vol, veh/h					1116	A		1588			561	
Approach Delay, s/veh					31.0			38.0			30.4	
Approach LOS					C			D			C	
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		43.5			28.0	15.5		30.5				
Change Period (Y+Rc), s		4.8			4.0	4.8		4.8				
Max Green Setting (Gmax), s		52.2			24.0	24.2		28.2				
Max Q Clear Time (g_c+I1), s		5.6			25.8	8.5		24.0				
Green Ext Time (p_c), s		2.4			0.0	2.2		1.6				

Intersection Summary

HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	1060	0	190	1058	450	0	0	455	430
Future Volume (veh/h)	0	0	0	1060	0	190	1058	450	0	0	455	430
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				1116	0	0	1114	474	0	0	479	82
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Opposing Right Turn Influence				Yes			Yes			No		
Cap, veh/h				1236	0		1121	2672	0	0	740	230
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.35	0.00	0.00	0.32	0.52	0.00	0.00	0.14	0.14
Unsig. Movement Delay												
Ln Grp Delay, s/veh				31.0	0.0	0.0	50.2	9.3	0.0	0.0	30.6	29.2
Ln Grp LOS				C	A		D	A	A	A	C	C
Approach Vol, veh/h					1116			1588			561	
Approach Delay, s/veh					31.0			38.0			30.4	
Approach LOS					C			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8		5	6					
Case No			4.0	9.0		2.0	7.0					
Phs Duration (G+Y+Rc), s			43.5	30.5		28.0	15.5					
Change Period (Y+Rc), s			4.8	4.8		4.0	4.8					
Max Green (Gmax), s			52.2	28.2		24.0	24.2					
Max Allow Headway (MAH), s			4.2	3.3		2.6	4.1					
Max Q Clear (g_c+I1), s			5.6	24.0		25.8	8.5					
Green Ext Time (g_e), s			2.4	1.6		0.0	2.2					
Prob of Phs Call (p_c)			1.00	1.00		1.00	1.00					
Prob of Max Out (p_x)			0.00	0.78		1.00	0.01					
Left-Turn Movement Data												
Assigned Mvmt				3		5	1					
Mvmt Sat Flow, veh/h				3563		3456	0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			5274	0			5274					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			0	1585			1585					
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	0	0				
Lane Assignment			L		L (Prot)							

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

Lanes in Grp	0	0	2	0	2	0	0	0
Grp Vol (v), veh/h	0	0	1116	0	1114	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1728	0	0	0
Q Serve Time (g_s), s	0.0	0.0	22.0	0.0	23.8	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	22.0	0.0	23.8	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	10.7	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1236	0	1121	0	0	0
V/C Ratio (X)	0.00	0.00	0.90	0.00	0.99	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1358	0	1121	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	23.0	0.0	24.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	8.0	0.0	25.3	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	31.0	0.0	50.2	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	8.6	0.0	8.1	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.4	0.0	3.9	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	9.9	0.0	12.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.28	0.00	1.42	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	474	0	0	0	479	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	3.6	0.0	0.0	0.0	6.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	0.0	0.0	6.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	2672	0	0	0	740	0	0
V/C Ratio (X)	0.00	0.18	0.00	0.00	0.00	0.65	0.00	0.00
Avail Cap (c_a), veh/h	0	3603	0	0	0	1670	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	9.3	0.0	0.0	0.0	29.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.3	0.0	0.0	0.0	30.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.0	0.0	2.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 1: Bob Hope Dr & I-10 WB On Ramp/I-10 WB Off Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.0	0.0	0.0	0.0	2.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment			R			R		
Lanes in Grp	0	0	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	82	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	3.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	550	0	0	230	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.00
Avail Cap (c_a), veh/h	0	0	604	0	0	518	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	28.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	29.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.15	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	34.3
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.
 Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp





















07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	0	985	0	0	0	0	1248	90	240	1275	0
Future Volume (veh/h)	260	0	985	0	0	0	0	1248	90	240	1275	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No						No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	183	0	1043				0	1314	38	253	1342	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	529	0	941				0	1764	498	361	2566	0
Arrive On Green	0.30	0.00	0.30				0.00	0.31	0.31	0.10	0.50	0.00
Sat Flow, veh/h	1781	0	3170				0	5611	1585	3456	5274	0
Grp Volume(v), veh/h	183	0	1043				0	1314	38	253	1342	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1870	1585	1728	1702	0
Q Serve(g_s), s	3.9	0.0	14.2				0.0	10.0	0.8	3.4	8.5	0.0
Cycle Q Clear(g_c), s	3.9	0.0	14.2				0.0	10.0	0.8	3.4	8.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	529	0	941				0	1764	498	361	2566	0
V/C Ratio(X)	0.35	0.00	1.11				0.00	0.75	0.08	0.70	0.52	0.00
Avail Cap(c_a), veh/h	529	0	941				0	2018	570	361	2797	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.2	0.0	16.8				0.0	14.7	11.5	20.7	8.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	63.7				0.0	1.2	0.0	5.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4	0.0	12.7				0.0	3.1	0.2	1.3	1.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.5	0.0	80.5				0.0	15.9	11.6	25.7	8.2	0.0
LnGrp LOS	B	A	F				A	B	B	C	A	A
Approach Vol, veh/h	1226						1352			1595		
Approach Delay, s/veh	70.5						15.8			10.9		
Approach LOS	E						B			B		
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	9.0	19.8	19.0	28.8								
Change Period (Y+Rc), s	4.0	4.8	4.8	4.8								
Max Green Setting (Gmax), s	5.0	17.2	14.2	26.2								
Max Q Clear Time (g_c+I), s	15.4	12.0	16.2	10.5								
Green Ext Time (p_c), s	0.0	3.0	0.0	6.3								
Intersection Summary												
HCM 6th Ctrl Delay	30.0											
HCM 6th LOS	C											
Notes												
User approved volume balancing among the lanes for turning movement.												

HCM 6th Signalized Intersection Capacity Analysis
 2: Bob Hope Dr & I-10 EB Ramp/I-10 EB On Ramp

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	0	985	0	0	0	0	1248	90	240	1275	0
Future Volume (veh/h)	260	0	985	0	0	0	0	1248	90	240	1275	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	183	0	1043				0	1314	38	253	1342	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	529	0	941				0	1764	498	361	2566	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.30	0.00	0.30				0.00	0.31	0.31	0.10	0.50	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	13.5	0.0	80.5				0.0	15.9	11.6	25.7	8.2	0.0
Ln Grp LOS	B	A	F				A	B	B	C	A	A
Approach Vol, veh/h		1226						1352			1595	
Approach Delay, s/veh		70.5						15.8			10.9	
Approach LOS		E						B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		9.0	19.8		19.0		28.8					
Change Period (Y+Rc), s		4.0	4.8		4.8		4.8					
Max Green (Gmax), s		5.0	17.2		14.2		26.2					
Max Allow Headway (MAH), s		2.6	4.2		3.5		4.2					
Max Q Clear (g_c+I1), s		5.4	12.0		16.2		10.5					
Green Ext Time (g_e), s		0.0	3.0		0.0		6.3					
Prob of Phs Call (p_c)		0.97	1.00		1.00		1.00					
Prob of Max Out (p_x)		1.00	0.88		1.00		0.22					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5611		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis

2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	253	0	0	183	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	3.4	0.0	0.0	3.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	3.4	0.0	0.0	3.9	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	15.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	361	0	0	529	0	0	0	0
V/C Ratio (X)	0.70	0.00	0.00	0.35	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	361	0	0	529	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	20.7	0.0	0.0	13.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	5.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.7	0.0	0.0	13.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.1	0.0	0.0	1.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.3	0.0	0.0	1.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.14	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment	T			T				
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	1314	0	0	0	1342	0	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	10.0	0.0	0.0	0.0	8.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.0	0.0	0.0	0.0	8.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	1764	0	0	0	2566	0	0
V/C Ratio (X)	0.00	0.75	0.00	0.00	0.00	0.52	0.00	0.00
Avail Cap (c_a), veh/h	0	2018	0	0	0	2797	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.7	0.0	0.0	0.0	8.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.9	0.0	0.0	0.0	8.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	0.0	0.0	1.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

2: Bob Hope Dr & I-10 EB Off Ramp/I-10 EB On Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	0.0	0.0	1.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.00	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	38	0	1043	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	0.8	0.0	14.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.8	0.0	14.2	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	498	0	941	0	0	0	0
V/C Ratio (X)	0.00	0.08	0.00	1.11	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	570	0	941	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.5	0.0	16.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	63.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.6	0.0	80.5	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	4.3	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	8.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	12.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	2.47	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	25.5	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C

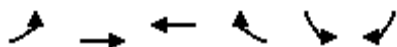
Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

3: Ramon Rd & Rattler Rd

07/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations	↖↗	↑↑↑	↑↑↑	↖	↖↗	↖	
Traffic Volume (veh/h)	117	1497	1610	155	220	164	
Future Volume (veh/h)	117	1497	1610	155	220	164	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach		No	No		No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	123	1576	1695	143	232	67	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2	2	2	2	
Cap, veh/h	258	3642	2816	1053	402	179	
Arrive On Green	0.07	0.71	0.55	0.55	0.11	0.11	
Sat Flow, veh/h	3456	5274	5274	1585	3563	1585	
Grp Volume(v), veh/h	123	1576	1695	143	232	67	
Grp Sat Flow(s),veh/h/ln	1728	1702	1702	1585	1781	1585	
Q Serve(g_s), s	2.0	7.4	12.8	1.9	3.6	2.3	
Cycle Q Clear(g_c), s	2.0	7.4	12.8	1.9	3.6	2.3	
Prop In Lane	1.00			1.00	1.00	1.00	
Lane Grp Cap(c), veh/h	258	3642	2816	1053	402	179	
V/C Ratio(X)	0.48	0.43	0.60	0.14	0.58	0.37	
Avail Cap(c_a), veh/h	301	3642	2816	1053	2107	937	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	25.5	3.4	8.7	3.6	24.2	23.6	
Incr Delay (d2), s/veh	1.4	0.4	1.0	0.3	1.3	1.3	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.7	0.6	2.9	0.6	1.4	2.1	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	26.9	3.8	9.6	3.8	25.5	24.9	
LnGrp LOS	C	A	A	A	C	C	
Approach Vol, veh/h		1699	1838		299		
Approach Delay, s/veh		5.5	9.2		25.4		
Approach LOS		A	A		C		
Timer - Assigned Phs				4	6	7	8
Phs Duration (G+Y+Rc), s				46.0	11.5	9.3	36.7
Change Period (Y+Rc), s				5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s				41.0	34.0	5.0	31.0
Max Q Clear Time (g_c+1), s				9.4	5.6	4.0	14.8
Green Ext Time (p_c), s				12.7	1.0	0.0	10.1
Intersection Summary							
HCM 6th Ctrl Delay			8.8				
HCM 6th LOS			A				
Notes							
User approved volume balancing among the lanes for turning movement.							

HCM 6th Signalized Intersection Capacity Analysis
3: Ramon Rd & Rattler Rd

07/11/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations	↖↖	↑↑↑	↑↑↑	↗	↘↘	↘			
Traffic Volume (veh/h)	117	1497	1610	155	220	164			
Future Volume (veh/h)	117	1497	1610	155	220	164			
Number	7	4	8	18	1	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00			1.00	1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No	No		No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	123	1576	1695	143	232	67			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes				Yes				
Cap, veh/h	258	3642	2816	1053	402	179			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.07	0.71	0.55	0.55	0.11	0.11			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	26.9	3.8	9.6	3.8	25.5	24.9			
Ln Grp LOS	C	A	A	A	C	C			
Approach Vol, veh/h		1699	1838		299				
Approach Delay, s/veh		5.5	9.2		25.4				
Approach LOS		A	A		C				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs		6			4			7	8
Case No		9.0			4.0			2.0	7.0
Phs Duration (G+Y+Rc), s		11.5			46.0			9.3	36.7
Change Period (Y+Rc), s		5.0			5.0			5.0	5.0
Max Green (Gmax), s		34.0			41.0			5.0	31.0
Max Allow Headway (MAH), s		3.8			4.7			3.6	4.7
Max Q Clear (g_c+I1), s		5.6			9.4			4.0	14.8
Green Ext Time (g_e), s		1.0			12.7			0.0	10.1
Prob of Phs Call (p_c)		0.99			1.00			0.86	1.00
Prob of Max Out (p_x)		0.00			0.00			1.00	0.00
Left-Turn Movement Data									
Assigned Mvmt		1						7	3
Mvmt Sat Flow, veh/h		3563						3456	0
Through Movement Data									
Assigned Mvmt		6			4				8
Mvmt Sat Flow, veh/h		0			5274				5274
Right-Turn Movement Data									
Assigned Mvmt		16			14				18
Mvmt Sat Flow, veh/h		1585			0				1585
Left Lane Group Data									
Assigned Mvmt		1	0	0	0	0	0	7	3
Lane Assignment		L						L (Prot)	

HCM 6th Signalized Intersection Capacity Analysis
 3: Ramon Rd & Rattler Rd

07/11/2019

Lanes in Grp	2	0	0	0	0	0	2	0
Grp Vol (v), veh/h	232	0	0	0	0	0	123	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	0	0	0	1728	0
Q Serve Time (g_s), s	3.6	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Cycle Q Clear Time (g_c), s	3.6	0.0	0.0	0.0	0.0	0.0	2.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1781	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.7
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	402	0	0	0	0	0	258	0
V/C Ratio (X)	0.58	0.00	0.00	0.00	0.00	0.00	0.48	0.00
Avail Cap (c_a), veh/h	2107	0	0	0	0	0	301	0
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	24.2	0.0	0.0	0.0	0.0	0.0	25.5	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.0	0.0	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	25.5	0.0	0.0	0.0	0.0	0.0	26.9	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	0.0	0.0	0.0	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00
%ile Back of Q (50%), veh/ln	1.4	0.0	0.0	0.0	0.0	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.00	0.00	0.00	0.00	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	6	0	0	4	0	0	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1576	0	0	0	1695
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	12.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	12.8
Lane Grp Cap (c), veh/h	0	0	0	3642	0	0	0	2816
V/C Ratio (X)	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.60
Avail Cap (c_a), veh/h	0	0	0	3642	0	0	0	2816
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	3.4	0.0	0.0	0.0	8.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	3.8	0.0	0.0	0.0	9.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	2.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

3: Ramon Rd & Rattler Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	2.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	16	0	0	14	0	0	0	18
Lane Assignment	R							R
Lanes in Grp	1	0	0	0	0	0	0	1
Grp Vol (v), veh/h	67	0	0	0	0	0	0	143
Grp Sat Flow (s), veh/h/ln	1585	0	0	0	0	0	0	1585
Q Serve Time (g_s), s	2.3	0.0	0.0	0.0	0.0	0.0	0.0	1.9
Cycle Q Clear Time (g_c), s	2.3	0.0	0.0	0.0	0.0	0.0	0.0	1.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1585.1
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.5
Prop RT Outside Lane (P_R)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	179	0	0	0	0	0	0	1053
V/C Ratio (X)	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.14
Avail Cap (c_a), veh/h	937	0	0	0	0	0	0	1053
Upstream Filter (I)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	23.6	0.0	0.0	0.0	0.0	0.0	0.0	3.6
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	24.9	0.0	0.0	0.0	0.0	0.0	0.0	3.8
1st-Term Q (Q1), veh/ln	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.6
%ile Storage Ratio (RQ%)	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	8.8
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

4: Bob Hope Dr & Ramon Rd

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	240	950	517	120	630	50	545	1008	490	135	1535	590
Future Volume (veh/h)	240	950	517	120	630	50	545	1008	490	135	1535	590
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	1000	338	126	663	13	574	1061	377	142	1616	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	983	438	270	971	433	558	1954	607	295	1566	
Arrive On Green	0.08	0.28	0.28	0.08	0.27	0.27	0.16	0.38	0.38	0.09	0.31	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	253	1000	338	126	663	13	574	1061	377	142	1616	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	10.2	38.7	27.4	4.9	23.3	0.8	22.6	22.7	27.0	5.5	42.9	0.0
Cycle Q Clear(g_c), s	10.2	38.7	27.4	4.9	23.3	0.8	22.6	22.7	27.0	5.5	42.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	282	983	438	270	971	433	558	1954	607	295	1566	
V/C Ratio(X)	0.90	1.02	0.77	0.47	0.68	0.03	1.03	0.54	0.62	0.48	1.03	
Avail Cap(c_a), veh/h	282	983	438	272	973	434	558	1954	607	296	1566	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.7	50.6	46.5	61.7	45.4	37.3	58.7	33.6	35.0	61.0	48.5	0.0
Incr Delay (d2), s/veh	28.4	33.1	8.2	0.5	2.0	0.0	45.5	0.4	2.1	0.5	31.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	20.9	11.4	2.1	10.1	0.3	13.0	9.0	10.2	2.4	21.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.1	83.7	54.7	62.2	47.4	37.3	104.2	34.0	37.1	61.5	80.0	0.0
LnGrp LOS	F	F	D	E	D	D	F	C	D	E	F	
Approach Vol, veh/h		1591			802			2012			1758	A
Approach Delay, s/veh		78.9			49.6			54.6			78.5	
Approach LOS		E			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.4	61.0	16.3	45.2	28.0	50.4	16.8	44.7				
Change Period (Y+Rc), s	5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5				
Max Green Setting (Gmax), s	12.0	53.5	11.0	38.7	22.6	42.9	11.4	38.3				
Max Q Clear Time (g_c+1), s	17.5	29.0	6.9	40.7	24.6	44.9	12.2	25.3				
Green Ext Time (p_c), s	0.1	10.4	0.0	0.0	0.0	0.0	0.0	3.2				

Intersection Summary

























HCM 6th Ctrl Delay	67.0
HCM 6th LOS	E

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
4: Bob Hope Dr & Ramon Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	950	517	120	630	50	545	1008	490	135	1535	590
Future Volume (veh/h)	240	950	517	120	630	50	545	1008	490	135	1535	590
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	1000	338	126	663	13	574	1061	377	142	1616	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	282	983	438	270	971	433	558	1954	607	295	1566	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.28	0.28	0.08	0.27	0.27	0.16	0.38	0.38	0.09	0.31	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	92.1	83.7	54.7	62.2	47.4	37.3	104.2	34.0	37.1	61.5	80.0	0.0
Ln Grp LOS	F	F	D	E	D	D	F	C	D	E	F	
Approach Vol, veh/h		1591			802			2012			1758	
Approach Delay, s/veh		78.9			49.6			54.6			78.5	
Approach LOS		E			D			D			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		17.4	61.0	16.3	45.2	28.0	50.4	16.8	44.7			
Change Period (Y+Rc), s		5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5			
Max Green (Gmax), s		12.0	53.5	11.0	38.7	22.6	42.9	11.4	38.3			
Max Allow Headway (MAH), s		2.1	5.0	2.1	4.5	2.1	5.2	2.1	4.7			
Max Q Clear (g_c+I1), s		7.5	29.0	6.9	40.7	24.6	44.9	12.2	25.3			
Green Ext Time (g_e), s		0.1	10.4	0.0	0.0	0.0	0.0	0.0	3.2			
Prob of Phs Call (p_c)		1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.01	0.23	0.01	1.00	1.00	1.00	1.00	0.13			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	142	0	126	0	574	0	253	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	5.5	0.0	4.9	0.0	22.6	0.0	10.2	0.0
Cycle Q Clear Time (g_c), s	5.5	0.0	4.9	0.0	22.6	0.0	10.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	295	0	270	0	558	0	282	0
V/C Ratio (X)	0.48	0.00	0.47	0.00	1.03	0.00	0.90	0.00
Avail Cap (c_a), veh/h	296	0	272	0	558	0	282	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	61.0	0.0	61.7	0.0	58.7	0.0	63.7	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.5	0.0	45.5	0.0	28.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	61.5	0.0	62.2	0.0	104.2	0.0	92.1	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	2.1	0.0	9.5	0.0	4.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	3.5	0.0	1.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.4	0.0	2.1	0.0	13.0	0.0	5.4	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.16	0.00	1.62	0.00	0.49	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	1061	0	1000	0	1616	0	663
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	22.7	0.0	38.7	0.0	42.9	0.0	23.3
Cycle Q Clear Time (g_c), s	0.0	22.7	0.0	38.7	0.0	42.9	0.0	23.3
Lane Grp Cap (c), veh/h	0	1954	0	983	0	1566	0	971
V/C Ratio (X)	0.00	0.54	0.00	1.02	0.00	1.03	0.00	0.68
Avail Cap (c_a), veh/h	0	1954	0	983	0	1566	0	973
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	33.6	0.0	50.6	0.0	48.5	0.0	45.4
Incr Delay (d2), s/veh	0.0	0.4	0.0	33.1	0.0	31.5	0.0	2.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	34.0	0.0	83.7	0.0	80.0	0.0	47.4
1st-Term Q (Q1), veh/ln	0.0	8.9	0.0	16.4	0.0	17.3	0.0	9.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	4.5	0.0	4.6	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

4: Bob Hope Dr & Ramon Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.0	0.0	20.9	0.0	21.8	0.0	10.1
%ile Storage Ratio (RQ%)	0.00	0.24	0.00	0.45	0.00	0.48	0.00	0.69
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	4.3	0.0	12.6	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	377	0	338	0	0	0	13
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	27.0	0.0	27.4	0.0	0.0	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	27.0	0.0	27.4	0.0	0.0	0.0	0.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	607	0	438	0	486	0	433
V/C Ratio (X)	0.00	0.62	0.00	0.77	0.00	0.00	0.00	0.03
Avail Cap (c_a), veh/h	0	607	0	438	0	486	0	434
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	35.0	0.0	46.5	0.0	0.0	0.0	37.3
Incr Delay (d2), s/veh	0.0	2.1	0.0	8.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	37.1	0.0	54.7	0.0	0.0	0.0	37.3
1st-Term Q (Q1), veh/ln	0.0	9.9	0.0	10.4	0.0	0.0	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	1.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.2	0.0	11.4	0.0	0.0	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.93	0.00	0.24	0.00	0.00	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	67.0
HCM 6th LOS	E

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 5: Bob Hope Dr & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	900	271	166	930	625	422	841	265	548	835	300
Future Volume (veh/h)	140	900	271	166	930	625	422	841	265	548	835	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	947	156	175	979	459	444	885	0	577	879	316
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1023	456	190	1086	485	493	1225		616	1017	364
Arrive On Green	0.09	0.29	0.29	0.11	0.31	0.31	0.14	0.24	0.00	0.18	0.28	0.28
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	5106	1585	3456	3690	1321
Grp Volume(v), veh/h	147	947	156	175	979	459	444	885	0	577	811	384
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1702	1585	1728	1702	1607
Q Serve(g_s), s	9.2	29.0	8.7	10.9	29.6	31.8	14.2	17.9	0.0	18.5	25.4	25.6
Cycle Q Clear(g_c), s	9.2	29.0	8.7	10.9	29.6	31.8	14.2	17.9	0.0	18.5	25.4	25.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.82
Lane Grp Cap(c), veh/h	159	1023	456	190	1086	485	493	1225		616	938	443
V/C Ratio(X)	0.93	0.93	0.34	0.92	0.90	0.95	0.90	0.72		0.94	0.86	0.87
Avail Cap(c_a), veh/h	159	1029	459	190	1092	487	493	1342		616	1016	480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	38.8	31.6	49.6	37.3	38.1	47.3	39.2	0.0	45.5	38.7	38.7
Incr Delay (d2), s/veh	49.4	13.6	0.4	42.2	10.3	27.9	19.1	1.8	0.0	21.7	7.4	14.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	13.8	3.2	6.9	13.6	15.3	7.1	7.3	0.0	9.3	10.9	11.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.2	52.4	32.0	91.8	47.6	66.0	66.4	41.0	0.0	67.2	46.1	53.5
LnGrp LOS	F	D	C	F	D	E	E	D		E	D	D
Approach Vol, veh/h		1250			1613			1329	A		1772	
Approach Delay, s/veh		55.5			57.6			49.5			54.6	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	33.4	16.0	38.8	20.0	37.4	14.0	40.8				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	20.0	29.5	12.0	32.5	16.0	33.5	10.0	34.5				
Max Q Clear Time (g_c+Y), s	20.5	19.9	12.9	31.0	16.2	27.6	11.2	33.8				
Green Ext Time (p_c), s	0.0	3.7	0.0	0.9	0.0	3.4	0.0	0.5				

Intersection Summary

























HCM 6th Ctrl Delay	54.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
5: Bob Hope Dr & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	900	271	166	930	625	422	841	265	548	835	300
Future Volume (veh/h)	140	900	271	166	930	625	422	841	265	548	835	300
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	947	156	175	979	459	444	885	0	577	879	316
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	159	1023	456	190	1086	485	493	1225		616	1017	364
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.29	0.29	0.11	0.31	0.31	0.14	0.24	0.00	0.18	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	100.2	52.4	32.0	91.8	47.6	66.0	66.4	41.0	0.0	67.2	46.1	53.5
Ln Grp LOS	F	D	C	F	D	E	E	D		E	D	D
Approach Vol, veh/h		1250			1613			1329			1772	
Approach Delay, s/veh		55.5			57.6			49.5			54.6	
Approach LOS		E			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		24.0	33.4	16.0	38.8	20.0	37.4	14.0	40.8			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		20.0	29.5	12.0	32.5	16.0	33.5	10.0	34.5			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.8	2.7	4.5			
Max Q Clear (g_c+I1), s		20.5	19.9	12.9	31.0	16.2	27.6	11.2	33.8			
Green Ext Time (g_e), s		0.0	3.7	0.0	0.9	0.0	3.4	0.0	0.5			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	0.99	1.00			
Prob of Max Out (p_x)		1.00	0.43	1.00	1.00	1.00	0.88	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		3690		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1321		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	577	0	175	0	444	0	147	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	18.5	0.0	10.9	0.0	14.2	0.0	9.2	0.0
Cycle Q Clear Time (g_c), s	18.5	0.0	10.9	0.0	14.2	0.0	9.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	616	0	190	0	493	0	159	0
V/C Ratio (X)	0.94	0.00	0.92	0.00	0.90	0.00	0.93	0.00
Avail Cap (c_a), veh/h	616	0	190	0	493	0	159	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	45.5	0.0	49.6	0.0	47.3	0.0	50.7	0.0
Incr Delay (d2), s/veh	21.7	0.0	42.2	0.0	19.1	0.0	49.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	67.2	0.0	91.8	0.0	66.4	0.0	100.2	0.0
1st-Term Q (Q1), veh/ln	7.5	0.0	4.7	0.0	5.8	0.0	3.9	0.0
2nd-Term Q (Q2), veh/ln	1.9	0.0	2.2	0.0	1.3	0.0	2.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	9.3	0.0	6.9	0.0	7.1	0.0	6.1	0.0
%ile Storage Ratio (RQ%)	0.99	0.00	0.76	0.00	0.73	0.00	0.78	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	885	0	947	0	811	0	979
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	17.9	0.0	29.0	0.0	25.4	0.0	29.6
Cycle Q Clear Time (g_c), s	0.0	17.9	0.0	29.0	0.0	25.4	0.0	29.6
Lane Grp Cap (c), veh/h	0	1225	0	1023	0	938	0	1086
V/C Ratio (X)	0.00	0.72	0.00	0.93	0.00	0.86	0.00	0.90
Avail Cap (c_a), veh/h	0	1342	0	1029	0	1016	0	1092
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	39.2	0.0	38.8	0.0	38.7	0.0	37.3
Incr Delay (d2), s/veh	0.0	1.8	0.0	13.6	0.0	7.4	0.0	10.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	41.0	0.0	52.4	0.0	46.1	0.0	47.6
1st-Term Q (Q1), veh/ln	0.0	7.1	0.0	11.9	0.0	9.9	0.0	12.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	1.9	0.0	1.0	0.0	1.6

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.3	0.0	13.8	0.0	10.9	0.0	13.6
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.07	0.00	0.12	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	156	0	384	0	459
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1607	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	8.7	0.0	25.6	0.0	31.8
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.7	0.0	25.6	0.0	31.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.82	0.00	1.00
Lane Grp Cap (c), veh/h	0	380	0	456	0	443	0	485
V/C Ratio (X)	0.00	0.00	0.00	0.34	0.00	0.87	0.00	0.95
Avail Cap (c_a), veh/h	0	417	0	459	0	480	0	487
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	31.6	0.0	38.7	0.0	38.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.4	0.0	14.8	0.0	27.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	32.0	0.0	53.5	0.0	66.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	3.2	0.0	9.4	0.0	11.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	1.8	0.0	3.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.2	0.0	11.2	0.0	15.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.66	0.00	0.13	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	54.5
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
6: Monterey Ave & Varner Rd

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	110	330	594	630	400	680	897	398	110	591	20
Future Volume (veh/h)	50	110	330	594	630	400	680	897	398	110	591	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	116	192	625	663	141	716	944	0	116	622	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	168	284	671	771	344	936	1607		148	910	
Arrive On Green	0.07	0.09	0.09	0.19	0.22	0.22	0.27	0.45	0.00	0.08	0.26	0.00
Sat Flow, veh/h	1781	1870	3170	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	53	116	192	625	663	141	716	944	0	116	622	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.7	7.8	4.5	23.1	23.3	9.9	24.8	25.8	0.0	8.3	20.5	0.0
Cycle Q Clear(g_c), s	3.7	7.8	4.5	23.1	23.3	9.9	24.8	25.8	0.0	8.3	20.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	168	284	671	771	344	936	1607		148	910	
V/C Ratio(X)	0.41	0.69	0.68	0.93	0.86	0.41	0.76	0.59		0.78	0.68	
Avail Cap(c_a), veh/h	151	276	468	686	929	415	936	1607		221	910	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.63	0.63	0.63	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.7	57.4	20.3	51.5	49.0	43.8	43.6	26.6	0.0	58.4	43.6	0.0
Incr Delay (d2), s/veh	0.8	5.0	2.8	13.5	4.6	0.5	3.6	1.6	0.0	5.2	4.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.8	3.0	10.8	10.4	3.8	11.1	11.2	0.0	4.0	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.5	62.5	23.1	65.0	53.6	44.2	47.2	28.1	0.0	63.7	47.7	0.0
LnGrp LOS	E	E	C	E	D	D	D	C		E	D	
Approach Vol, veh/h		361			1429			1660	A		738	A
Approach Delay, s/veh		40.9			57.7			36.4			50.2	
Approach LOS		D			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.2	65.0	30.6	18.1	41.4	39.8	14.1	34.7				
Change Period (Y+Rc), s	5.4	6.2	5.4	* 6.5	6.2	* 6.5	* 4.7	6.5				
Max Green Setting (Gmax), s	16.1	46.1	25.8	* 19	28.9	* 33	* 11	34.0				
Max Q Clear Time (g_c+I1), s	11.0	27.8	25.1	9.8	26.8	22.5	5.7	25.3				
Green Ext Time (p_c), s	0.0	6.6	0.1	0.8	0.6	3.1	0.0	2.8				

Intersection Summary

HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	110	330	594	630	400	680	897	398	110	591	20
Future Volume (veh/h)	50	110	330	594	630	400	680	897	398	110	591	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	53	116	192	625	663	141	716	944	0	116	622	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	128	168	284	671	771	344	936	1607		148	910	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.09	0.09	0.19	0.22	0.22	0.27	0.45	0.00	0.08	0.26	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.5	62.5	23.1	65.0	53.6	44.2	47.2	28.1	0.0	63.7	47.7	0.0
Ln Grp LOS	E	E	C	E	D	D	D	C		E	D	
Approach Vol, veh/h		361			1429			1660			738	
Approach Delay, s/veh		40.9			57.7			36.4			50.2	
Approach LOS		D			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	6	5	7	8			
Case No		2.0	3.0	2.0	3.0	3.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		16.2	65.0	30.6	18.1	39.8	41.4	14.1	34.7			
Change Period (Y+Rc), s		5.4	6.2	5.4	* 6.5	* 6.5	6.2	* 4.7	6.5			
Max Green (Gmax), s		16.1	46.1	25.8	* 19	* 33	28.9	* 11	34.0			
Max Allow Headway (MAH), s		2.3	5.2	2.1	4.2	5.2	3.3	2.1	4.6			
Max Q Clear (g_c+I1), s		10.3	27.8	25.1	9.8	22.5	26.8	5.7	25.3			
Green Ext Time (g_e), s		0.0	6.6	0.1	0.8	3.1	0.6	0.0	2.8			
Prob of Phs Call (p_c)		0.98	1.00	1.00	1.00	1.00	1.00	0.85	1.00			
Prob of Max Out (p_x)		0.00	0.00	1.00	0.05	0.00	1.00	0.00	0.41			
Left-Turn Movement Data												
Assigned Mvmt		1		3			5	7				
Mvmt Sat Flow, veh/h		1781		3456			3456	1781				
Through Movement Data												
Assigned Mvmt			2		4	6			8			
Mvmt Sat Flow, veh/h			3554		1870	3554			3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14	16			18			
Mvmt Sat Flow, veh/h			1585		3170	1585			1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	0	5	7	0			
Lane Assignment		L (Prot)		L (Prot)			L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

6: Monterey Ave & Varner Rd

07/11/2019

Lanes in Grp	1	0	2	0	0	2	1	0
Grp Vol (v), veh/h	116	0	625	0	0	716	53	0
Grp Sat Flow (s), veh/h/ln	1781	0	1728	0	0	1728	1781	0
Q Serve Time (g_s), s	8.3	0.0	23.1	0.0	0.0	24.8	3.7	0.0
Cycle Q Clear Time (g_c), s	8.3	0.0	23.1	0.0	0.0	24.8	3.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	148	0	671	0	0	936	128	0
V/C Ratio (X)	0.78	0.00	0.93	0.00	0.00	0.76	0.41	0.00
Avail Cap (c_a), veh/h	221	0	686	0	0	936	151	0
Upstream Filter (I)	1.00	0.00	0.63	0.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	58.4	0.0	51.5	0.0	0.0	43.6	57.7	0.0
Incr Delay (d2), s/veh	5.2	0.0	13.5	0.0	0.0	3.6	0.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.7	0.0	65.0	0.0	0.0	47.2	58.5	0.0
1st-Term Q (Q1), veh/ln	3.7	0.0	9.6	0.0	0.0	10.6	1.6	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	1.3	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.0	0.0	10.8	0.0	0.0	11.1	1.6	0.0
%ile Storage Ratio (RQ%)	0.58	0.00	0.92	0.00	0.00	1.39	0.21	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	6	0	0	8
Lane Assignment		T		T	T			T
Lanes in Grp	0	2	0	1	2	0	0	2
Grp Vol (v), veh/h	0	944	0	116	622	0	0	663
Grp Sat Flow (s), veh/h/ln	0	1777	0	1870	1777	0	0	1777
Q Serve Time (g_s), s	0.0	25.8	0.0	7.8	20.5	0.0	0.0	23.3
Cycle Q Clear Time (g_c), s	0.0	25.8	0.0	7.8	20.5	0.0	0.0	23.3
Lane Grp Cap (c), veh/h	0	1607	0	168	910	0	0	771
V/C Ratio (X)	0.00	0.59	0.00	0.69	0.68	0.00	0.00	0.86
Avail Cap (c_a), veh/h	0	1607	0	276	910	0	0	929
Upstream Filter (I)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	0.63
Uniform Delay (d1), s/veh	0.0	26.6	0.0	57.4	43.6	0.0	0.0	49.0
Incr Delay (d2), s/veh	0.0	1.6	0.0	5.0	4.1	0.0	0.0	4.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.1	0.0	62.5	47.7	0.0	0.0	53.6
1st-Term Q (Q1), veh/ln	0.0	10.9	0.0	3.6	9.0	0.0	0.0	9.9
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.2	0.5	0.0	0.0	0.5

HCM 6th Signalized Intersection Capacity Analysis

6: Monterey Ave & Varner Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	11.2	0.0	3.8	9.6	0.0	0.0	10.4
%ile Storage Ratio (RQ%)	0.00	1.41	0.00	0.06	0.30	0.00	0.00	0.47
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	16	0	0	18
Lane Assignment		R		R	R			R
Lanes in Grp	0	1	0	2	1	0	0	1
Grp Vol (v), veh/h	0	0	0	192	0	0	0	141
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	1585	0	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	4.5	0.0	0.0	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	4.5	0.0	0.0	0.0	9.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	717	0	284	406	0	0	344
V/C Ratio (X)	0.00	0.00	0.00	0.68	0.00	0.00	0.00	0.41
Avail Cap (c_a), veh/h	0	717	0	468	406	0	0	415
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.63
Uniform Delay (d1), s/veh	0.0	0.0	0.0	20.3	0.0	0.0	0.0	43.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	23.1	0.0	0.0	0.0	44.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.9	0.0	0.0	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	3.0	0.0	0.0	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.48
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	46.5
HCM 6th LOS	D

Notes

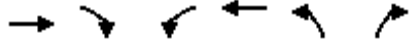
User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 7: I-10 WB Off Ramp & Varner Rd







07/11/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	↑
Traffic Volume (veh/h)	450	0	0	560	1064	60
Future Volume (veh/h)	450	0	0	560	1064	60
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870
Adj Flow Rate, veh/h	474	0	0	589	1120	17
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	875	0	0	875	1432	657
Arrive On Green	0.25	0.00	0.00	0.25	0.41	0.41
Sat Flow, veh/h	3741	0	0	3741	3456	1585
Grp Volume(v), veh/h	474	0	0	589	1120	17
Grp Sat Flow(s),veh/h/ln	1777	0	0	1777	1728	1585
Q Serve(g_s), s	3.8	0.0	0.0	4.9	9.3	0.2
Cycle Q Clear(g_c), s	3.8	0.0	0.0	4.9	9.3	0.2
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	875	0	0	875	1432	657
V/C Ratio(X)	0.54	0.00	0.00	0.67	0.78	0.03
Avail Cap(c_a), veh/h	1207	0	0	1207	1844	846
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.8	0.0	0.0	11.2	8.4	5.7
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.8	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	1.1	2.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.3	0.0	0.0	12.0	10.0	5.7
LnGrp LOS	B	A	A	B	A	A
Approach Vol, veh/h	474			589	1137	
Approach Delay, s/veh	11.3			12.0	9.9	
Approach LOS	B			B	A	
Timer - Assigned Phs		2			6	8
Phs Duration (G+Y+Rc), s		13.9			13.9	19.1
Change Period (Y+Rc), s		5.8			5.8	5.4
Max Green Setting (Gmax), s		11.2			11.2	17.6
Max Q Clear Time (g_c+1), s		5.8			6.9	11.3
Green Ext Time (p_c), s		1.1			1.2	2.4
Intersection Summary						
HCM 6th Ctrl Delay			10.8			
HCM 6th LOS			B			

HCM 6th Signalized Intersection Capacity Analysis
7: I-10 WB Off Ramp & Varner Rd

07/11/2019

									
Movement	EBT	EBR	WBL	WBT	NBL	NBR			
Lane Configurations	↑↑			↑↑	↑↑	↑			
Traffic Volume (veh/h)	450	0	0	560	1064	60			
Future Volume (veh/h)	450	0	0	560	1064	60			
Number	2	12	1	6	3	18			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)		1.00	1.00		1.00	1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	0	0	1870	1870	1870			
Adj Flow Rate, veh/h	474	0	0	589	1120	17			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	0	0	2	2	2			
Opposing Right Turn Influence			No		Yes				
Cap, veh/h	875	0	0	875	1432	657			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.25	0.00	0.00	0.25	0.41	0.41			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	11.3	0.0	0.0	12.0	10.0	5.7			
Ln Grp LOS	B	A	A	B	A	A			
Approach Vol, veh/h	474			589	1137				
Approach Delay, s/veh	11.3			12.0	9.9				
Approach LOS	B			B	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2	8			6		
Case No			8.0	9.0			8.0		
Phs Duration (G+Y+Rc), s			13.9	19.1			13.9		
Change Period (Y+Rc), s			5.8	5.4			5.8		
Max Green (Gmax), s			11.2	17.6			11.2		
Max Allow Headway (MAH), s			4.4	3.5			4.4		
Max Q Clear (g_c+I1), s			5.8	11.3			6.9		
Green Ext Time (g_e), s			1.1	2.4			1.2		
Prob of Phs Call (p_c)			0.99	1.00			1.00		
Prob of Max Out (p_x)			0.69	0.50			1.00		
Left-Turn Movement Data									
Assigned Mvmt			5	3			1		
Mvmt Sat Flow, veh/h			0	3456			0		
Through Movement Data									
Assigned Mvmt			2	8			6		
Mvmt Sat Flow, veh/h			3741	0			3741		
Right-Turn Movement Data									
Assigned Mvmt			12	18			16		
Mvmt Sat Flow, veh/h			0	1585			0		
Left Lane Group Data									
Assigned Mvmt		0	5	3	0	0	1	0	0
Lane Assignment				L					

HCM 6th Signalized Intersection Capacity Analysis
 7: I-10 WB Off Ramp & Varner Rd

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Lanes in Grp	0	0	2	0	0	0	0	0
Grp Vol (v), veh/h	0	0	1120	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1728	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	9.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	9.3	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1728	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	8.1	0.0	0.0	0.0	8.1	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	1432	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.78	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1844	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	2.1	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	474	0	0	0	589	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.8	0.0	0.0	0.0	4.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.8	0.0	0.0	0.0	4.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	875	0	0	0	875	0	0
V/C Ratio (X)	0.00	0.54	0.00	0.00	0.00	0.67	0.00	0.00
Avail Cap (c_a), veh/h	0	1207	0	0	0	1207	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	10.8	0.0	0.0	0.0	11.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.3	0.0	0.0	0.0	12.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	0.0	0.0	1.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 7: I-10 WB Off Ramp & Varner Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	0.0	0.0	1.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment	R							
Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	17	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1585	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	657	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	846	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	5.7	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
 8: Monterey Ave & I-10 EB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	1142	0	0	0	0	1915	1172	205	1295	0
Future Volume (veh/h)	60	0	1142	0	0	0	0	1915	1172	205	1295	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	42	0	1188				0	2016	719	216	1363	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	602	0	1071				0	2392	743	237	2037	0
Arrive On Green	0.34	0.00	0.34				0.00	0.31	0.31	0.07	0.57	0.00
Sat Flow, veh/h	1781	0	3170				0	5274	1585	3456	3647	0
Grp Volume(v), veh/h	42	0	1188				0	2016	719	216	1363	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1728	1777	0
Q Serve(g_s), s	2.1	0.0	43.9				0.0	47.9	58.1	8.1	34.5	0.0
Cycle Q Clear(g_c), s	2.1	0.0	43.9				0.0	47.9	58.1	8.1	34.5	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	602	0	1071				0	2392	743	237	2037	0
V/C Ratio(X)	0.07	0.00	1.11				0.00	0.84	0.97	0.91	0.67	0.00
Avail Cap(c_a), veh/h	602	0	1071				0	2392	743	237	2037	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.67	0.67	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.34	0.34	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.2	0.0	43.1				0.0	40.1	43.6	60.2	19.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	62.8				0.0	1.3	13.1	35.9	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	26.3				0.0	21.2	26.3	4.7	14.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.2	0.0	105.8				0.0	41.5	56.8	96.1	21.0	0.0
LnGrp LOS	C	A	F				A	D	E	F	C	A
Approach Vol, veh/h		1230						2735			1579	
Approach Delay, s/veh		103.2						45.5			31.3	
Approach LOS		F						D			C	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	33.6	66.7	49.7	80.3								
Change Period (Y+Rc), s	4.7	5.8	5.8	5.8								
Max Green Setting (Gmax), s	10.9	60.9	43.9	74.5								
Max Q Clear Time (g_c+I), s	11.0	60.1	45.9	36.5								
Green Ext Time (p_c), s	0.0	0.7	0.0	14.2								

Intersection Summary

HCM 6th Ctrl Delay	54.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 8: Monterey Ave & I-10 EB Ramps

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	1142	0	0	0	0	1915	1172	205	1295	0
Future Volume (veh/h)	60	0	1142	0	0	0	0	1915	1172	205	1295	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	42	0	1188				0	2016	719	216	1363	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	602	0	1071				0	2392	743	237	2037	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	0.67	0.67	1.00	1.00	1.00
Prop Arrive On Green	0.34	0.00	0.34				0.00	0.31	0.31	0.07	0.57	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	29.2	0.0	105.8				0.0	41.5	56.8	96.1	21.0	0.0
Ln Grp LOS	C	A	F				A	D	E	F	C	A
Approach Vol, veh/h		1230						2735			1579	
Approach Delay, s/veh		103.2						45.5			31.3	
Approach LOS		F						D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		13.6	66.7		49.7		80.3					
Change Period (Y+Rc), s		* 4.7	5.8		5.8		5.8					
Max Green (Gmax), s		* 8.9	60.9		43.9		74.5					
Max Allow Headway (MAH), s		3.8	4.9		3.5		5.2					
Max Q Clear (g_c+I1), s		10.1	60.1		45.9		36.5					
Green Ext Time (g_e), s		0.0	0.7		0.0		14.2					
Prob of Phs Call (p_c)		1.00	1.00		1.00		1.00					
Prob of Max Out (p_x)		1.00	0.00		1.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		3456	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5274		0		3647					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis

8: Monterey Ave & I-10 EB Ramps

07/11/2019

Lanes in Grp	2	0	0	1	0	0	0	0
Grp Vol (v), veh/h	216	0	0	42	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	8.1	0.0	0.0	2.1	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	8.1	0.0	0.0	2.1	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	60.9	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	237	0	0	602	0	0	0	0
V/C Ratio (X)	0.91	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	237	0	0	602	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	60.2	0.0	0.0	29.2	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	35.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	96.1	0.0	0.0	29.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	3.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	4.7	0.0	0.0	0.9	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.33	0.00	0.00	0.07	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	2016	0	0	0	1363	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	47.9	0.0	0.0	0.0	34.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	47.9	0.0	0.0	0.0	34.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	2392	0	0	0	2037	0	0
V/C Ratio (X)	0.00	0.84	0.00	0.00	0.00	0.67	0.00	0.00
Avail Cap (c_a), veh/h	0	2392	0	0	0	2037	0	0
Upstream Filter (I)	0.00	0.34	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	40.1	0.0	0.0	0.0	19.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.0	0.0	1.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	41.5	0.0	0.0	0.0	21.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	20.9	0.0	0.0	0.0	13.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.5	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

8: Monterey Ave & I-10 EB Ramps

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	21.2	0.0	0.0	0.0	14.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.41	0.00	0.00	0.00	0.91	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	719	0	1188	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	58.1	0.0	43.9	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	58.1	0.0	43.9	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	743	0	1071	0	0	0	0
V/C Ratio (X)	0.00	0.97	0.00	1.11	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	743	0	1071	0	0	0	0
Upstream Filter (I)	0.00	0.34	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	43.6	0.0	43.1	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	13.1	0.0	62.8	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	56.8	0.0	105.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	23.6	0.0	17.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	2.7	0.0	9.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	26.3	0.0	26.3	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	1.96	0.00	6.68	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	29.4	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	54.2
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 9: Monterey Ave & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↖↖	↑↑	↗	↖↖	↑↑	↗	↖↖	↑↑↑		↖↖	↑↑↑	↗
Traffic Volume (veh/h)	794	540	512	100	590	770	516	1522	50	470	1239	733
Future Volume (veh/h)	794	540	512	100	590	770	516	1522	50	470	1239	733
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	836	568	354	105	621	0	543	1602	53	495	1304	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	811	1047	467	208	687		532	1724	57	478	1657	
Arrive On Green	0.16	0.29	0.29	0.06	0.19	0.00	0.15	0.34	0.34	0.28	0.65	0.00
Sat Flow, veh/h	5023	3554	1585	3456	3554	1585	3456	5073	168	3456	5106	1585
Grp Volume(v), veh/h	836	568	354	105	621	0	543	1075	580	495	1304	0
Grp Sat Flow(s),veh/h/ln	1674	1777	1585	1728	1777	1585	1728	1702	1837	1728	1702	1585
Q Serve(g_s), s	21.0	17.4	26.4	3.8	22.2	0.0	20.0	39.6	39.6	18.0	23.8	0.0
Cycle Q Clear(g_c), s	21.0	17.4	26.4	3.8	22.2	0.0	20.0	39.6	39.6	18.0	23.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	811	1047	467	208	687		532	1157	624	478	1657	
V/C Ratio(X)	1.03	0.54	0.76	0.51	0.90		1.02	0.93	0.93	1.03	0.79	
Avail Cap(c_a), veh/h	811	1203	536	213	847		532	1157	624	478	1657	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.35	0.35	0.35	1.00	1.00	0.00	0.22	0.22	0.22	0.50	0.50	0.00
Uniform Delay (d), s/veh	54.5	38.5	41.6	59.2	51.3	0.0	55.0	41.4	41.4	47.0	19.6	0.0
Incr Delay (d2), s/veh	27.0	0.1	1.6	0.7	10.2	0.0	23.9	4.0	6.9	38.4	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	7.3	10.0	1.7	10.6	0.0	10.1	16.2	18.0	8.7	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	81.5	38.5	43.2	59.9	61.4	0.0	78.9	45.4	48.3	85.4	21.6	0.0
LnGrp LOS	F	D	D	E	E		F	D	D	F	C	
Approach Vol, veh/h		1758			726	A		2198			1799	A
Approach Delay, s/veh		59.9			61.2			54.4			39.1	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	42.8	44.0	25.0	48.2	26.0	30.8	23.0	50.2				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	44.0	44.0	20.0	36.3	21.0	31.0	18.0	38.3				
Max Q Clear Time (g_c+1/3), s	15.8	28.4	22.0	25.8	23.0	24.2	20.0	41.6				
Green Ext Time (p_c), s	0.0	1.2	0.0	2.5	0.0	0.9	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	52.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	794	540	512	100	590	770	516	1522	50	470	1239	733
Future Volume (veh/h)	794	540	512	100	590	770	516	1522	50	470	1239	733
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		0.98	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	836	568	354	105	621	0	543	1602	53	495	1304	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	811	1047	467	208	687		532	1724	57	478	1657	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.16	0.29	0.29	0.06	0.19	0.00	0.15	0.34	0.34	0.28	0.65	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	81.5	38.5	43.2	59.9	61.4	0.0	78.9	45.4	48.3	85.4	21.6	0.0
Ln Grp LOS	F	D	D	E	E		F	D	D	F	C	
Approach Vol, veh/h		1758			726			2198			1799	
Approach Delay, s/veh		59.9			61.2			54.4			39.1	
Approach LOS		E			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		12.8	44.0	25.0	48.2	26.0	30.8	23.0	50.2			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		8.0	44.0	20.0	36.3	21.0	31.0	18.0	38.3			
Max Allow Headway (MAH), s		1.7	2.5	1.6	2.7	1.7	2.9	1.6	2.7			
Max Q Clear (g_c+I1), s		5.8	28.4	22.0	25.8	23.0	24.2	20.0	41.6			
Green Ext Time (g_e), s		0.0	1.2	0.0	2.5	0.0	0.9	0.0	0.0			
Prob of Phs Call (p_c)		0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.22	0.00	1.00	0.00	1.00	0.08	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		5023		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		5073			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		168			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 9: Monterey Ave & Dinah Shore Dr

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Lanes in Grp	2	0	2	0	3	0	2	0
Grp Vol (v), veh/h	105	0	543	0	836	0	495	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1674	0	1728	0
Q Serve Time (g_s), s	3.8	0.0	20.0	0.0	21.0	0.0	18.0	0.0
Cycle Q Clear Time (g_c), s	3.8	0.0	20.0	0.0	21.0	0.0	18.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	208	0	532	0	811	0	478	0
V/C Ratio (X)	0.51	0.00	1.02	0.00	1.03	0.00	1.03	0.00
Avail Cap (c_a), veh/h	213	0	532	0	811	0	478	0
Upstream Filter (I)	1.00	0.00	0.22	0.00	0.35	0.00	0.50	0.00
Uniform Delay (d1), s/veh	59.2	0.0	55.0	0.0	54.5	0.0	47.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	23.9	0.0	27.0	0.0	38.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.9	0.0	78.9	0.0	81.5	0.0	85.4	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	8.3	0.0	8.5	0.0	6.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.8	0.0	2.0	0.0	2.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.7	0.0	10.1	0.0	10.6	0.0	8.7	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.97	0.00	0.96	0.00	1.26	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	2.8	0.0	6.1	0.0	4.1	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.3	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	2
Grp Vol (v), veh/h	0	568	0	1304	0	621	0	1075
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	17.4	0.0	23.8	0.0	22.2	0.0	39.6
Cycle Q Clear Time (g_c), s	0.0	17.4	0.0	23.8	0.0	22.2	0.0	39.6
Lane Grp Cap (c), veh/h	0	1047	0	1657	0	687	0	1157
V/C Ratio (X)	0.00	0.54	0.00	0.79	0.00	0.90	0.00	0.93
Avail Cap (c_a), veh/h	0	1203	0	1657	0	847	0	1157
Upstream Filter (I)	0.00	0.35	0.00	0.50	0.00	1.00	0.00	0.22
Uniform Delay (d1), s/veh	0.0	38.5	0.0	19.6	0.0	51.3	0.0	41.4
Incr Delay (d2), s/veh	0.0	0.1	0.0	2.0	0.0	10.2	0.0	4.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	38.5	0.0	21.6	0.0	61.4	0.0	45.4
1st-Term Q (Q1), veh/ln	0.0	7.3	0.0	5.3	0.0	9.6	0.0	15.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	1.0	0.0	0.6

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.3	0.0	5.6	0.0	10.6	0.0	16.2
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.11	0.00	0.27	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	354	0	0	0	0	0	580
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1837
Q Serve Time (g_s), s	0.0	26.4	0.0	0.0	0.0	0.0	0.0	39.6
Cycle Q Clear Time (g_c), s	0.0	26.4	0.0	0.0	0.0	0.0	0.0	39.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.09
Lane Grp Cap (c), veh/h	0	467	0	514	0	306	0	624
V/C Ratio (X)	0.00	0.76	0.00	0.00	0.00	0.00	0.00	0.93
Avail Cap (c_a), veh/h	0	536	0	514	0	378	0	624
Upstream Filter (I)	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.22
Uniform Delay (d1), s/veh	0.0	41.6	0.0	0.0	0.0	0.0	0.0	41.4
Incr Delay (d2), s/veh	0.0	1.6	0.0	0.0	0.0	0.0	0.0	6.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	43.2	0.0	0.0	0.0	0.0	0.0	48.3
1st-Term Q (Q1), veh/ln	0.0	9.8	0.0	0.0	0.0	0.0	0.0	16.8
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	1.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.0	0.0	0.0	0.0	0.0	0.0	18.0
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	52.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↘	↙	↘		↑↑↑	↘		↑↑↑	↘
Traffic Volume (veh/h)	0	0	0	531	0	100	0	510	680	0	310	130
Future Volume (veh/h)	0	0	0	531	0	100	0	510	680	0	310	130
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No				No
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				559	0	32	0	537	329	0	326	62
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				872	0	388	0	2571	798	0	2571	798
Arrive On Green				0.24	0.00	0.24	0.00	0.50	0.50	0.00	0.50	0.50
Sat Flow, veh/h				3563	0	1585	0	5274	1585	0	5274	1585
Grp Volume(v), veh/h				559	0	32	0	537	329	0	326	62
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1702	1585	0	1702	1585
Q Serve(g_s), s				5.0	0.0	0.6	0.0	2.1	4.6	0.0	1.2	0.7
Cycle Q Clear(g_c), s				5.0	0.0	0.6	0.0	2.1	4.6	0.0	1.2	0.7
Prop In Lane				1.00		1.00	0.00		1.00	0.00		1.00
Lane Grp Cap(c), veh/h				872	0	388	0	2571	798	0	2571	798
V/C Ratio(X)				0.64	0.00	0.08	0.00	0.21	0.41	0.00	0.13	0.08
Avail Cap(c_a), veh/h				1794	0	798	0	2571	798	0	2571	798
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				12.1	0.0	10.4	0.0	4.9	5.6	0.0	4.7	4.6
Incr Delay (d2), s/veh				0.8	0.0	0.1	0.0	0.2	1.6	0.0	0.1	0.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				1.6	0.0	0.2	0.0	0.5	1.2	0.0	0.3	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				12.9	0.0	10.5	0.0	5.1	7.1	0.0	4.8	4.8
LnGrp LOS				B	A	B	A	A	A	A	A	A
Approach Vol, veh/h					591			866			388	
Approach Delay, s/veh					12.8			5.9			4.8	
Approach LOS					B			A			A	
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		22.5				22.5		13.2				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		18.0				18.0		18.0				
Max Q Clear Time (g_c+I1), s		6.6				3.2		7.0				
Green Ext Time (p_c), s		3.8				2.0		1.7				

Intersection Summary




















HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	531	0	100	0	510	680	0	310	130
Future Volume (veh/h)	0	0	0	531	0	100	0	510	680	0	310	130
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				559	0	32	0	537	329	0	326	62
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Opposing Right Turn Influence				Yes			No			No		
Cap, veh/h				872	0	388	0	2571	798	0	2571	798
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green				0.24	0.00	0.24	0.00	0.50	0.50	0.00	0.50	0.50
Unsig. Movement Delay												
Ln Grp Delay, s/veh				12.9	0.0	10.5	0.0	5.1	7.1	0.0	4.8	4.8
Ln Grp LOS				B	A	B	A	A	A	A	A	A
Approach Vol, veh/h					591			866			388	
Approach Delay, s/veh					12.8			5.9			4.8	
Approach LOS					B			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8			6					
Case No			7.0	9.0			7.0					
Phs Duration (G+Y+Rc), s			22.5	13.2			22.5					
Change Period (Y+Rc), s			4.5	4.5			4.5					
Max Green (Gmax), s			18.0	18.0			18.0					
Max Allow Headway (MAH), s			4.8	3.8			5.1					
Max Q Clear (g_c+I1), s			6.6	7.0			3.2					
Green Ext Time (g_e), s			3.8	1.7			2.0					
Prob of Phs Call (p_c)			1.00	1.00			1.00					
Prob of Max Out (p_x)			0.00	0.05			0.00					
Left-Turn Movement Data												
Assigned Mvmt			5	3			1					
Mvmt Sat Flow, veh/h			0	3563			0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			5274	0			5274					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			1585	1585			1585					
Left Lane Group Data												
Assigned Mvmt	0	5	3	0	0	1	0	0				
Lane Assignment			L									

HCM 6th Signalized Intersection Capacity Analysis
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019

Lanes in Grp	0	0	2	0	0	0	0	0
Grp Vol (v), veh/h	0	0	559	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	18.0	0.0	0.0	0.0	18.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	872	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.64	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1794	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	12.9	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	537	0	0	0	326	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	2.1	0.0	0.0	0.0	1.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.1	0.0	0.0	0.0	1.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	2571	0	0	0	2571	0	0
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.13	0.00	0.00
Avail Cap (c_a), veh/h	0	2571	0	0	0	2571	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	4.9	0.0	0.0	0.0	4.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.1	0.0	0.0	0.0	4.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 10: Portola Rd & I-10 WB On-Ramp/I-10 WB Ramps

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	0.0	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R			R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	329	32	0	0	62	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1585	0	0
Q Serve Time (g_s), s	0.0	4.6	0.6	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	4.6	0.6	0.0	0.0	0.7	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	798	388	0	0	798	0	0
V/C Ratio (X)	0.00	0.41	0.08	0.00	0.00	0.08	0.00	0.00
Avail Cap (c_a), veh/h	0	798	798	0	0	798	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.6	10.4	0.0	0.0	4.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.6	0.1	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.1	10.5	0.0	0.0	4.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.8	0.2	0.0	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.2	0.2	0.0	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.00	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	0	475	0	0	0	0	1020	596	120	721	0
Future Volume (veh/h)	120	0	475	0	0	0	0	1020	596	120	721	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	126	0	500				0	1074	243	126	759	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	549	0	489				0	1921	596	161	2766	0
Arrive On Green	0.31	0.00	0.31				0.00	0.38	0.38	0.09	0.54	0.00
Sat Flow, veh/h	1781	0	1585				0	5274	1585	1781	5274	0
Grp Volume(v), veh/h	126	0	500				0	1074	243	126	759	0
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1781	1702	0
Q Serve(g_s), s	3.2	0.0	18.5				0.0	10.0	6.8	4.2	4.8	0.0
Cycle Q Clear(g_c), s	3.2	0.0	18.5				0.0	10.0	6.8	4.2	4.8	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	549	0	489				0	1921	596	161	2766	0
V/C Ratio(X)	0.23	0.00	1.02				0.00	0.56	0.41	0.78	0.27	0.00
Avail Cap(c_a), veh/h	549	0	489				0	1921	596	223	2766	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.4	0.0	20.8				0.0	14.8	13.8	26.7	7.4	0.0
Incr Delay (d2), s/veh	0.2	0.0	46.7				0.0	1.2	2.1	11.4	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	12.4				0.0	3.6	2.5	2.2	1.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	0.0	67.4				0.0	16.0	15.9	38.1	7.6	0.0
LnGrp LOS	B	A	F				A	B	B	D	A	A
Approach Vol, veh/h		626						1317			885	
Approach Delay, s/veh		57.0						15.9			12.0	
Approach LOS		E						B			B	
Timer - Assigned Phs	1	2	4	6								
Phs Duration (G+Y+Rc), s	9.9	27.1	23.0	37.0								
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	5	20.5	18.5	32.5								
Max Q Clear Time (g_c+I), s	10.2	12.0	20.5	6.8								
Green Ext Time (p_c), s	0.0	5.1	0.0	5.7								

Intersection Summary

HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	0	475	0	0	0	0	1020	596	120	721	0
Future Volume (veh/h)	120	0	475	0	0	0	0	1020	596	120	721	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	126	0	500				0	1074	243	126	759	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	549	0	489				0	1921	596	161	2766	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.31	0.00	0.31				0.00	0.38	0.38	0.09	0.54	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	15.7	0.0	67.4				0.0	16.0	15.9	38.1	7.6	0.0
Ln Grp LOS	B	A	F				A	B	B	D	A	A
Approach Vol, veh/h		626						1317			885	
Approach Delay, s/veh		57.0						15.9			12.0	
Approach LOS		E						B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	7.0		10.0		4.0					
Phs Duration (G+Y+Rc), s		9.9	27.1		23.0		37.0					
Change Period (Y+Rc), s		4.5	4.5		4.5		4.5					
Max Green (Gmax), s		7.5	20.5		18.5		32.5					
Max Allow Headway (MAH), s		3.8	5.0		5.2		5.2					
Max Q Clear (g_c+I1), s		6.2	12.0		20.5		6.8					
Green Ext Time (g_e), s		0.0	5.1		0.0		5.7					
Prob of Phs Call (p_c)		0.88	1.00		1.00		1.00					
Prob of Max Out (p_x)		1.00	0.00		1.00		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		1781	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			5274		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		1585		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019

Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	126	0	0	126	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	4.2	0.0	0.0	3.2	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	4.2	0.0	0.0	3.2	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	22.6	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	161	0	0	549	0	0	0	0
V/C Ratio (X)	0.78	0.00	0.00	0.23	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	223	0	0	549	0	0	0	0
Upstream Filter (I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	26.7	0.0	0.0	15.4	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	11.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	38.1	0.0	0.0	15.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	0.0	1.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	2.2	0.0	0.0	1.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	3	0	0
Grp Vol (v), veh/h	0	1074	0	0	0	759	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	10.0	0.0	0.0	0.0	4.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.0	0.0	0.0	0.0	4.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	1921	0	0	0	2766	0	0
V/C Ratio (X)	0.00	0.56	0.00	0.00	0.00	0.27	0.00	0.00
Avail Cap (c_a), veh/h	0	1921	0	0	0	2766	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.8	0.0	0.0	0.0	7.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.0	0.0	0.0	0.0	7.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.4	0.0	0.0	0.0	1.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 11: Portola Rd & I-10 EB Off-Ramp/I-10 EB On-Ramp

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.6	0.0	0.0	0.0	1.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.00	0.00	0.13	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		R		T+R				
Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	243	0	500	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	6.8	0.0	18.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.8	0.0	18.5	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	596	0	489	0	0	0	0
V/C Ratio (X)	0.00	0.41	0.00	1.02	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	596	0	489	0	0	0	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.8	0.0	20.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.1	0.0	46.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.9	0.0	67.4	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	6.1	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	6.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	12.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.64	0.00	0.40	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	2.8	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	23.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

12: Portola Rd & Dinah Shore Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	640	200	710	30	230	0	500	976	20	150	596	470
Future Volume (veh/h)	640	200	710	30	230	0	500	976	20	150	596	470
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	674	211	0	32	242	0	526	1027	5	158	627	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	757	1010		171	407	182	605	1329	413	311	895	
Arrive On Green	0.22	0.28	0.00	0.05	0.11	0.00	0.17	0.26	0.26	0.09	0.18	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	674	211	0	32	242	0	526	1027	5	158	627	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	16.5	3.9	0.0	0.8	5.6	0.0	12.9	16.2	0.2	3.8	10.0	0.0
Cycle Q Clear(g_c), s	16.5	3.9	0.0	0.8	5.6	0.0	12.9	16.2	0.2	3.8	10.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	757	1010		171	407	182	605	1329	413	311	895	
V/C Ratio(X)	0.89	0.21		0.19	0.59	0.00	0.87	0.77	0.01	0.51	0.70	
Avail Cap(c_a), veh/h	874	2369		318	1797	802	695	2606	809	481	2289	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.0	23.7	0.0	39.7	36.6	0.0	34.9	29.8	23.9	37.8	33.7	0.0
Incr Delay (d2), s/veh	9.4	0.0	0.0	0.2	0.5	0.0	9.5	0.4	0.0	1.3	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	1.5	0.0	0.3	2.3	0.0	5.8	6.1	0.1	1.6	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.4	23.7	0.0	39.9	37.1	0.0	44.4	30.2	23.9	39.0	34.1	0.0
LnGrp LOS	D	C		D	D	A	D	C	C	D	C	
Approach Vol, veh/h		885	A		274			1558			785	A
Approach Delay, s/veh		37.9			37.4			34.9			35.1	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.1	17.0	22.7	22.2	10.3	31.7	15.3	29.6				
Change Period (Y+Rc), s	6.0	7.0	7.5	7.0	6.0	7.0	7.5	7.0				
Max Green Setting (Gmax), s	22.0	44.0	17.5	39.0	8.0	58.0	12.1	44.4				
Max Q Clear Time (g_c+1/3), s	11.5	7.6	14.9	12.0	2.8	5.9	5.8	18.2				
Green Ext Time (p_c), s	0.6	0.9	0.3	3.1	0.0	0.8	0.2	4.4				

Intersection Summary

























HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	640	200	710	30	230	0	500	976	20	150	596	470
Future Volume (veh/h)	640	200	710	30	230	0	500	976	20	150	596	470
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	674	211	0	32	242	0	526	1027	5	158	627	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	757	1010		171	407	182	605	1329	413	311	895	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.22	0.28	0.00	0.05	0.11	0.00	0.17	0.26	0.26	0.09	0.18	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	42.4	23.7	0.0	39.9	37.1	0.0	44.4	30.2	23.9	39.0	34.1	0.0
Ln Grp LOS	D	C		D	D	A	D	C	C	D	C	
Approach Vol, veh/h		885			274			1558			785	
Approach Delay, s/veh		37.9			37.4			34.9			35.1	
Approach LOS		D			D			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		25.1	17.0	22.7	22.2	10.3	31.7	15.3	29.6			
Change Period (Y+Rc), s		6.0	7.0	7.5	7.0	6.0	7.0	7.5	7.0			
Max Green (Gmax), s		22.0	44.0	17.5	39.0	8.0	58.0	12.1	44.4			
Max Allow Headway (MAH), s		2.7	3.9	2.7	4.2	2.7	3.9	3.8	3.8			
Max Q Clear (g_c+I1), s		18.5	7.6	14.9	12.0	2.8	5.9	5.8	18.2			
Green Ext Time (g_e), s		0.6	0.9	0.3	3.1	0.0	0.8	0.2	4.4			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	0.54	0.99	0.98	1.00			
Prob of Max Out (p_x)		0.56	0.00	1.00	0.00	0.00	0.00	0.09	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	674	0	526	0	32	0	158	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	16.5	0.0	12.9	0.0	0.8	0.0	3.8	0.0
Cycle Q Clear Time (g_c), s	16.5	0.0	12.9	0.0	0.8	0.0	3.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	757	0	605	0	171	0	311	0
V/C Ratio (X)	0.89	0.00	0.87	0.00	0.19	0.00	0.51	0.00
Avail Cap (c_a), veh/h	874	0	695	0	318	0	481	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	33.0	0.0	34.9	0.0	39.7	0.0	37.8	0.0
Incr Delay (d2), s/veh	9.4	0.0	9.5	0.0	0.2	0.0	1.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	42.4	0.0	44.4	0.0	39.9	0.0	39.0	0.0
1st-Term Q (Q1), veh/ln	6.4	0.0	5.0	0.0	0.3	0.0	1.6	0.0
2nd-Term Q (Q2), veh/ln	1.0	0.0	0.8	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	7.4	0.0	5.8	0.0	0.3	0.0	1.6	0.0
%ile Storage Ratio (RQ%)	0.54	0.00	0.53	0.00	0.04	0.00	0.21	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	3
Grp Vol (v), veh/h	0	242	0	627	0	211	0	1027
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	5.6	0.0	10.0	0.0	3.9	0.0	16.2
Cycle Q Clear Time (g_c), s	0.0	5.6	0.0	10.0	0.0	3.9	0.0	16.2
Lane Grp Cap (c), veh/h	0	407	0	895	0	1010	0	1329
V/C Ratio (X)	0.00	0.59	0.00	0.70	0.00	0.21	0.00	0.77
Avail Cap (c_a), veh/h	0	1797	0	2289	0	2369	0	2606
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	36.6	0.0	33.7	0.0	23.7	0.0	29.8
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.4	0.0	0.0	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	37.1	0.0	34.1	0.0	23.7	0.0	30.2
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	4.1	0.0	1.5	0.0	6.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 12: Portola Rd & Dinah Shore Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.3	0.0	4.1	0.0	1.5	0.0	6.1
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.10	0.00	0.03	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	0	0	0	0	5
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	182	0	278	0	450	0	413
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Avail Cap (c_a), veh/h	0	802	0	711	0	1057	0	809
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	23.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	35.9
HCM 6th LOS	D

Notes

User approved ignoring U-Turning movement.
 Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 13: Date Palm Dr & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	110	40	428	90	451	40	610	540	338	620	80
Future Volume (veh/h)	80	110	40	428	90	451	40	610	540	338	620	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	116	42	519	0	135	42	642	371	356	653	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	163	57	609	0	271	54	1304	582	380	1741	224
Arrive On Green	0.06	0.06	0.06	0.17	0.00	0.17	0.03	0.37	0.37	0.21	0.55	0.55
Sat Flow, veh/h	1781	2588	898	3563	0	1585	1781	3554	1585	1781	3167	407
Grp Volume(v), veh/h	84	78	80	519	0	135	42	642	371	356	366	371
Grp Sat Flow(s),veh/h/ln	1781	1777	1709	1781	0	1585	1781	1777	1585	1781	1777	1797
Q Serve(g_s), s	5.9	5.5	5.9	18.1	0.0	9.9	3.0	17.9	24.8	25.2	15.0	15.0
Cycle Q Clear(g_c), s	5.9	5.5	5.9	18.1	0.0	9.9	3.0	17.9	24.8	25.2	15.0	15.0
Prop In Lane	1.00		0.53	1.00		1.00	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	112	112	108	609	0	271	54	1304	582	380	977	988
V/C Ratio(X)	0.75	0.70	0.74	0.85	0.00	0.50	0.78	0.49	0.64	0.94	0.37	0.38
Avail Cap(c_a), veh/h	127	126	121	863	0	384	97	1304	582	404	977	988
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.19	0.00	0.19	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.0	58.8	58.9	51.5	0.0	48.1	61.6	31.3	33.5	49.5	16.3	16.4
Incr Delay (d2), s/veh	19.3	13.5	19.2	1.2	0.0	0.3	8.6	1.3	5.3	28.0	1.1	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	2.9	3.1	7.9	0.0	4.0	1.5	7.8	10.1	13.9	6.1	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.2	72.3	78.1	52.7	0.0	48.3	70.3	32.6	38.8	77.5	17.4	17.4
LnGrp LOS	E	E	E	D	A	D	E	C	D	E	B	B
Approach Vol, veh/h		242			654			1055			1093	
Approach Delay, s/veh		76.3			51.8			36.3			37.0	
Approach LOS		E			D			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	76.8		28.2	33.3	53.4		13.2				
Change Period (Y+Rc), s	6.0	6.4		6.3	6.0	6.4		5.1				
Max Green Setting (Gmax), s	57.2			31.0	29.0	35.2		9.1				
Max Q Clear Time (g_c+1/3), s	17.0			20.1	27.2	26.8		7.9				
Green Ext Time (p_c), s	0.0	10.2		1.8	0.1	5.4		0.1				

Intersection Summary
























HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Capacity Analysis
 13: Date Palm Dr & Gerald Ford Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	110	40	428	90	451	40	610	540	338	620	80
Future Volume (veh/h)	80	110	40	428	90	451	40	610	540	338	620	80
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	116	42	519	0	135	42	642	371	356	653	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	112	163	57	609	0	271	54	1304	582	380	1741	224
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.06	0.06	0.17	0.00	0.17	0.03	0.37	0.37	0.21	0.55	0.55
Unsig. Movement Delay												
Ln Grp Delay, s/veh	78.2	72.3	78.1	52.7	0.0	48.3	70.3	32.6	38.8	77.5	17.4	17.4
Ln Grp LOS	E	E	E	D	A	D	E	C	D	E	B	B
Approach Vol, veh/h		242			654			1055			1093	
Approach Delay, s/veh		76.3			51.8			36.3			37.0	
Approach LOS		E			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	8	4	5	6					
Case No		2.0	4.0	10.0	9.0	2.0	3.0					
Phs Duration (G+Y+Rc), s		9.9	76.8	13.2	28.2	33.3	53.4					
Change Period (Y+Rc), s		6.0	6.4	5.1	6.3	6.0	6.4					
Max Green (Gmax), s		7.0	57.2	9.1	31.0	29.0	35.2					
Max Allow Headway (MAH), s		2.7	7.0	4.9	3.7	2.7	6.6					
Max Q Clear (g_c+I1), s		5.0	17.0	7.9	20.1	27.2	26.8					
Green Ext Time (g_e), s		0.0	10.2	0.1	1.8	0.1	5.4					
Prob of Phs Call (p_c)		0.78	1.00	1.00	1.00	1.00	1.00					
Prob of Max Out (p_x)		1.00	0.00	1.00	0.06	1.00	0.00					
Left-Turn Movement Data												
Assigned Mvmt		1		3	7	5						
Mvmt Sat Flow, veh/h		1781		1781	3563	1781						
Through Movement Data												
Assigned Mvmt			2	8	4		6					
Mvmt Sat Flow, veh/h			3167	2588	0		3554					
Right-Turn Movement Data												
Assigned Mvmt			12	18	14		16					
Mvmt Sat Flow, veh/h			407	898	1585		1585					
Left Lane Group Data												
Assigned Mvmt		1	0	3	7	5	0	0	0			
Lane Assignment		L (Prot)		L	L	L (Prot)						

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Lanes in Grp	1	0	1	2	1	0	0	0
Grp Vol (v), veh/h	42	0	84	519	356	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	1781	1781	0	0	0
Q Serve Time (g_s), s	3.0	0.0	5.9	18.1	25.2	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	3.0	0.0	5.9	18.1	25.2	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	54	0	112	609	380	0	0	0
V/C Ratio (X)	0.78	0.00	0.75	0.85	0.94	0.00	0.00	0.00
Avail Cap (c_a), veh/h	97	0	127	863	404	0	0	0
Upstream Filter (I)	1.00	0.00	1.00	0.19	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	61.6	0.0	59.0	51.5	49.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	8.6	0.0	19.3	1.2	28.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	70.3	0.0	78.2	52.7	77.5	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	2.7	7.8	11.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.6	0.1	2.9	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	3.3	7.9	13.9	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.44	0.00	0.84	2.01	2.15	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T			T		
Lanes in Grp	0	1	1	0	0	2	0	0
Grp Vol (v), veh/h	0	366	78	0	0	642	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	1777	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	15.0	5.5	0.0	0.0	17.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	15.0	5.5	0.0	0.0	17.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	977	112	0	0	1304	0	0
V/C Ratio (X)	0.00	0.37	0.70	0.00	0.00	0.49	0.00	0.00
Avail Cap (c_a), veh/h	0	977	126	0	0	1304	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.3	58.8	0.0	0.0	31.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	13.5	0.0	0.0	1.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.4	72.3	0.0	0.0	32.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.8	2.5	0.0	0.0	7.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.4	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	6.1	2.9	0.0	0.0	7.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.12	0.11	0.00	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment		T+R	T+R	R		R		
Lanes in Grp	0	1	1	1	0	1	0	0
Grp Vol (v), veh/h	0	371	80	135	0	371	0	0
Grp Sat Flow (s), veh/h/ln	0	1797	1709	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	15.0	5.9	9.9	0.0	24.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	15.0	5.9	9.9	0.0	24.8	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.23	0.53	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	988	108	271	0	582	0	0
V/C Ratio (X)	0.00	0.38	0.74	0.50	0.00	0.64	0.00	0.00
Avail Cap (c_a), veh/h	0	988	121	384	0	582	0	0
Upstream Filter (I)	0.00	1.00	1.00	0.19	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.4	58.9	48.1	0.0	33.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	19.2	0.3	0.0	5.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.4	78.1	48.3	0.0	38.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.9	2.6	4.0	0.0	9.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.6	0.0	0.0	0.9	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	6.2	3.1	4.0	0.0	10.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.13	0.12	0.02	0.00	3.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	43.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
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




















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	822	165	90	841	212	185	670	100	136	425	140
Future Volume (veh/h)	60	822	165	90	841	212	185	670	100	136	425	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	865	174	95	885	223	195	705	27	143	447	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	961	193	117	965	243	163	904	403	140	636	207
Arrive On Green	0.05	0.33	0.33	0.07	0.34	0.34	0.09	0.25	0.25	0.08	0.24	0.24
Sat Flow, veh/h	1781	2948	593	1781	2812	708	1781	3554	1585	1781	2634	859
Grp Volume(v), veh/h	63	521	518	95	559	549	195	705	27	143	300	294
Grp Sat Flow(s),veh/h/ln	1781	1777	1764	1781	1777	1743	1781	1777	1585	1781	1777	1716
Q Serve(g_s), s	2.7	21.3	21.4	4.0	23.0	23.0	7.0	14.1	1.0	6.0	11.8	11.9
Cycle Q Clear(g_c), s	2.7	21.3	21.4	4.0	23.0	23.0	7.0	14.1	1.0	6.0	11.8	11.9
Prop In Lane	1.00		0.34	1.00		0.41	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	86	579	575	117	610	598	163	904	403	140	429	414
V/C Ratio(X)	0.73	0.90	0.90	0.81	0.92	0.92	1.19	0.78	0.07	1.02	0.70	0.71
Avail Cap(c_a), veh/h	117	606	601	117	610	598	163	1258	561	140	606	585
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.8	24.5	24.5	35.2	24.0	24.0	34.6	26.4	21.6	35.1	26.4	26.5
Incr Delay (d2), s/veh	8.2	16.1	16.3	32.0	18.8	19.3	131.6	2.1	0.1	81.5	2.1	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	10.3	10.3	2.6	11.4	11.3	8.8	5.6	0.3	5.6	4.8	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.0	40.7	40.8	67.1	42.8	43.3	166.2	28.6	21.6	116.7	28.5	28.8
LnGrp LOS	D	D	D	E	D	D	F	C	C	F	C	C
Approach Vol, veh/h		1102			1203			927			737	
Approach Delay, s/veh		40.9			44.9			57.3			45.7	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	32.7	10.0	25.9	9.0	31.4	11.0	24.9				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	5.0	26.0	6.0	27.0	5.0	26.0	7.0	26.0				
Max Q Clear Time (g_c+14), s	14.5	25.0	8.0	16.1	6.0	23.4	9.0	13.9				
Green Ext Time (p_c), s	0.0	0.6	0.0	3.3	0.0	1.5	0.0	2.6				
Intersection Summary												
HCM 6th Ctrl Delay											46.9	
HCM 6th LOS											D	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	822	165	90	841	212	185	670	100	136	425	140
Future Volume (veh/h)	60	822	165	90	841	212	185	670	100	136	425	140
Number	1	6	16	5	2	12	7	4	14	3	8	18
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	63	865	174	95	885	223	195	705	27	143	447	147
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	86	961	193	117	965	243	163	904	403	140	636	207
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.33	0.33	0.07	0.34	0.34	0.09	0.25	0.25	0.08	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	44.0	40.7	40.8	67.1	42.8	43.3	166.2	28.6	21.6	116.7	28.5	28.8
Ln Grp LOS	D	D	D	E	D	D	F	C	C	F	C	C
Approach Vol, veh/h		1102			1203			927			737	
Approach Delay, s/veh		40.9			44.9			57.3			45.7	
Approach LOS		D			D			E			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		7.7	32.7	10.0	25.9	9.0	31.4	11.0	24.9			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		5.0	26.0	6.0	27.0	5.0	26.0	7.0	26.0			
Max Allow Headway (MAH), s		2.7	4.9	2.7	4.9	2.7	4.9	2.7	5.0			
Max Q Clear (g_c+I1), s		4.7	25.0	8.0	16.1	6.0	23.4	9.0	13.9			
Green Ext Time (g_e), s		0.0	0.6	0.0	3.3	0.0	1.5	0.0	2.6			
Prob of Phs Call (p_c)		0.74	1.00	0.95	1.00	0.87	1.00	0.98	1.00			
Prob of Max Out (p_x)		1.00	1.00	1.00	0.28	1.00	1.00	1.00	0.19			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			2812		3554		2948		2634			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			708		1585		593		859			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	63	0	143	0	95	0	195	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.7	0.0	6.0	0.0	4.0	0.0	7.0	0.0
Cycle Q Clear Time (g_c), s	2.7	0.0	6.0	0.0	4.0	0.0	7.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	86	0	140	0	117	0	163	0
V/C Ratio (X)	0.73	0.00	1.02	0.00	0.81	0.00	1.19	0.00
Avail Cap (c_a), veh/h	117	0	140	0	117	0	163	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	35.8	0.0	35.1	0.0	35.2	0.0	34.6	0.0
Incr Delay (d2), s/veh	8.2	0.0	81.5	0.0	32.0	0.0	131.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	44.0	0.0	116.7	0.0	67.1	0.0	166.2	0.0
1st-Term Q (Q1), veh/ln	1.1	0.0	2.4	0.0	1.6	0.0	2.8	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	3.2	0.0	1.0	0.0	6.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.3	0.0	5.6	0.0	2.6	0.0	8.8	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	1.02	0.00	0.64	0.00	1.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.7	0.0	0.0	0.0	7.9	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	1	0	1
Grp Vol (v), veh/h	0	559	0	705	0	521	0	300
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	23.0	0.0	14.1	0.0	21.3	0.0	11.8
Cycle Q Clear Time (g_c), s	0.0	23.0	0.0	14.1	0.0	21.3	0.0	11.8
Lane Grp Cap (c), veh/h	0	610	0	904	0	579	0	429
V/C Ratio (X)	0.00	0.92	0.00	0.78	0.00	0.90	0.00	0.70
Avail Cap (c_a), veh/h	0	610	0	1258	0	606	0	606
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.0	0.0	26.4	0.0	24.5	0.0	26.4
Incr Delay (d2), s/veh	0.0	18.8	0.0	2.1	0.0	16.1	0.0	2.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	42.8	0.0	28.6	0.0	40.7	0.0	28.5
1st-Term Q (Q1), veh/ln	0.0	8.2	0.0	5.4	0.0	7.7	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	3.2	0.0	0.3	0.0	2.6	0.0	0.2

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	11.4	0.0	5.6	0.0	10.3	0.0	4.8
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.11	0.00	0.05	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	549	0	27	0	518	0	294
Grp Sat Flow (s), veh/h/ln	0	1743	0	1585	0	1764	0	1716
Q Serve Time (g_s), s	0.0	23.0	0.0	1.0	0.0	21.4	0.0	11.9
Cycle Q Clear Time (g_c), s	0.0	23.0	0.0	1.0	0.0	21.4	0.0	11.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.41	0.00	1.00	0.00	0.34	0.00	0.50
Lane Grp Cap (c), veh/h	0	598	0	403	0	575	0	414
V/C Ratio (X)	0.00	0.92	0.00	0.07	0.00	0.90	0.00	0.71
Avail Cap (c_a), veh/h	0	598	0	561	0	601	0	585
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.0	0.0	21.6	0.0	24.5	0.0	26.5
Incr Delay (d2), s/veh	0.0	19.3	0.0	0.1	0.0	16.3	0.0	2.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	43.3	0.0	21.6	0.0	40.8	0.0	28.8
1st-Term Q (Q1), veh/ln	0.0	8.1	0.0	0.3	0.0	7.7	0.0	4.4
2nd-Term Q (Q2), veh/ln	0.0	3.2	0.0	0.0	0.0	2.6	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	11.3	0.0	0.3	0.0	10.3	0.0	4.7
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.05	0.00	0.05	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	46.9
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
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






















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑	↗
Traffic Volume (veh/h)	185	668	201	219	680	441	363	883	152	334	832	105
Future Volume (veh/h)	185	668	201	219	680	441	363	883	152	334	832	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	195	703	78	231	716	332	382	929	52	352	876	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	257	821	366	291	856	382	446	1333	595	324	1208	539
Arrive On Green	0.07	0.23	0.23	0.08	0.24	0.24	0.13	0.38	0.38	0.09	0.34	0.34
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	195	703	78	231	716	332	382	929	52	352	876	35
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	5.9	20.2	4.2	7.0	20.4	21.4	11.5	23.6	2.3	10.0	23.0	1.6
Cycle Q Clear(g_c), s	5.9	20.2	4.2	7.0	20.4	21.4	11.5	23.6	2.3	10.0	23.0	1.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	257	821	366	291	856	382	446	1333	595	324	1208	539
V/C Ratio(X)	0.76	0.86	0.21	0.79	0.84	0.87	0.86	0.70	0.09	1.09	0.72	0.06
Avail Cap(c_a), veh/h	292	933	416	292	933	416	519	1333	595	324	1208	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.4	39.3	33.2	47.9	38.5	38.8	45.5	28.2	21.5	48.3	30.8	23.7
Incr Delay (d2), s/veh	8.1	7.2	0.3	12.9	6.3	16.6	10.7	3.0	0.3	74.9	2.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	9.1	1.6	3.4	9.1	9.6	5.3	9.7	0.8	7.5	9.5	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	46.5	33.4	60.8	44.7	55.5	56.2	31.2	21.8	123.2	33.0	23.8
LnGrp LOS	E	D	C	E	D	E	E	C	C	F	C	C
Approach Vol, veh/h		976			1279			1363			1263	
Approach Delay, s/veh		47.5			50.4			37.9			57.9	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.7	42.8	14.0	31.1	15.0	46.5	12.9	32.2				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5				
Max Green Setting (Gmax), s	10.0	34.0	9.0	28.0	10.0	40.0	9.0	28.0				
Max Q Clear Time (g_c+1/3), s	11.5	25.0	9.0	22.2	12.0	25.6	7.9	23.4				
Green Ext Time (p_c), s	0.2	3.6	0.0	2.2	0.0	5.0	0.0	2.3				
Intersection Summary												
HCM 6th Ctrl Delay											48.2	
HCM 6th LOS											D	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	668	201	219	680	441	363	883	152	334	832	105
Future Volume (veh/h)	185	668	201	219	680	441	363	883	152	334	832	105
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	195	703	78	231	716	332	382	929	52	352	876	35
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	257	821	366	291	856	382	446	1333	595	324	1208	539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.23	0.23	0.08	0.24	0.24	0.13	0.38	0.38	0.09	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	56.5	46.5	33.4	60.8	44.7	55.5	56.2	31.2	21.8	123.2	33.0	23.8
Ln Grp LOS	E	D	C	E	D	E	E	C	C	F	C	C
Approach Vol, veh/h		976			1279			1363			1263	
Approach Delay, s/veh		47.5			50.4			37.9			57.9	
Approach LOS		D			D			D			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		18.7	42.8	14.0	31.1	15.0	46.5	12.9	32.2			
Change Period (Y+Rc), s		5.0	6.5	5.0	6.5	5.0	6.5	5.0	6.5			
Max Green (Gmax), s		16.0	34.0	9.0	28.0	10.0	40.0	9.0	28.0			
Max Allow Headway (MAH), s		2.6	4.8	2.7	4.7	2.7	4.7	2.7	4.5			
Max Q Clear (g_c+I1), s		13.5	25.0	9.0	22.2	12.0	25.6	7.9	23.4			
Green Ext Time (g_e), s		0.2	3.6	0.0	2.2	0.0	5.0	0.0	2.3			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.49	1.00	0.80	1.00	0.00	1.00	0.99			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 15: Bob Hope Dr & Gerald Ford Dr

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	382	0	231	0	352	0	195	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	11.5	0.0	7.0	0.0	10.0	0.0	5.9	0.0
Cycle Q Clear Time (g_c), s	11.5	0.0	7.0	0.0	10.0	0.0	5.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	446	0	291	0	324	0	257	0
V/C Ratio (X)	0.86	0.00	0.79	0.00	1.09	0.00	0.76	0.00
Avail Cap (c_a), veh/h	519	0	292	0	324	0	292	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	45.5	0.0	47.9	0.0	48.3	0.0	48.4	0.0
Incr Delay (d2), s/veh	10.7	0.0	12.9	0.0	74.9	0.0	8.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	56.2	0.0	60.8	0.0	123.2	0.0	56.5	0.0
1st-Term Q (Q1), veh/ln	4.7	0.0	2.9	0.0	4.1	0.0	2.4	0.0
2nd-Term Q (Q2), veh/ln	0.7	0.0	0.5	0.0	3.4	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	5.3	0.0	3.4	0.0	7.5	0.0	2.7	0.0
%ile Storage Ratio (RQ%)	0.60	0.00	0.38	0.00	0.87	0.00	0.31	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	876	0	703	0	929	0	716
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	23.0	0.0	20.2	0.0	23.6	0.0	20.4
Cycle Q Clear Time (g_c), s	0.0	23.0	0.0	20.2	0.0	23.6	0.0	20.4
Lane Grp Cap (c), veh/h	0	1208	0	821	0	1333	0	856
V/C Ratio (X)	0.00	0.72	0.00	0.86	0.00	0.70	0.00	0.84
Avail Cap (c_a), veh/h	0	1208	0	933	0	1333	0	933
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.8	0.0	39.3	0.0	28.2	0.0	38.5
Incr Delay (d2), s/veh	0.0	2.2	0.0	7.2	0.0	3.0	0.0	6.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.0	0.0	46.5	0.0	31.2	0.0	44.7
1st-Term Q (Q1), veh/ln	0.0	9.1	0.0	8.3	0.0	9.1	0.0	8.4
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.8	0.0	0.6	0.0	0.7

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	9.5	0.0	9.1	0.0	9.7	0.0	9.1
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.02	0.00	0.11	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	35	0	78	0	52	0	332
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	1.6	0.0	4.2	0.0	2.3	0.0	21.4
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	4.2	0.0	2.3	0.0	21.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	539	0	366	0	595	0	382
V/C Ratio (X)	0.00	0.06	0.00	0.21	0.00	0.09	0.00	0.87
Avail Cap (c_a), veh/h	0	539	0	416	0	595	0	416
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.7	0.0	33.2	0.0	21.5	0.0	38.8
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.3	0.0	0.3	0.0	16.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.8	0.0	33.4	0.0	21.8	0.0	55.5
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	1.6	0.0	0.8	0.0	7.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	1.6	0.0	0.8	0.0	9.6
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.29	0.00	0.13	0.00	0.84
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	48.2
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
 16: Monterey Ave & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↑		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	284	603	323	345	870	150	340	1679	108	190	1551	147
Future Volume (veh/h)	284	603	323	345	870	150	340	1679	108	190	1551	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	299	635	227	363	916	42	358	1767	114	200	1633	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	954	425	319	989	441	319	2622	169	250	2630	
Arrive On Green	0.07	0.27	0.27	0.09	0.28	0.28	0.18	1.00	1.00	0.07	0.52	0.00
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4902	316	3456	5106	1585
Grp Volume(v), veh/h	299	635	227	363	916	42	358	1226	655	200	1633	0
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1814	1728	1702	1585
Q Serve(g_s), s	9.0	20.7	15.9	12.0	32.6	2.5	12.0	0.0	0.0	7.4	29.6	0.0
Cycle Q Clear(g_c), s	9.0	20.7	15.9	12.0	32.6	2.5	12.0	0.0	0.0	7.4	29.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	239	954	425	319	989	441	319	1821	970	250	2630	
V/C Ratio(X)	1.25	0.67	0.53	1.14	0.93	0.10	1.12	0.67	0.68	0.80	0.62	
Avail Cap(c_a), veh/h	239	954	425	319	1020	455	319	1821	970	266	2630	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	0.67	0.67	0.67	0.76	0.76	0.76	0.53	0.53	0.00
Uniform Delay (d), s/veh	60.5	42.4	40.6	59.0	45.6	33.6	53.0	0.0	0.0	59.4	22.5	0.0
Incr Delay (d2), s/veh	136.0	1.3	1.0	84.9	9.9	0.1	81.6	1.5	2.9	7.6	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	8.9	6.1	9.0	15.7	1.0	8.1	0.4	0.8	3.4	10.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	196.5	43.7	41.6	143.9	55.5	33.7	134.6	1.5	2.9	66.9	23.1	0.0
LnGrp LOS	F	D	D	F	E	C	F	A	A	E	C	
Approach Vol, veh/h		1161			1321			2239			1833	A
Approach Delay, s/veh		82.7			79.1			23.2			27.9	
Approach LOS		F			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.0	74.5	15.7	42.9	14.4	77.1	17.0	41.6				
Change Period (Y+Rc), s	5.0	7.0	6.7	* 6.7	5.0	7.0	5.0	6.7				
Max Green Setting (Gmax), s	12.0	48.0	9.0	* 37	10.0	50.0	12.0	34.3				
Max Q Clear Time (g_c+1/4), s	11.0	31.6	11.0	34.6	9.4	2.0	14.0	22.7				
Green Ext Time (p_c), s	0.0	10.6	0.0	1.6	0.0	22.6	0.0	3.6				

Intersection Summary


































HCM 6th Ctrl Delay	46.3
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
- Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	
Traffic Volume (veh/h)	284	603	323	345	870	150	340	1679	108	190	1551	147
Future Volume (veh/h)	284	603	323	345	870	150	340	1679	108	190	1551	147
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	299	635	227	363	916	42	358	1767	114	200	1633	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	239	954	425	319	989	441	319	2622	169	250	2630	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.27	0.27	0.09	0.28	0.28	0.18	1.00	1.00	0.07	0.52	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	196.5	43.7	41.6	143.9	55.5	33.7	134.6	1.5	2.9	66.9	23.1	0.0
Ln Grp LOS	F	D	D	F	E	C	F	A	A	E	C	
Approach Vol, veh/h		1161			1321			2239			1833	
Approach Delay, s/veh		82.7			79.1			23.2			27.9	
Approach LOS		F			E			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	5	6	7	8			
Case No		2.0	3.0	3.0	2.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		17.0	74.5	42.9	15.7	14.4	77.1	17.0	41.6			
Change Period (Y+Rc), s		5.0	7.0	* 6.7	6.7	5.0	7.0	5.0	6.7			
Max Green (Gmax), s		12.0	48.0	* 37	9.0	10.0	50.0	12.0	34.3			
Max Allow Headway (MAH), s		2.6	5.2	5.2	2.7	2.6	5.3	2.8	4.6			
Max Q Clear (g_c+I1), s		14.0	31.6	34.6	11.0	9.4	2.0	14.0	22.7			
Green Ext Time (g_e), s		0.0	10.6	1.6	0.0	0.0	22.6	0.0	3.6			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.25			
Left-Turn Movement Data												
Assigned Mvmt		1			3	5		7				
Mvmt Sat Flow, veh/h		3456			3456	3456		3456				
Through Movement Data												
Assigned Mvmt			2	4			6		8			
Mvmt Sat Flow, veh/h			5106	3554			4902		3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14			16		18			
Mvmt Sat Flow, veh/h			1585	1585			316		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	5	0	7	0			
Lane Assignment		L (Prot)			L (Prot)	L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

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Lanes in Grp	2	0	0	2	2	0	2	0
Grp Vol (v), veh/h	358	0	0	299	200	0	363	0
Grp Sat Flow (s), veh/h/ln	1728	0	0	1728	1728	0	1728	0
Q Serve Time (g_s), s	12.0	0.0	0.0	9.0	7.4	0.0	12.0	0.0
Cycle Q Clear Time (g_c), s	12.0	0.0	0.0	9.0	7.4	0.0	12.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	319	0	0	239	250	0	319	0
V/C Ratio (X)	1.12	0.00	0.00	1.25	0.80	0.00	1.14	0.00
Avail Cap (c_a), veh/h	319	0	0	239	266	0	319	0
Upstream Filter (I)	0.76	0.00	0.00	0.76	0.53	0.00	0.67	0.00
Uniform Delay (d1), s/veh	53.0	0.0	0.0	60.5	59.4	0.0	59.0	0.0
Incr Delay (d2), s/veh	81.6	0.0	0.0	136.0	7.6	0.0	84.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	134.6	0.0	0.0	196.5	66.9	0.0	143.9	0.0
1st-Term Q (Q1), veh/ln	4.5	0.0	0.0	3.8	3.1	0.0	5.2	0.0
2nd-Term Q (Q2), veh/ln	3.6	0.0	0.0	4.5	0.3	0.0	3.8	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	8.1	0.0	0.0	8.4	3.4	0.0	9.0	0.0
%ile Storage Ratio (RQ%)	1.03	0.00	0.00	1.29	0.43	0.00	1.24	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	9.8	0.0	0.0	14.9	0.0	0.0	11.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.3	0.0	0.0	0.3	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	0	6	0	8
Lane Assignment		T	T			T		T
Lanes in Grp	0	3	2	0	0	2	0	2
Grp Vol (v), veh/h	0	1633	916	0	0	1226	0	635
Grp Sat Flow (s), veh/h/ln	0	1702	1777	0	0	1702	0	1777
Q Serve Time (g_s), s	0.0	29.6	32.6	0.0	0.0	0.0	0.0	20.7
Cycle Q Clear Time (g_c), s	0.0	29.6	32.6	0.0	0.0	0.0	0.0	20.7
Lane Grp Cap (c), veh/h	0	2630	989	0	0	1821	0	954
V/C Ratio (X)	0.00	0.62	0.93	0.00	0.00	0.67	0.00	0.67
Avail Cap (c_a), veh/h	0	2630	1020	0	0	1821	0	954
Upstream Filter (I)	0.00	0.53	0.67	0.00	0.00	0.76	0.00	0.76
Uniform Delay (d1), s/veh	0.0	22.5	45.6	0.0	0.0	0.0	0.0	42.4
Incr Delay (d2), s/veh	0.0	0.6	9.9	0.0	0.0	1.5	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.1	55.5	0.0	0.0	1.5	0.0	43.7
1st-Term Q (Q1), veh/ln	0.0	10.8	14.3	0.0	0.0	0.0	0.0	8.8
2nd-Term Q (Q2), veh/ln	0.0	0.1	1.4	0.0	0.0	0.4	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis
 16: Monterey Ave & Gerald Ford Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	10.9	15.7	0.0	0.0	0.4	0.0	8.9
%ile Storage Ratio (RQ%)	0.00	0.05	0.08	0.00	0.00	0.01	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	0	16	0	18
Lane Assignment		R	R			T+R		R
Lanes in Grp	0	1	1	0	0	1	0	1
Grp Vol (v), veh/h	0	0	42	0	0	655	0	227
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1814	0	1585
Q Serve Time (g_s), s	0.0	0.0	2.5	0.0	0.0	0.0	0.0	15.9
Cycle Q Clear Time (g_c), s	0.0	0.0	2.5	0.0	0.0	0.0	0.0	15.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.17	0.00	1.00
Lane Grp Cap (c), veh/h	0	816	441	0	0	970	0	425
V/C Ratio (X)	0.00	0.00	0.10	0.00	0.00	0.68	0.00	0.53
Avail Cap (c_a), veh/h	0	816	455	0	0	970	0	425
Upstream Filter (I)	0.00	0.00	0.67	0.00	0.00	0.76	0.00	0.76
Uniform Delay (d1), s/veh	0.0	0.0	33.6	0.0	0.0	0.0	0.0	40.6
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.0	0.0	2.9	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	33.7	0.0	0.0	2.9	0.0	41.6
1st-Term Q (Q1), veh/ln	0.0	0.0	1.0	0.0	0.0	0.0	0.0	6.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.0	0.0	0.0	0.8	0.0	6.1
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.94
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	46.3
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

17: Portola Rd & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖↗	↕↔	↗	↖↗	↕↔	↗	↖↗	↕↔	↗
Traffic Volume (veh/h)	185	666	140	50	692	340	280	1011	180	280	668	388
Future Volume (veh/h)	185	666	140	50	692	340	280	1011	180	280	668	388
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	195	701	147	53	728	0	295	1064	50	295	703	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	810	170	238	1037		374	1324	411	341	1275	
Arrive On Green	0.13	0.28	0.28	0.07	0.20	0.00	0.11	0.26	0.26	0.10	0.25	0.00
Sat Flow, veh/h	1781	2924	613	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	195	426	422	53	728	0	295	1064	50	295	703	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1760	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	8.7	18.5	18.5	1.2	10.7	0.0	6.7	15.8	2.0	6.8	9.7	0.0
Cycle Q Clear(g_c), s	8.7	18.5	18.5	1.2	10.7	0.0	6.7	15.8	2.0	6.8	9.7	0.0
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	232	492	488	238	1037		374	1324	411	341	1275	
V/C Ratio(X)	0.84	0.87	0.87	0.22	0.70		0.79	0.80	0.12	0.86	0.55	
Avail Cap(c_a), veh/h	286	921	913	341	2332		427	2395	744	341	2269	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	34.4	27.8	27.9	35.7	30.0	0.0	35.2	28.1	23.0	36.0	26.4	0.0
Incr Delay (d2), s/veh	14.2	1.8	1.9	0.2	0.3	0.0	7.2	0.4	0.0	19.2	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	7.7	7.7	0.5	4.0	0.0	3.1	6.2	0.7	3.6	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.6	29.7	29.7	35.8	30.3	0.0	42.4	28.5	23.0	55.2	26.6	0.0
LnGrp LOS	D	C	C	D	C		D	C	C	E	C	
Approach Vol, veh/h		1043			781	A		1409			998	A
Approach Delay, s/veh		33.2			30.7			31.2			35.0	
Approach LOS		C			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	28.0	10.6	29.4	13.8	27.2	16.6	23.5				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7				
Max Green Setting (Gmax), s	30.0	38.0	8.0	42.0	10.0	36.0	13.0	* 37				
Max Q Clear Time (g_c+1/8), s	10.0	17.8	3.2	20.5	8.7	11.7	10.7	12.7				
Green Ext Time (p_c), s	0.0	3.2	0.0	2.0	0.0	1.5	0.0	1.6				

Intersection Summary
























HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	666	140	50	692	340	280	1011	180	280	668	388
Future Volume (veh/h)	185	666	140	50	692	340	280	1011	180	280	668	388
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	195	701	147	53	728	0	295	1064	50	295	703	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	232	810	170	238	1037		374	1324	411	341	1275	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.28	0.28	0.07	0.20	0.00	0.11	0.26	0.26	0.10	0.25	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	48.6	29.7	29.7	35.8	30.3	0.0	42.4	28.5	23.0	55.2	26.6	0.0
Ln Grp LOS	D	C	C	D	C		D	C	C	E	C	
Approach Vol, veh/h	1043				781		1409				998	
Approach Delay, s/veh	33.2				30.7		31.2				35.0	
Approach LOS	C				C		C				D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	13.0	28.0	10.6	29.4	13.8	27.2	16.6	23.5				
Change Period (Y+Rc), s	5.0	7.0	5.0	7.0	5.0	7.0	6.0	* 7				
Max Green (Gmax), s	8.0	38.0	8.0	42.0	10.0	36.0	13.0	* 37				
Max Allow Headway (MAH), s	1.7	3.2	1.7	3.3	1.8	2.8	1.8	2.8				
Max Q Clear (g_c+I1), s	8.8	17.8	3.2	20.5	8.7	11.7	10.7	12.7				
Green Ext Time (g_e), s	0.0	3.2	0.0	2.0	0.0	1.5	0.0	1.6				
Prob of Phs Call (p_c)	1.00	1.00	0.70	1.00	1.00	1.00	0.99	1.00				
Prob of Max Out (p_x)	1.00	0.00	0.00	0.00	1.00	0.00	0.39	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	3456	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	5106	2924	5106	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	613	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

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Lanes in Grp	2	0	2	0	2	0	1	0
Grp Vol (v), veh/h	295	0	53	0	295	0	195	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1781	0
Q Serve Time (g_s), s	6.8	0.0	1.2	0.0	6.7	0.0	8.7	0.0
Cycle Q Clear Time (g_c), s	6.8	0.0	1.2	0.0	6.7	0.0	8.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	341	0	238	0	374	0	232	0
V/C Ratio (X)	0.86	0.00	0.22	0.00	0.79	0.00	0.84	0.00
Avail Cap (c_a), veh/h	341	0	341	0	427	0	286	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	36.0	0.0	35.7	0.0	35.2	0.0	34.4	0.0
Incr Delay (d2), s/veh	19.2	0.0	0.2	0.0	7.2	0.0	14.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	55.2	0.0	35.8	0.0	42.4	0.0	48.6	0.0
1st-Term Q (Q1), veh/ln	2.7	0.0	0.5	0.0	2.8	0.0	3.7	0.0
2nd-Term Q (Q2), veh/ln	0.9	0.0	0.0	0.0	0.4	0.0	0.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.6	0.0	0.5	0.0	3.1	0.0	4.6	0.0
%ile Storage Ratio (RQ%)	0.36	0.00	0.05	0.00	0.33	0.00	0.70	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	3	0	3
Grp Vol (v), veh/h	0	1064	0	426	0	703	0	728
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1702
Q Serve Time (g_s), s	0.0	15.8	0.0	18.5	0.0	9.7	0.0	10.7
Cycle Q Clear Time (g_c), s	0.0	15.8	0.0	18.5	0.0	9.7	0.0	10.7
Lane Grp Cap (c), veh/h	0	1324	0	492	0	1275	0	1037
V/C Ratio (X)	0.00	0.80	0.00	0.87	0.00	0.55	0.00	0.70
Avail Cap (c_a), veh/h	0	2395	0	921	0	2269	0	2332
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.1	0.0	27.8	0.0	26.4	0.0	30.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	1.8	0.0	0.1	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.5	0.0	29.7	0.0	26.6	0.0	30.3
1st-Term Q (Q1), veh/ln	0.0	6.2	0.0	7.5	0.0	3.6	0.0	4.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 17: Portola Rd & Gerald Ford Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.2	0.0	7.7	0.0	3.6	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.04	0.00	0.07	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	50	0	422	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1760	0	1585	0	1585
Q Serve Time (g_s), s	0.0	2.0	0.0	18.5	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.0	0.0	18.5	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.35	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	411	0	488	0	396	0	322
V/C Ratio (X)	0.00	0.12	0.00	0.87	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	744	0	913	0	704	0	724
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	27.9	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.0	0.0	29.7	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	7.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.7	0.0	7.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.04	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.
 Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 18: Cook St & I-10 WB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕	↗		↕	↗		↕	↗
Traffic Volume (veh/h)	0	0	0	558	0	50	0	440	730	0	420	50
Future Volume (veh/h)	0	0	0	558	0	50	0	440	730	0	420	50
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		No
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				587	0	19	0	463	0	0	442	53
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				643	0	572	0	1916		0	2496	294
Arrive On Green				0.36	0.00	0.36	0.00	0.18	0.00	0.00	0.54	0.54
Sat Flow, veh/h				1781	0	1585	0	3647	1585	0	4799	546
Grp Volume(v), veh/h				587	0	19	0	463	0	0	323	172
Grp Sat Flow(s),veh/h/ln				1781	0	1585	0	1777	1585	0	1702	1772
Q Serve(g_s), s				34.5	0.0	0.9	0.0	12.3	0.0	0.0	5.3	5.5
Cycle Q Clear(g_c), s				34.5	0.0	0.9	0.0	12.3	0.0	0.0	5.3	5.5
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.31
Lane Grp Cap(c), veh/h				643	0	572	0	1916		0	1835	955
V/C Ratio(X)				0.91	0.00	0.03	0.00	0.24		0.00	0.18	0.18
Avail Cap(c_a), veh/h				777	0	692	0	1916		0	1835	955
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.58	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				33.5	0.0	22.7	0.0	25.9	0.0	0.0	12.9	12.9
Incr Delay (d2), s/veh				13.5	0.0	0.0	0.0	0.2	0.0	0.0	0.2	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				17.0	0.0	0.3	0.0	5.5	0.0	0.0	1.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				47.0	0.0	22.8	0.0	26.1	0.0	0.0	13.1	13.4
LnGrp LOS				D	A	C	A	C		A	B	B
Approach Vol, veh/h				606			463	A		495		
Approach Delay, s/veh				46.2			26.1			13.2		
Approach LOS				D			C			B		
Timer - Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		65.3				65.3		44.7				
Change Period (Y+Rc), s		6.0				6.0		5.0				
Max Green Setting (Gmax), s		51.0				51.0		48.0				
Max Q Clear Time (g_c+I1), s		14.3				7.5		36.5				
Green Ext Time (p_c), s		2.8				2.8		3.2				

Intersection Summary



















HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	558	0	50	0	440	730	0	420	50
Future Volume (veh/h)	0	0	0	558	0	50	0	440	730	0	420	50
Number				3	8	18	5	2	12	1	6	16
Initial Q, veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				587	0	19	0	463	0	0	442	53
Peak Hour Factor				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Opposing Right Turn Influence				Yes			No			No		
Cap, veh/h				643	0	572	0	1916		0	2496	294
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green				0.36	0.00	0.36	0.00	0.18	0.00	0.00	0.54	0.54
Unsig. Movement Delay												
Ln Grp Delay, s/veh				47.0	0.0	22.8	0.0	26.1	0.0	0.0	13.1	13.4
Ln Grp LOS				D	A	C	A	C		A	B	B
Approach Vol, veh/h					606			463			495	
Approach Delay, s/veh					46.2			26.1			13.2	
Approach LOS					D			C			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2	8			6					
Case No			7.0	11.0			8.0					
Phs Duration (G+Y+Rc), s			65.3	44.7			65.3					
Change Period (Y+Rc), s			6.0	5.0			6.0					
Max Green (Gmax), s			51.0	48.0			51.0					
Max Allow Headway (MAH), s			4.7	5.3			4.8					
Max Q Clear (g_c+I1), s			14.3	36.5			7.5					
Green Ext Time (g_e), s			2.8	3.2			2.8					
Prob of Phs Call (p_c)			1.00	1.00			1.00					
Prob of Max Out (p_x)			0.00	0.30			0.00					
Left-Turn Movement Data												
Assigned Mvmt			5	3			1					
Mvmt Sat Flow, veh/h			0	1781			0					
Through Movement Data												
Assigned Mvmt			2	8			6					
Mvmt Sat Flow, veh/h			3647	0			4799					
Right-Turn Movement Data												
Assigned Mvmt			12	18			16					
Mvmt Sat Flow, veh/h			1585	1585			546					
Left Lane Group Data												
Assigned Mvmt	0	5	3	0	0	1	0	0				
Lane Assignment			L+T									

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

07/11/2019

Lanes in Grp	0	0	1	0	0	0	0	0
Grp Vol (v), veh/h	0	0	587	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	34.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	34.5	0.0	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	59.3	0.0	0.0	0.0	59.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	643	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.91	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	777	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	33.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	13.5	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	47.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	14.6	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	17.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	8	0	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	463	0	0	0	323	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	12.3	0.0	0.0	0.0	5.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.3	0.0	0.0	0.0	5.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	1916	0	0	0	1835	0	0
V/C Ratio (X)	0.00	0.24	0.00	0.00	0.00	0.18	0.00	0.00
Avail Cap (c_a), veh/h	0	1916	0	0	0	1835	0	0
Upstream Filter (I)	0.00	0.58	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	25.9	0.0	0.0	0.0	12.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.1	0.0	0.0	0.0	13.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.4	0.0	0.0	0.0	1.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 18: Cook St & I-10 WB Ramps

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.5	0.0	0.0	0.0	1.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.29	0.00	0.00	0.00	0.13	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	18	0	0	16	0	0
Lane Assignment		R	R			T+R		
Lanes in Grp	0	1	1	0	0	1	0	0
Grp Vol (v), veh/h	0	0	19	0	0	172	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	0	1772	0	0
Q Serve Time (g_s), s	0.0	0.0	0.9	0.0	0.0	5.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.9	0.0	0.0	5.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	0.00	0.31	0.00	0.00
Lane Grp Cap (c), veh/h	0	854	572	0	0	955	0	0
V/C Ratio (X)	0.00	0.00	0.03	0.00	0.00	0.18	0.00	0.00
Avail Cap (c_a), veh/h	0	854	692	0	0	955	0	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	22.7	0.0	0.0	12.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	22.8	0.0	0.0	13.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.3	0.0	0.0	1.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.3	0.0	0.0	2.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.00	0.15	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

19: Cook St & I-10 EB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	260	0	770	0	0	0	0	910	788	220	758	0	
Future Volume (veh/h)	260	0	770	0	0	0	0	910	788	220	758	0	
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00	
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No						No			No			
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0	
Adj Flow Rate, veh/h	274	0	647				0	958	829	232	798	0	
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95	
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0	
Cap, veh/h	414	0	737				0	1641	764	258	3409	0	
Arrive On Green	0.23	0.00	0.23				0.00	0.48	0.48	0.29	1.00	0.00	
Sat Flow, veh/h	1781	0	3170				0	3572	1585	1781	5274	0	
Grp Volume(v), veh/h	274	0	647				0	958	829	232	798	0	
Grp Sat Flow(s),veh/h/ln	1781	0	1585				0	1702	1585	1781	1702	0	
Q Serve(g_s), s	15.4	0.0	21.7				0.0	22.3	53.0	13.8	0.0	0.0	
Cycle Q Clear(g_c), s	15.4	0.0	21.7				0.0	22.3	53.0	13.8	0.0	0.0	
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00	
Lane Grp Cap(c), veh/h	414	0	737				0	1641	764	258	3409	0	
V/C Ratio(X)	0.66	0.00	0.88				0.00	0.58	1.08	0.90	0.23	0.00	
Avail Cap(c_a), veh/h	470	0	836				0	1641	764	348	3409	0	
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00	
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.59	0.59	0.99	0.99	0.00	
Uniform Delay (d), s/veh	38.3	0.0	40.7				0.0	20.5	28.5	38.3	0.0	0.0	
Incr Delay (d2), s/veh	2.9	0.0	9.7				0.0	0.9	51.4	17.4	0.2	0.0	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	7.0	0.0	9.4				0.0	8.1	28.4	6.0	0.1	0.0	
Unsig. Movement Delay, s/veh													
LnGrp Delay(d),s/veh	41.2	0.0	50.4				0.0	21.4	79.8	55.8	0.2	0.0	
LnGrp LOS	D	A	D				A	C	F	E	A	A	
Approach Vol, veh/h	921						1787			1030			
Approach Delay, s/veh	47.7						48.5			12.7			
Approach LOS	D						D			B			
Timer - Assigned Phs	1	2	4	6									
Phs Duration (G+Y+Rc), s	30.4	59.0	30.6	79.4									
Change Period (Y+Rc), s	4.5	6.0	5.0	6.0									
Max Green Setting (Gmax), s	21.5	44.0	29.0	70.0									
Max Q Clear Time (g_c+1/5), s	11.8	55.0	23.7	2.0									
Green Ext Time (p_c), s	0.2	0.0	1.9	5.5									
Intersection Summary													
HCM 6th Ctrl Delay	38.4												
HCM 6th LOS	D												
Notes													
User approved volume balancing among the lanes for turning movement.													

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	260	0	770	0	0	0	0	910	788	220	758	0
Future Volume (veh/h)	260	0	770	0	0	0	0	910	788	220	758	0
Number	7	4	14				5	2	12	1	6	16
Initial Q, veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	274	0	647				0	958	829	232	798	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Opposing Right Turn Influence	Yes						No			Yes		
Cap, veh/h	414	0	737				0	1641	764	258	3409	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Prop Arrive On Green	0.23	0.00	0.23				0.00	0.48	0.48	0.29	1.00	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	41.2	0.0	50.4				0.0	21.4	79.8	55.8	0.2	0.0
Ln Grp LOS	D	A	D				A	C	F	E	A	A
Approach Vol, veh/h		921						1787			1030	
Approach Delay, s/veh		47.7						48.5			12.7	
Approach LOS		D						D			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2		4		6					
Case No		2.0	8.0		9.0		4.0					
Phs Duration (G+Y+Rc), s		20.4	59.0		30.6		79.4					
Change Period (Y+Rc), s		4.5	6.0		5.0		6.0					
Max Green (Gmax), s		21.5	44.0		29.0		70.0					
Max Allow Headway (MAH), s		2.6	4.9		4.0		4.7					
Max Q Clear (g_c+I1), s		15.8	55.0		23.7		2.0					
Green Ext Time (g_e), s		0.2	0.0		1.9		5.5					
Prob of Phs Call (p_c)		1.00	1.00		1.00		1.00					
Prob of Max Out (p_x)		0.03	0.00		0.71		0.00					
Left-Turn Movement Data												
Assigned Mvmt		1	5		7							
Mvmt Sat Flow, veh/h		1781	0		1781							
Through Movement Data												
Assigned Mvmt			2		4		6					
Mvmt Sat Flow, veh/h			3572		0		5274					
Right-Turn Movement Data												
Assigned Mvmt			12		14		16					
Mvmt Sat Flow, veh/h			1585		3170		0					
Left Lane Group Data												
Assigned Mvmt		1	5	0	7	0	0	0	0			
Lane Assignment		L (Prot)			L							

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

07/11/2019

Lanes in Grp	1	0	0	1	0	0	0	0
Grp Vol (v), veh/h	232	0	0	274	0	0	0	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1781	0	0	0	0
Q Serve Time (g_s), s	13.8	0.0	0.0	15.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	13.8	0.0	0.0	15.4	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	53.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	258	0	0	414	0	0	0	0
V/C Ratio (X)	0.90	0.00	0.00	0.66	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	348	0	0	470	0	0	0	0
Upstream Filter (I)	0.99	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	38.3	0.0	0.0	38.3	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	17.4	0.0	0.0	2.9	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	55.8	0.0	0.0	41.2	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	4.8	0.0	0.0	6.7	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	1.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
%ile Back of Q (50%), veh/ln	6.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.54	0.00	0.00	0.23	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	3	0	0
Grp Vol (v), veh/h	0	958	0	0	0	798	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	22.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	22.3	0.0	0.0	0.0	0.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	1641	0	0	0	3409	0	0
V/C Ratio (X)	0.00	0.58	0.00	0.00	0.00	0.23	0.00	0.00
Avail Cap (c_a), veh/h	0	1641	0	0	0	3409	0	0
Upstream Filter (I)	0.00	0.59	0.00	0.00	0.00	0.99	0.00	0.00
Uniform Delay (d1), s/veh	0.0	20.5	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.4	0.0	0.0	0.0	0.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis
 19: Cook St & I-10 EB Ramps

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	8.1	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment		T+R		R				
Lanes in Grp	0	1	0	2	0	0	0	0
Grp Vol (v), veh/h	0	829	0	647	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	0	0	0
Q Serve Time (g_s), s	0.0	53.0	0.0	21.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	53.0	0.0	21.7	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	764	0	737	0	0	0	0
V/C Ratio (X)	0.00	1.08	0.00	0.88	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	764	0	836	0	0	0	0
Upstream Filter (I)	0.00	0.59	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	28.5	0.0	40.7	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	51.4	0.0	9.7	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	79.8	0.0	50.4	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	17.4	0.0	8.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	10.9	0.0	1.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	28.4	0.0	9.4	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.48	0.00	0.57	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	16.2	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary

20: Cook St & Gerald Ford Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖
Traffic Volume (veh/h)	552	280	293	90	330	160	405	986	30	230	956	352
Future Volume (veh/h)	552	280	293	90	330	160	405	986	30	230	956	352
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	581	295	0	95	347	26	426	1038	9	242	1006	130
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	659	897		228	453	202	504	1484	461	324	1218	378
Arrive On Green	0.19	0.25	0.00	0.07	0.13	0.13	0.15	0.29	0.29	0.09	0.24	0.24
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	581	295	0	95	347	26	426	1038	9	242	1006	130
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	13.1	5.4	0.0	2.1	7.6	1.2	9.6	14.5	0.3	5.5	15.0	5.4
Cycle Q Clear(g_c), s	13.1	5.4	0.0	2.1	7.6	1.2	9.6	14.5	0.3	5.5	15.0	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	659	897		228	453	202	504	1484	461	324	1218	378
V/C Ratio(X)	0.88	0.33		0.42	0.77	0.13	0.85	0.70	0.02	0.75	0.83	0.34
Avail Cap(c_a), veh/h	756	2092		320	1643	733	561	2533	786	518	2469	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.5	24.4	0.0	35.9	33.7	31.0	33.3	25.3	20.2	35.3	28.9	25.3
Incr Delay (d2), s/veh	9.9	0.1	0.0	0.5	1.0	0.1	9.5	0.2	0.0	1.3	0.6	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	2.1	0.0	0.8	3.1	0.4	4.3	5.1	0.1	2.2	5.5	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.4	24.5	0.0	36.4	34.8	31.1	42.8	25.5	20.3	36.6	29.5	25.5
LnGrp LOS	D	C		D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		876	A		468		1473			1378		
Approach Delay, s/veh		35.7			34.9		30.5			30.3		
Approach LOS		D			C		C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.5	30.1	10.8	25.7	17.7	25.9	20.8	15.7				
Change Period (Y+Rc), s	6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5				
Max Green Setting (Gmax), s	12.0	39.7	7.4	47.1	13.0	38.7	17.5	37.0				
Max Q Clear Time (g_c+1), s	17.5	16.5	4.1	7.4	11.6	17.0	15.1	9.6				
Green Ext Time (p_c), s	0.1	2.2	0.0	0.6	0.1	2.1	0.2	0.7				

Intersection Summary

























HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C

Notes

- User approved pedestrian interval to be less than phase max green.
- Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	552	280	293	90	330	160	405	986	30	230	956	352
Future Volume (veh/h)	552	280	293	90	330	160	405	986	30	230	956	352
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	581	295	0	95	347	26	426	1038	9	242	1006	130
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	659	897		228	453	202	504	1484	461	324	1218	378
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.19	0.25	0.00	0.07	0.13	0.13	0.15	0.29	0.29	0.09	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	41.4	24.5	0.0	36.4	34.8	31.1	42.8	25.5	20.3	36.6	29.5	25.5
Ln Grp LOS	D	C		D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		876			468			1473			1378	
Approach Delay, s/veh		35.7			34.9			30.5			30.3	
Approach LOS		D			C			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		13.5	30.1	10.8	25.7	17.7	25.9	20.8	15.7			
Change Period (Y+Rc), s		6.0	6.8	5.5	5.5	6.0	6.8	5.5	5.5			
Max Green (Gmax), s		12.0	39.7	7.4	47.1	13.0	38.7	17.5	37.0			
Max Allow Headway (MAH), s		1.6	2.7	1.7	2.8	1.6	2.6	1.7	2.8			
Max Q Clear (g_c+I1), s		7.5	16.5	4.1	7.4	11.6	17.0	15.1	9.6			
Green Ext Time (g_e), s		0.1	2.2	0.0	0.6	0.1	2.1	0.2	0.7			
Prob of Phs Call (p_c)		1.00	1.00	0.88	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	1.00	0.00	0.30	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		5106		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

07/11/2019

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	242	0	95	0	426	0	581	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	5.5	0.0	2.1	0.0	9.6	0.0	13.1	0.0
Cycle Q Clear Time (g_c), s	5.5	0.0	2.1	0.0	9.6	0.0	13.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	324	0	228	0	504	0	659	0
V/C Ratio (X)	0.75	0.00	0.42	0.00	0.85	0.00	0.88	0.00
Avail Cap (c_a), veh/h	518	0	320	0	561	0	756	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	35.3	0.0	35.9	0.0	33.3	0.0	31.5	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.5	0.0	9.5	0.0	9.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	36.6	0.0	36.4	0.0	42.8	0.0	41.4	0.0
1st-Term Q (Q1), veh/ln	2.1	0.0	0.8	0.0	3.6	0.0	5.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.7	0.0	0.9	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.2	0.0	0.8	0.0	4.3	0.0	5.9	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.13	0.00	0.52	0.00	0.66	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	1038	0	295	0	1006	0	347
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	14.5	0.0	5.4	0.0	15.0	0.0	7.6
Cycle Q Clear Time (g_c), s	0.0	14.5	0.0	5.4	0.0	15.0	0.0	7.6
Lane Grp Cap (c), veh/h	0	1484	0	897	0	1218	0	453
V/C Ratio (X)	0.00	0.70	0.00	0.33	0.00	0.83	0.00	0.77
Avail Cap (c_a), veh/h	0	2533	0	2092	0	2469	0	1643
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.3	0.0	24.4	0.0	28.9	0.0	33.7
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.1	0.0	0.6	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.5	0.0	24.5	0.0	29.5	0.0	34.8
1st-Term Q (Q1), veh/ln	0.0	5.1	0.0	2.1	0.0	5.4	0.0	3.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis
20: Cook St & Gerald Ford Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.1	0.0	2.1	0.0	5.5	0.0	3.1
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.07	0.00	0.09	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	9	0	0	0	130	0	26
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.3	0.0	0.0	0.0	5.4	0.0	1.2
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	0.0	0.0	5.4	0.0	1.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	461	0	400	0	378	0	202
V/C Ratio (X)	0.00	0.02	0.00	0.00	0.00	0.34	0.00	0.13
Avail Cap (c_a), veh/h	0	786	0	933	0	767	0	733
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.2	0.0	0.0	0.0	25.3	0.0	31.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.3	0.0	0.0	0.0	25.5	0.0	31.1
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.0	0.0	1.9	0.0	0.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.0	0.0	1.9	0.0	0.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.00	0.00	0.27	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.
Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 21: SR-111 & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖↗	↑	↖	↖↗↘	↖↗↘	↖	↖↗	↖↗↘	↖
Traffic Volume (veh/h)	80	180	65	320	240	554	40	1740	290	447	1540	50
Future Volume (veh/h)	80	180	65	320	240	554	40	1740	290	447	1540	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	189	68	337	253	0	42	1832	0	471	1621	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	219	79	375	424		53	1949		333	2289	710
Arrive On Green	0.05	0.17	0.17	0.11	0.23	0.00	0.03	0.38	0.00	0.10	0.45	0.45
Sat Flow, veh/h	1781	1313	472	3456	1870	1585	1781	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	84	0	257	337	253	0	42	1832	0	471	1621	24
Grp Sat Flow(s),veh/h/ln	1781	0	1785	1728	1870	1585	1781	1702	1585	1728	1702	1585
Q Serve(g_s), s	3.9	0.0	11.6	8.0	10.0	0.0	1.9	28.7	0.0	8.0	21.3	0.7
Cycle Q Clear(g_c), s	3.9	0.0	11.6	8.0	10.0	0.0	1.9	28.7	0.0	8.0	21.3	0.7
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	0	297	375	424		53	1949		333	2289	710
V/C Ratio(X)	0.98	0.00	0.86	0.90	0.60		0.79	0.94		1.41	0.71	0.03
Avail Cap(c_a), veh/h	86	0	333	375	462		86	1968		333	2289	710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.5	0.0	33.7	36.6	28.7	0.0	40.0	24.7	0.0	37.5	18.5	12.8
Incr Delay (d2), s/veh	89.6	0.0	18.8	23.2	1.8	0.0	9.2	9.3	0.0	203.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	6.3	4.5	4.6	0.0	1.0	12.5	0.0	12.7	8.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	129.1	0.0	52.5	59.8	30.5	0.0	49.2	34.1	0.0	241.1	19.4	12.8
LnGrp LOS	F	A	D	E	C		D	C		F	B	B
Approach Vol, veh/h		341			590	A		1874	A		2116	
Approach Delay, s/veh		71.4			47.2			34.4			68.7	
Approach LOS		E			D			C			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	3.0	20.8	6.5	42.7	8.0	25.8	12.0	37.2				
Change Period (Y+Rc), s	4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5				
Max Green Setting (Gmax), s	15.5	4.0	36.0	4.0	20.5	8.0	32.0					
Max Q Clear Time (g_c+I1), s	13.6	3.9	23.3	5.9	12.0	10.0	30.7					
Green Ext Time (p_c), s	0.0	0.2	0.0	5.8	0.0	0.9	1.0					

Intersection Summary






























HCM 6th Ctrl Delay	53.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 21: SR-111 & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				  		 	  	
Traffic Volume (veh/h)	80	180	65	320	240	554	40	1740	290	447	1540	50
Future Volume (veh/h)	80	180	65	320	240	554	40	1740	290	447	1540	50
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	189	68	337	253	0	42	1832	0	471	1621	24
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	86	219	79	375	424		53	1949		333	2289	710
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.05	0.17	0.17	0.11	0.23	0.00	0.03	0.38	0.00	0.10	0.45	0.45
Unsig. Movement Delay												
Ln Grp Delay, s/veh	129.1	0.0	52.5	59.8	30.5	0.0	49.2	34.1	0.0	241.1	19.4	12.8
Ln Grp LOS	F	A	D	E	C		D	C		F	B	B
Approach Vol, veh/h		341			590			1874			2116	
Approach Delay, s/veh		71.4			47.2			34.4			68.7	
Approach LOS		E			D			C			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		13.0	20.8	6.5	42.7	8.0	25.8	12.0	37.2			
Change Period (Y+Rc), s		4.0	7.0	4.0	5.5	4.0	7.0	4.0	5.5			
Max Green (Gmax), s		9.0	15.5	4.0	36.0	4.0	20.5	8.0	32.0			
Max Allow Headway (MAH), s		2.3	5.0	2.3	3.7	2.2	5.2	2.3	3.7			
Max Q Clear (g_c+I1), s		10.0	13.6	3.9	23.3	5.9	12.0	10.0	30.7			
Green Ext Time (g_e), s		0.0	0.2	0.0	5.8	0.0	0.9	0.0	1.0			
Prob of Phs Call (p_c)		1.00	1.00	0.62	1.00	0.86	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	1.00	1.00	0.32	1.00	0.25	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		1781		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1313		5106		1870		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			472		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	1	0	1	0	2	0
Grp Vol (v), veh/h	337	0	42	0	84	0	471	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	8.0	0.0	1.9	0.0	3.9	0.0	8.0	0.0
Cycle Q Clear Time (g_c), s	8.0	0.0	1.9	0.0	3.9	0.0	8.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	375	0	53	0	86	0	333	0
V/C Ratio (X)	0.90	0.00	0.79	0.00	0.98	0.00	1.41	0.00
Avail Cap (c_a), veh/h	375	0	86	0	86	0	333	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	36.6	0.0	40.0	0.0	39.5	0.0	37.5	0.0
Incr Delay (d2), s/veh	23.2	0.0	9.2	0.0	89.6	0.0	203.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	59.8	0.0	49.2	0.0	129.1	0.0	241.1	0.0
1st-Term Q (Q1), veh/ln	3.3	0.0	0.8	0.0	1.6	0.0	3.3	0.0
2nd-Term Q (Q2), veh/ln	1.2	0.0	0.1	0.0	2.1	0.0	9.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.5	0.0	1.0	0.0	3.8	0.0	12.7	0.0
%ile Storage Ratio (RQ%)	0.92	0.00	0.15	0.00	0.20	0.00	1.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	34.5	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T		T		T
Lanes in Grp	0	0	0	3	0	1	0	3
Grp Vol (v), veh/h	0	0	0	1621	0	253	0	1832
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	1870	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	21.3	0.0	10.0	0.0	28.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	21.3	0.0	10.0	0.0	28.7
Lane Grp Cap (c), veh/h	0	0	0	2289	0	424	0	1949
V/C Ratio (X)	0.00	0.00	0.00	0.71	0.00	0.60	0.00	0.94
Avail Cap (c_a), veh/h	0	0	0	2289	0	462	0	1968
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	18.5	0.0	28.7	0.0	24.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.9	0.0	1.8	0.0	9.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	19.4	0.0	30.5	0.0	34.1
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.8	0.0	4.4	0.0	10.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.2	0.0	1.7

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	8.0	0.0	4.6	0.0	12.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.19	0.00	0.02	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	257	0	24	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1785	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	11.6	0.0	0.7	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	11.6	0.0	0.7	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.26	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	297	0	710	0	360	0	605
V/C Ratio (X)	0.00	0.86	0.00	0.03	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	333	0	710	0	391	0	611
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	33.7	0.0	12.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	18.8	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	52.5	0.0	12.8	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	0.2	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.3	0.0	0.2	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.02	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	53.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 22: Morningside Dr & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗		↖	↗	↖	↗	↖	↗
Traffic Volume (veh/h)	20	572	340	80	955	60	215	40	140	20	30	10
Future Volume (veh/h)	20	572	340	80	955	60	215	40	140	20	30	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	602	358	84	1005	63	226	42	62	21	32	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	871	518	213	1380	87	658	764	648	621	1076	351
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	528	2143	1275	585	3396	213	1364	1870	1585	1290	2633	859
Grp Volume(v), veh/h	21	499	461	84	526	542	226	42	62	21	21	22
Grp Sat Flow(s),veh/h/ln	528	1777	1641	585	1777	1832	1364	1870	1585	1290	1777	1716
Q Serve(g_s), s	2.3	15.0	15.0	9.0	16.2	16.2	7.7	0.9	1.6	0.6	0.5	0.5
Cycle Q Clear(g_c), s	18.4	15.0	15.0	24.0	16.2	16.2	8.2	0.9	1.6	1.5	0.5	0.5
Prop In Lane	1.00		0.78	1.00		0.12	1.00		1.00	1.00		0.50
Lane Grp Cap(c), veh/h	194	722	667	213	722	745	658	764	648	621	726	701
V/C Ratio(X)	0.11	0.69	0.69	0.39	0.73	0.73	0.34	0.05	0.10	0.03	0.03	0.03
Avail Cap(c_a), veh/h	195	726	670	214	726	748	658	764	648	621	726	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	15.9	15.9	25.8	16.2	16.2	14.0	11.6	11.8	12.1	11.5	11.5
Incr Delay (d2), s/veh	0.2	2.8	3.0	1.2	3.7	3.6	1.4	0.1	0.3	0.1	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	5.5	5.1	1.2	6.6	6.8	2.2	0.3	0.5	0.2	0.2	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	18.7	18.9	27.0	19.9	19.8	15.4	11.7	12.1	12.2	11.6	11.6
LnGrp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		981			1152			330			64	
Approach Delay, s/veh		18.9			20.4			14.3			11.8	
Approach LOS		B			C			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.0		31.9		33.0		31.9				
Change Period (Y+Rc), s		6.5		5.5		6.5		5.5				
Max Green Setting (Gmax), s		26.5		26.5		26.5		26.5				
Max Q Clear Time (g_c+1), s		10.2		20.4		3.5		26.0				
Green Ext Time (p_c), s		0.9		3.0		0.2		0.3				
Intersection Summary												
HCM 6th Ctrl Delay				18.8								
HCM 6th LOS				B								

HCM 6th Signalized Intersection Capacity Analysis
 22: Morningside Dr & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	572	340	80	955	60	215	40	140	20	30	10
Future Volume (veh/h)	20	572	340	80	955	60	215	40	140	20	30	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	602	358	84	1005	63	226	42	62	21	32	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	194	871	518	213	1380	87	658	764	648	621	1076	351
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Unsig. Movement Delay												
Ln Grp Delay, s/veh	24.2	18.7	18.9	27.0	19.9	19.8	15.4	11.7	12.1	12.2	11.6	11.6
Ln Grp LOS	C	B	B	C	B	B	B	B	B	B	B	B
Approach Vol, veh/h		981			1152			330			64	
Approach Delay, s/veh		18.9			20.4			14.3			11.8	
Approach LOS		B			C			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			5.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			33.0		31.9		33.0		31.9			
Change Period (Y+Rc), s			6.5		5.5		6.5		5.5			
Max Green (Gmax), s			26.5		26.5		26.5		26.5			
Max Allow Headway (MAH), s			3.9		5.1		4.9		5.4			
Max Q Clear (g_c+I1), s			10.2		20.4		3.5		26.0			
Green Ext Time (g_e), s			0.9		3.0		0.2		0.3			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.89		0.00		1.00			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1364		528		1290		585			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			1870		2143		2633		3396			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1275		859		213			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	226	0	21	0	21	0	84
Grp Sat Flow (s), veh/h/ln	0	1364	0	528	0	1290	0	585
Q Serve Time (g_s), s	0.0	7.7	0.0	2.3	0.0	0.6	0.0	9.0
Cycle Q Clear Time (g_c), s	0.0	8.2	0.0	18.4	0.0	1.5	0.0	24.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1364	0	528	0	1290	0	585
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	26.5	0.0	26.4	0.0	26.5	0.0	26.4
Perm LT Serve Time (g_u), s	0.0	26.0	0.0	10.2	0.0	25.6	0.0	11.3
Perm LT Q Serve Time (g_ps), s	0.0	7.7	0.0	2.3	0.0	0.6	0.0	9.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	658	0	194	0	621	0	213
V/C Ratio (X)	0.00	0.34	0.00	0.11	0.00	0.03	0.00	0.39
Avail Cap (c_a), veh/h	0	658	0	195	0	621	0	214
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.0	0.0	24.0	0.0	12.1	0.0	25.8
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.2	0.0	0.1	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.4	0.0	24.2	0.0	12.2	0.0	27.0
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	0.3	0.0	0.2	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	0.3	0.0	0.2	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.36	0.00	0.07	0.00	0.05	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	42	0	499	0	21	0	526
Grp Sat Flow (s), veh/h/ln	0	1870	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	0.9	0.0	15.0	0.0	0.5	0.0	16.2
Cycle Q Clear Time (g_c), s	0.0	0.9	0.0	15.0	0.0	0.5	0.0	16.2
Lane Grp Cap (c), veh/h	0	764	0	722	0	726	0	722
V/C Ratio (X)	0.00	0.05	0.00	0.69	0.00	0.03	0.00	0.73
Avail Cap (c_a), veh/h	0	764	0	726	0	726	0	726
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	15.9	0.0	11.5	0.0	16.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	2.8	0.0	0.1	0.0	3.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.7	0.0	18.7	0.0	11.6	0.0	19.9
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	4.9	0.0	0.2	0.0	5.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.7

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	5.5	0.0	0.2	0.0	6.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	62	0	461	0	22	0	542
Grp Sat Flow (s), veh/h/ln	0	1585	0	1641	0	1716	0	1832
Q Serve Time (g_s), s	0.0	1.6	0.0	15.0	0.0	0.5	0.0	16.2
Cycle Q Clear Time (g_c), s	0.0	1.6	0.0	15.0	0.0	0.5	0.0	16.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.78	0.00	0.50	0.00	0.12
Lane Grp Cap (c), veh/h	0	648	0	667	0	701	0	745
V/C Ratio (X)	0.00	0.10	0.00	0.69	0.00	0.03	0.00	0.73
Avail Cap (c_a), veh/h	0	648	0	670	0	701	0	748
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	15.9	0.0	11.5	0.0	16.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	3.0	0.0	0.1	0.0	3.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.1	0.0	18.9	0.0	11.6	0.0	19.8
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	4.6	0.0	0.2	0.0	6.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.6	0.0	0.0	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	5.1	0.0	0.2	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.01	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
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




























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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↕		↖↗	↕	↖	↖↗↕	↕		↖↗	↕	↖
Traffic Volume (veh/h)	150	507	135	142	652	236	270	902	278	240	727	173
Future Volume (veh/h)	150	507	135	142	652	236	270	902	278	240	727	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	534	142	149	686	62	284	949	293	253	765	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	663	176	215	841	375	360	1492	459	325	1925	597
Arrive On Green	0.07	0.24	0.24	0.06	0.24	0.24	0.10	0.39	0.39	0.09	0.38	0.38
Sat Flow, veh/h	3456	2768	733	3456	3554	1585	3456	3853	1187	3456	5106	1585
Grp Volume(v), veh/h	158	342	334	149	686	62	284	838	404	253	765	62
Grp Sat Flow(s),veh/h/ln	1728	1777	1724	1728	1777	1585	1728	1702	1636	1728	1702	1585
Q Serve(g_s), s	4.3	17.5	17.7	4.1	17.7	3.0	7.8	19.4	19.5	6.9	10.6	2.5
Cycle Q Clear(g_c), s	4.3	17.5	17.7	4.1	17.7	3.0	7.8	19.4	19.5	6.9	10.6	2.5
Prop In Lane	1.00		0.42	1.00		1.00	1.00		0.73	1.00		1.00
Lane Grp Cap(c), veh/h	226	426	413	215	841	375	360	1318	633	325	1925	597
V/C Ratio(X)	0.70	0.80	0.81	0.69	0.82	0.17	0.79	0.64	0.64	0.78	0.40	0.10
Avail Cap(c_a), veh/h	321	578	561	285	1119	499	535	1318	633	428	1925	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.3	34.7	34.7	44.5	35.0	29.4	42.3	24.1	24.1	42.9	22.1	19.6
Incr Delay (d2), s/veh	2.9	5.8	6.3	3.6	3.6	0.2	3.8	2.4	4.9	5.8	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9	7.8	7.7	1.8	7.5	1.1	3.4	7.6	7.8	3.1	4.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.2	40.5	41.0	48.1	38.6	29.6	46.1	26.5	29.0	48.6	22.7	19.9
LnGrp LOS	D	D	D	D	D	C	D	C	C	D	C	B
Approach Vol, veh/h		834			897			1526			1080	
Approach Delay, s/veh		42.0			39.5			30.8			28.6	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	44.1	43.0	10.0	29.7	13.1	44.0	10.3	29.4				
Change Period (Y+Rc), s	4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5				
Max Green Setting (Gmax), s	15.0	34.5	8.0	31.5	12.0	37.5	9.0	30.5				
Max Q Clear Time (g_c+1), s	19.8	12.6	6.1	19.7	8.9	21.5	6.3	19.7				
Green Ext Time (p_c), s	0.3	4.9	0.1	3.0	0.2	7.1	0.1	3.2				
Intersection Summary												
HCM 6th Ctrl Delay											34.2	
HCM 6th LOS											C	

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		  		
Traffic Volume (veh/h)	150	507	135	142	652	236	270	902	278	240	727	173
Future Volume (veh/h)	150	507	135	142	652	236	270	902	278	240	727	173
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		0.98	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	158	534	142	149	686	62	284	949	293	253	765	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	226	663	176	215	841	375	360	1492	459	325	1925	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.24	0.24	0.06	0.24	0.24	0.10	0.39	0.39	0.09	0.38	0.38
Unsig. Movement Delay												
Ln Grp Delay, s/veh	47.2	40.5	41.0	48.1	38.6	29.6	46.1	26.5	29.0	48.6	22.7	19.9
Ln Grp LOS	D	D	D	D	D	C	D	C	C	D	C	B
Approach Vol, veh/h		834			897			1526			1080	
Approach Delay, s/veh		42.0			39.5			30.8			28.6	
Approach LOS		D			D			C			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		14.1	43.0	10.0	29.7	13.1	44.0	10.3	29.4			
Change Period (Y+Rc), s		4.0	6.5	4.0	6.5	4.0	6.5	4.0	6.5			
Max Green (Gmax), s		15.0	34.5	8.0	31.5	12.0	37.5	9.0	30.5			
Max Allow Headway (MAH), s		3.2	4.7	3.2	5.0	3.2	5.0	3.2	4.7			
Max Q Clear (g_c+I1), s		9.8	12.6	6.1	19.7	8.9	21.5	6.3	19.7			
Green Ext Time (g_e), s		0.3	4.9	0.1	3.0	0.2	7.1	0.1	3.2			
Prob of Phs Call (p_c)		1.00	1.00	0.98	1.00	1.00	1.00	0.99	1.00			
Prob of Max Out (p_x)		0.15	0.00	1.00	0.24	1.00	0.00	1.00	0.26			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		2768		3853		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		733		1187		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	284	0	149	0	253	0	158	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	7.8	0.0	4.1	0.0	6.9	0.0	4.3	0.0
Cycle Q Clear Time (g_c), s	7.8	0.0	4.1	0.0	6.9	0.0	4.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	360	0	215	0	325	0	226	0
V/C Ratio (X)	0.79	0.00	0.69	0.00	0.78	0.00	0.70	0.00
Avail Cap (c_a), veh/h	535	0	285	0	428	0	321	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	42.3	0.0	44.5	0.0	42.9	0.0	44.3	0.0
Incr Delay (d2), s/veh	3.8	0.0	3.6	0.0	5.8	0.0	2.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	46.1	0.0	48.1	0.0	48.6	0.0	47.2	0.0
1st-Term Q (Q1), veh/ln	3.2	0.0	1.7	0.0	2.8	0.0	1.8	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.1	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.4	0.0	1.8	0.0	3.1	0.0	1.9	0.0
%ile Storage Ratio (RQ%)	0.26	0.00	0.36	0.00	0.24	0.00	0.17	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	1	0	2	0	2
Grp Vol (v), veh/h	0	765	0	342	0	838	0	686
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	10.6	0.0	17.5	0.0	19.4	0.0	17.7
Cycle Q Clear Time (g_c), s	0.0	10.6	0.0	17.5	0.0	19.4	0.0	17.7
Lane Grp Cap (c), veh/h	0	1925	0	426	0	1318	0	841
V/C Ratio (X)	0.00	0.40	0.00	0.80	0.00	0.64	0.00	0.82
Avail Cap (c_a), veh/h	0	1925	0	578	0	1318	0	1119
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.1	0.0	34.7	0.0	24.1	0.0	35.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	5.8	0.0	2.4	0.0	3.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.7	0.0	40.5	0.0	26.5	0.0	38.6
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	7.2	0.0	7.2	0.0	7.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.7	0.0	0.4	0.0	0.4

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.0	0.0	7.8	0.0	7.6	0.0	7.5
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.04	0.00	0.12	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	62	0	334	0	404	0	62
Grp Sat Flow (s), veh/h/ln	0	1585	0	1724	0	1636	0	1585
Q Serve Time (g_s), s	0.0	2.5	0.0	17.7	0.0	19.5	0.0	3.0
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	17.7	0.0	19.5	0.0	3.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.42	0.00	0.73	0.00	1.00
Lane Grp Cap (c), veh/h	0	597	0	413	0	633	0	375
V/C Ratio (X)	0.00	0.10	0.00	0.81	0.00	0.64	0.00	0.17
Avail Cap (c_a), veh/h	0	597	0	561	0	633	0	499
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	19.6	0.0	34.7	0.0	24.1	0.0	29.4
Incr Delay (d2), s/veh	0.0	0.3	0.0	6.3	0.0	4.9	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.9	0.0	41.0	0.0	29.0	0.0	29.6
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	7.0	0.0	6.9	0.0	1.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.7	0.0	0.9	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.9	0.0	7.7	0.0	7.8	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.04	0.00	0.13	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
 24: Monterey Ave & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗	↔↔	↑↑	↗	↔↔	↑↑↔		↔↔	↑↑↑	↗
Traffic Volume (veh/h)	182	651	188	240	707	319	135	1596	220	418	1585	250
Future Volume (veh/h)	182	651	188	240	707	319	135	1596	220	418	1585	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	685	94	253	744	336	142	1680	232	440	1668	178
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	797	355	266	851	380	192	1932	266	399	2479	770
Arrive On Green	0.06	0.22	0.22	0.08	0.24	0.24	0.06	0.43	0.43	0.12	0.49	0.49
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	4538	624	3456	5106	1585
Grp Volume(v), veh/h	192	685	94	253	744	336	142	1258	654	440	1668	178
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1702	1758	1728	1702	1585
Q Serve(g_s), s	7.2	24.1	6.4	9.5	26.2	26.6	5.3	43.8	44.2	15.0	32.4	8.5
Cycle Q Clear(g_c), s	7.2	24.1	6.4	9.5	26.2	26.6	5.3	43.8	44.2	15.0	32.4	8.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		1.00
Lane Grp Cap(c), veh/h	213	797	355	266	851	380	192	1449	749	399	2479	770
V/C Ratio(X)	0.90	0.86	0.26	0.95	0.87	0.88	0.74	0.87	0.87	1.10	0.67	0.23
Avail Cap(c_a), veh/h	213	957	427	266	1039	463	239	1449	749	399	2479	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	0.55	0.55	0.55	0.63	0.63	0.63	0.87	0.87	0.87
Uniform Delay (d), s/veh	60.6	48.5	41.6	59.8	47.5	47.7	60.4	34.0	34.1	57.5	25.6	19.4
Incr Delay (d2), s/veh	31.0	5.0	0.1	28.8	3.6	8.5	4.1	4.8	9.0	73.2	1.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.8	2.4	5.1	11.5	11.0	2.3	17.7	19.3	10.3	12.3	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.6	53.5	41.7	88.5	51.2	56.2	64.5	38.8	43.1	130.7	26.8	20.0
LnGrp LOS	F	D	D	F	D	E	E	D	D	F	C	B
Approach Vol, veh/h		971			1333			2054			2286	
Approach Delay, s/veh		59.9			59.5			41.9			46.3	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	11.2	69.6	12.0	37.1	19.0	61.9	14.0	35.1				
Change Period (Y+Rc), s	4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0				
Max Green Setting (Gmax), s	9.0	55.5	8.0	* 38	15.0	49.5	10.0	35.0				
Max Q Clear Time (g_c+1), s	17.0	34.4	9.2	28.6	17.0	46.2	11.5	26.1				
Green Ext Time (p_c), s	0.0	7.9	0.0	2.6	0.0	2.4	0.0	2.0				

Intersection Summary
































HCM 6th Ctrl Delay	49.6
HCM 6th LOS	D

Notes

- User approved pedestrian interval to be less than phase max green.
- * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 24: Monterey Ave & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	 	
Traffic Volume (veh/h)	182	651	188	240	707	319	135	1596	220	418	1585	250
Future Volume (veh/h)	182	651	188	240	707	319	135	1596	220	418	1585	250
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	192	685	94	253	744	336	142	1680	232	440	1668	178
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	213	797	355	266	851	380	192	1932	266	399	2479	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.22	0.22	0.08	0.24	0.24	0.06	0.43	0.43	0.12	0.49	0.49
Unsig. Movement Delay												
Ln Grp Delay, s/veh	91.6	53.5	41.7	88.5	51.2	56.2	64.5	38.8	43.1	130.7	26.8	20.0
Ln Grp LOS	F	D	D	F	D	E	E	D	D	F	C	B
Approach Vol, veh/h		971			1333			2054			2286	
Approach Delay, s/veh		59.9			59.5			41.9			46.3	
Approach LOS		E			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		11.2	69.6	12.0	37.1	19.0	61.9	14.0	35.1			
Change Period (Y+Rc), s		4.0	6.5	4.0	* 6	4.0	6.5	4.0	6.0			
Max Green (Gmax), s		9.0	55.5	8.0	* 38	15.0	49.5	10.0	35.0			
Max Allow Headway (MAH), s		1.8	3.7	1.7	3.5	1.6	3.8	1.6	3.7			
Max Q Clear (g_c+I1), s		7.3	34.4	9.2	28.6	17.0	46.2	11.5	26.1			
Green Ext Time (g_e), s		0.0	7.9	0.0	2.6	0.0	2.4	0.0	2.0			
Prob of Phs Call (p_c)		0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.20	1.00	0.00	1.00	0.17			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		3554		4538		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		624		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	142	0	192	0	440	0	253	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	5.3	0.0	7.2	0.0	15.0	0.0	9.5	0.0
Cycle Q Clear Time (g_c), s	5.3	0.0	7.2	0.0	15.0	0.0	9.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	192	0	213	0	399	0	266	0
V/C Ratio (X)	0.74	0.00	0.90	0.00	1.10	0.00	0.95	0.00
Avail Cap (c_a), veh/h	239	0	213	0	399	0	266	0
Upstream Filter (I)	0.63	0.00	0.82	0.00	0.87	0.00	0.55	0.00
Uniform Delay (d1), s/veh	60.4	0.0	60.6	0.0	57.5	0.0	59.8	0.0
Incr Delay (d2), s/veh	4.1	0.0	31.0	0.0	73.2	0.0	28.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.5	0.0	91.6	0.0	130.7	0.0	88.5	0.0
1st-Term Q (Q1), veh/ln	2.2	0.0	3.1	0.0	6.3	0.0	4.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.9	0.0	4.1	0.0	1.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.3	0.0	4.0	0.0	10.3	0.0	5.1	0.0
%ile Storage Ratio (RQ%)	0.24	0.00	0.63	0.00	1.31	0.00	0.92	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	10.3	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1668	0	744	0	1258	0	685
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	32.4	0.0	26.2	0.0	43.8	0.0	24.1
Cycle Q Clear Time (g_c), s	0.0	32.4	0.0	26.2	0.0	43.8	0.0	24.1
Lane Grp Cap (c), veh/h	0	2479	0	851	0	1449	0	797
V/C Ratio (X)	0.00	0.67	0.00	0.87	0.00	0.87	0.00	0.86
Avail Cap (c_a), veh/h	0	2479	0	1039	0	1449	0	957
Upstream Filter (I)	0.00	0.87	0.00	0.55	0.00	0.63	0.00	0.82
Uniform Delay (d1), s/veh	0.0	25.6	0.0	47.5	0.0	34.0	0.0	48.5
Incr Delay (d2), s/veh	0.0	1.3	0.0	3.6	0.0	4.8	0.0	5.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.8	0.0	51.2	0.0	38.8	0.0	53.5
1st-Term Q (Q1), veh/ln	0.0	12.0	0.0	11.0	0.0	16.7	0.0	10.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.4	0.0	1.0	0.0	0.6

HCM 6th Signalized Intersection Capacity Analysis
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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	12.3	0.0	11.5	0.0	17.7	0.0	10.8
%ile Storage Ratio (RQ%)	0.00	0.24	0.00	0.05	0.00	0.09	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	178	0	336	0	654	0	94
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1758	0	1585
Q Serve Time (g_s), s	0.0	8.5	0.0	26.6	0.0	44.2	0.0	6.4
Cycle Q Clear Time (g_c), s	0.0	8.5	0.0	26.6	0.0	44.2	0.0	6.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.35	0.00	1.00
Lane Grp Cap (c), veh/h	0	770	0	380	0	749	0	355
V/C Ratio (X)	0.00	0.23	0.00	0.88	0.00	0.87	0.00	0.26
Avail Cap (c_a), veh/h	0	770	0	463	0	749	0	427
Upstream Filter (I)	0.00	0.87	0.00	0.55	0.00	0.63	0.00	0.82
Uniform Delay (d1), s/veh	0.0	19.4	0.0	47.7	0.0	34.1	0.0	41.6
Incr Delay (d2), s/veh	0.0	0.6	0.0	8.5	0.0	9.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.0	0.0	56.2	0.0	43.1	0.0	41.7
1st-Term Q (Q1), veh/ln	0.0	3.0	0.0	10.1	0.0	17.4	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.9	0.0	1.9	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	11.0	0.0	19.3	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.44	0.00	1.99	0.00	0.09	0.00	0.39
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	49.6
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.
 * HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary

25: Portola Ave/Portola Rd & Frank Sinatra Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	947	90	130	853	100	170	870	110	110	640	83
Future Volume (veh/h)	61	947	90	130	853	100	170	870	110	110	640	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	997	31	137	898	37	179	916	116	116	674	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	1116	498	166	1188	530	187	1117	141	156	1034	132
Arrive On Green	0.07	0.31	0.31	0.09	0.33	0.33	0.10	0.24	0.24	0.09	0.23	0.23
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	4591	579	1781	4583	586
Grp Volume(v), veh/h	64	997	31	137	898	37	179	678	354	116	499	262
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1702	1766	1781	1702	1765
Q Serve(g_s), s	3.0	23.0	1.2	6.5	19.3	1.4	8.6	16.2	16.3	5.5	11.4	11.6
Cycle Q Clear(g_c), s	3.0	23.0	1.2	6.5	19.3	1.4	8.6	16.2	16.3	5.5	11.4	11.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.33
Lane Grp Cap(c), veh/h	130	1116	498	166	1188	530	187	828	430	156	768	398
V/C Ratio(X)	0.49	0.89	0.06	0.82	0.76	0.07	0.96	0.82	0.82	0.75	0.65	0.66
Avail Cap(c_a), veh/h	166	1325	591	166	1325	591	187	1369	710	166	1329	689
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.2	28.1	20.6	38.2	25.4	19.5	38.2	30.7	30.7	38.2	30.1	30.2
Incr Delay (d2), s/veh	1.1	6.5	0.0	26.0	1.9	0.0	53.2	0.8	1.5	13.5	0.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	10.3	0.4	4.0	8.1	0.5	6.4	6.5	6.9	2.9	4.6	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	34.6	20.6	64.2	27.3	19.5	91.4	31.5	32.3	51.7	30.5	30.9
LnGrp LOS	D	C	C	E	C	B	F	C	C	D	C	C
Approach Vol, veh/h		1092			1072			1211			877	
Approach Delay, s/veh		34.4			31.8			40.6			33.4	
Approach LOS		C			C			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	2.5	27.4	13.0	32.9	14.0	25.9	11.3	34.7				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0				
Max Green Setting (Gmax), s	3.0	34.5	8.0	32.0	9.0	33.5	8.0	32.0				
Max Q Clear Time (g_c+1), s	1.5	18.3	8.5	25.0	10.6	13.6	5.0	21.3				
Green Ext Time (p_c), s	0.0	2.6	0.0	2.0	0.0	1.9	0.0	2.2				

Intersection Summary

HCM 6th Ctrl Delay	35.3
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis
 25: Portola Ave/Portola Rd & Frank Sinatra Dr

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	947	90	130	853	100	170	870	110	110	640	83
Future Volume (veh/h)	61	947	90	130	853	100	170	870	110	110	640	83
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	64	997	31	137	898	37	179	916	116	116	674	87
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	130	1116	498	166	1188	530	187	1117	141	156	1034	132
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.31	0.31	0.09	0.33	0.33	0.10	0.24	0.24	0.09	0.23	0.23
Unsig. Movement Delay												
Ln Grp Delay, s/veh	39.3	34.6	20.6	64.2	27.3	19.5	91.4	31.5	32.3	51.7	30.5	30.9
Ln Grp LOS	D	C	C	E	C	B	F	C	C	D	C	C
Approach Vol, veh/h	1092			1072			1211			877		
Approach Delay, s/veh	34.4			31.8			40.6			33.4		
Approach LOS	C			C			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	2.0	3.0	2.0	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	12.5	27.4	13.0	32.9	14.0	25.9	11.3	34.7				
Change Period (Y+Rc), s	5.0	6.5	5.0	6.0	5.0	6.5	5.0	6.0				
Max Green (Gmax), s	8.0	34.5	8.0	32.0	9.0	33.5	8.0	32.0				
Max Allow Headway (MAH), s	1.8	3.3	1.8	3.2	1.8	3.3	1.8	3.2				
Max Q Clear (g_c+I1), s	7.5	18.3	8.5	25.0	10.6	13.6	5.0	21.3				
Green Ext Time (g_e), s	0.0	2.6	0.0	2.0	0.0	1.9	0.0	2.2				
Prob of Phs Call (p_c)	0.94	1.00	0.96	1.00	0.99	1.00	0.78	1.00				
Prob of Max Out (p_x)	1.00	0.02	1.00	0.27	1.00	0.00	0.05	0.06				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	4591	3554	4583	3554								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	579	1585	586	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)								

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	116	0	137	0	179	0	64	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.5	0.0	6.5	0.0	8.6	0.0	3.0	0.0
Cycle Q Clear Time (g_c), s	5.5	0.0	6.5	0.0	8.6	0.0	3.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	156	0	166	0	187	0	130	0
V/C Ratio (X)	0.75	0.00	0.82	0.00	0.96	0.00	0.49	0.00
Avail Cap (c_a), veh/h	166	0	166	0	187	0	166	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	38.2	0.0	38.2	0.0	38.2	0.0	38.2	0.0
Incr Delay (d2), s/veh	13.5	0.0	26.0	0.0	53.2	0.0	1.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	51.7	0.0	64.2	0.0	91.4	0.0	39.3	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	2.8	0.0	3.7	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.6	0.0	1.2	0.0	2.8	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.9	0.0	4.0	0.0	6.4	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.41	0.00	0.70	0.00	0.64	0.00	0.28	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	678	0	997	0	499	0	898
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	16.2	0.0	23.0	0.0	11.4	0.0	19.3
Cycle Q Clear Time (g_c), s	0.0	16.2	0.0	23.0	0.0	11.4	0.0	19.3
Lane Grp Cap (c), veh/h	0	828	0	1116	0	768	0	1188
V/C Ratio (X)	0.00	0.82	0.00	0.89	0.00	0.65	0.00	0.76
Avail Cap (c_a), veh/h	0	1369	0	1325	0	1329	0	1325
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.7	0.0	28.1	0.0	30.1	0.0	25.4
Incr Delay (d2), s/veh	0.0	0.8	0.0	6.5	0.0	0.3	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.5	0.0	34.6	0.0	30.5	0.0	27.3
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	9.3	0.0	4.6	0.0	7.8
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.0	0.0	0.0	0.0	0.3

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.5	0.0	10.3	0.0	4.6	0.0	8.1
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.04	0.00	0.02	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	354	0	31	0	262	0	37
Grp Sat Flow (s), veh/h/ln	0	1766	0	1585	0	1765	0	1585
Q Serve Time (g_s), s	0.0	16.3	0.0	1.2	0.0	11.6	0.0	1.4
Cycle Q Clear Time (g_c), s	0.0	16.3	0.0	1.2	0.0	11.6	0.0	1.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.33	0.00	1.00	0.00	0.33	0.00	1.00
Lane Grp Cap (c), veh/h	0	430	0	498	0	398	0	530
V/C Ratio (X)	0.00	0.82	0.00	0.06	0.00	0.66	0.00	0.07
Avail Cap (c_a), veh/h	0	710	0	591	0	689	0	591
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.7	0.0	20.6	0.0	30.2	0.0	19.5
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.3	0.0	20.6	0.0	30.9	0.0	19.5
1st-Term Q (Q1), veh/ln	0.0	6.7	0.0	0.4	0.0	4.8	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.9	0.0	0.4	0.0	4.9	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.05	0.00	0.02	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	35.3
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
 26: Cook St & Frank Sinatra Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑	↖	↖↗	↑↑	↖	↖↗	↑↑		↖↗	↑↑↑	↖
Traffic Volume (veh/h)	306	654	348	170	676	75	291	1150	70	93	990	186
Future Volume (veh/h)	306	654	348	170	676	75	291	1150	70	93	990	186
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	322	688	200	179	712	19	306	1211	74	98	1042	69
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	356	914	408	257	813	363	368	1285	78	245	1746	542
Arrive On Green	0.10	0.26	0.26	0.07	0.23	0.23	0.11	0.38	0.38	0.07	0.34	0.34
Sat Flow, veh/h	3456	3554	1585	3456	3554	1585	3456	3402	208	3456	5106	1585
Grp Volume(v), veh/h	322	688	200	179	712	19	306	632	653	98	1042	69
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1728	1777	1585	1728	1777	1833	1728	1702	1585
Q Serve(g_s), s	9.9	19.1	11.5	5.4	20.7	1.0	9.3	36.7	36.8	2.9	18.0	3.2
Cycle Q Clear(g_c), s	9.9	19.1	11.5	5.4	20.7	1.0	9.3	36.7	36.8	2.9	18.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	356	914	408	257	813	363	368	671	692	245	1746	542
V/C Ratio(X)	0.91	0.75	0.49	0.70	0.88	0.05	0.83	0.94	0.94	0.40	0.60	0.13
Avail Cap(c_a), veh/h	356	1230	549	356	1230	549	517	756	780	259	1791	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	36.6	33.7	48.3	39.8	32.2	46.8	32.1	32.2	47.5	29.1	24.2
Incr Delay (d2), s/veh	25.2	1.1	0.3	1.4	3.3	0.0	5.6	17.9	17.8	0.4	0.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	8.3	4.2	2.4	9.3	0.4	4.1	17.6	18.1	1.2	6.8	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.6	37.7	34.1	49.6	43.1	32.2	52.4	50.0	50.0	47.9	29.4	24.2
LnGrp LOS	E	D	C	D	D	C	D	D	D	D	C	C
Approach Vol, veh/h		1210			910			1591			1209	
Approach Delay, s/veh		46.4			44.1			50.5			30.6	
Approach LOS		D			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	34.5	16.4	43.1	16.0	31.5	12.6	46.9				
Change Period (Y+Rc), s	5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5				
Max Green Setting (Gmax), s	37.0	37.0	16.0	37.5	11.0	37.0	8.0	45.5				
Max Q Clear Time (g_c+1), s	21.1	21.1	11.3	20.0	11.9	22.7	4.9	38.8				
Green Ext Time (p_c), s	0.0	1.8	0.1	2.2	0.0	1.8	0.0	1.5				

Intersection Summary

























HCM 6th Ctrl Delay	43.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
26: Cook St & Frank Sinatra Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	306	654	348	170	676	75	291	1150	70	93	990	186
Future Volume (veh/h)	306	654	348	170	676	75	291	1150	70	93	990	186
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	322	688	200	179	712	19	306	1211	74	98	1042	69
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	356	914	408	257	813	363	368	1285	78	245	1746	542
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.26	0.26	0.07	0.23	0.23	0.11	0.38	0.38	0.07	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	72.6	37.7	34.1	49.6	43.1	32.2	52.4	50.0	50.0	47.9	29.4	24.2
Ln Grp LOS	E	D	C	D	D	C	D	D	D	D	C	C
Approach Vol, veh/h		1210			910			1591			1209	
Approach Delay, s/veh		46.4			44.1			50.5			30.6	
Approach LOS		D			D			D			C	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		13.0	34.5	16.4	43.1	16.0	31.5	12.6	46.9			
Change Period (Y+Rc), s		5.0	7.0	5.0	6.5	5.0	7.0	5.0	6.5			
Max Green (Gmax), s		11.0	37.0	16.0	37.5	11.0	37.0	8.0	45.5			
Max Allow Headway (MAH), s		1.8	3.0	1.6	2.7	1.8	3.2	1.6	2.7			
Max Q Clear (g_c+I1), s		7.4	21.1	11.3	20.0	11.9	22.7	4.9	38.8			
Green Ext Time (g_e), s		0.0	1.8	0.1	2.2	0.0	1.8	0.0	1.5			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00			
Prob of Max Out (p_x)		0.01	0.00	0.00	0.00	1.00	0.01	0.01	0.29			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		5106		3554		3402			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		208			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	179	0	306	0	322	0	98	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	5.4	0.0	9.3	0.0	9.9	0.0	2.9	0.0
Cycle Q Clear Time (g_c), s	5.4	0.0	9.3	0.0	9.9	0.0	2.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	257	0	368	0	356	0	245	0
V/C Ratio (X)	0.70	0.00	0.83	0.00	0.91	0.00	0.40	0.00
Avail Cap (c_a), veh/h	356	0	517	0	356	0	259	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	48.3	0.0	46.8	0.0	47.4	0.0	47.5	0.0
Incr Delay (d2), s/veh	1.4	0.0	5.6	0.0	25.2	0.0	0.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	49.6	0.0	52.4	0.0	72.6	0.0	47.9	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	3.8	0.0	4.2	0.0	1.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.3	0.0	1.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.4	0.0	4.1	0.0	5.5	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.43	0.00	0.74	0.00	0.99	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	3	0	2	0	1
Grp Vol (v), veh/h	0	688	0	1042	0	712	0	632
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1777
Q Serve Time (g_s), s	0.0	19.1	0.0	18.0	0.0	20.7	0.0	36.7
Cycle Q Clear Time (g_c), s	0.0	19.1	0.0	18.0	0.0	20.7	0.0	36.7
Lane Grp Cap (c), veh/h	0	914	0	1746	0	813	0	671
V/C Ratio (X)	0.00	0.75	0.00	0.60	0.00	0.88	0.00	0.94
Avail Cap (c_a), veh/h	0	1230	0	1791	0	1230	0	756
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	36.6	0.0	29.1	0.0	39.8	0.0	32.1
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.4	0.0	3.3	0.0	17.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	37.7	0.0	29.4	0.0	43.1	0.0	50.0
1st-Term Q (Q1), veh/ln	0.0	8.2	0.0	6.8	0.0	8.9	0.0	14.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.4	0.0	3.3

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.3	0.0	6.8	0.0	9.3	0.0	17.6
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.06	0.00	0.13	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	200	0	69	0	19	0	653
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1833
Q Serve Time (g_s), s	0.0	11.5	0.0	3.2	0.0	1.0	0.0	36.8
Cycle Q Clear Time (g_c), s	0.0	11.5	0.0	3.2	0.0	1.0	0.0	36.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.11
Lane Grp Cap (c), veh/h	0	408	0	542	0	363	0	692
V/C Ratio (X)	0.00	0.49	0.00	0.13	0.00	0.05	0.00	0.94
Avail Cap (c_a), veh/h	0	549	0	556	0	549	0	780
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	33.7	0.0	24.2	0.0	32.2	0.0	32.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.0	0.0	17.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	34.1	0.0	24.2	0.0	32.2	0.0	50.0
1st-Term Q (Q1), veh/ln	0.0	4.1	0.0	1.1	0.0	0.4	0.0	14.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.2	0.0	1.1	0.0	0.4	0.0	18.1
%ile Storage Ratio (RQ%)	0.00	0.76	0.00	0.13	0.00	0.02	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	43.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 27: Bob Hope Dr & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	610	160	207	750	402	230	867	203	318	637	80
Future Volume (veh/h)	120	610	160	207	750	402	230	867	203	318	637	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	642	42	218	789	258	242	913	95	335	671	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	157	794	354	233	947	422	310	1040	464	368	981	123
Arrive On Green	0.09	0.22	0.22	0.13	0.27	0.27	0.09	0.29	0.29	0.11	0.31	0.31
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3172	397
Grp Volume(v), veh/h	126	642	42	218	789	258	242	913	95	335	376	379
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1792
Q Serve(g_s), s	6.2	15.3	1.9	10.8	18.7	12.7	6.1	21.8	4.0	8.6	16.5	16.6
Cycle Q Clear(g_c), s	6.2	15.3	1.9	10.8	18.7	12.7	6.1	21.8	4.0	8.6	16.5	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.22
Lane Grp Cap(c), veh/h	157	794	354	233	947	422	310	1040	464	368	550	554
V/C Ratio(X)	0.80	0.81	0.12	0.93	0.83	0.61	0.78	0.88	0.20	0.91	0.68	0.68
Avail Cap(c_a), veh/h	210	1115	497	233	1162	518	310	1147	511	368	603	608
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.9	32.8	27.6	38.4	30.9	28.7	39.8	30.1	23.8	39.5	27.0	27.0
Incr Delay (d2), s/veh	11.1	2.7	0.1	40.5	4.1	1.1	11.2	7.3	0.2	25.6	2.5	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	6.4	0.7	7.0	7.8	4.6	3.0	9.6	1.4	4.7	6.7	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.0	35.5	27.8	78.9	35.0	29.7	50.9	37.3	23.9	65.0	29.5	29.6
LnGrp LOS	D	D	C	E	D	C	D	D	C	E	C	C
Approach Vol, veh/h		810			1265			1250			1090	
Approach Delay, s/veh		37.5			41.5			38.9			40.5	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.5	34.1	12.4	30.3	14.0	32.6	16.2	26.5				
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5				
Max Green Setting (Gmax), s	30.3	10.5	29.2	9.5	28.8	11.7	28.0					
Max Q Clear Time (g_c+1), s	18.6	8.2	20.7	10.6	23.8	12.8	17.3					
Green Ext Time (p_c), s	0.0	2.7	0.0	3.1	0.0	2.3	0.0	2.5				

Intersection Summary

























HCM 6th Ctrl Delay	39.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	610	160	207	750	402	230	867	203	318	637	80
Future Volume (veh/h)	120	610	160	207	750	402	230	867	203	318	637	80
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	126	642	42	218	789	258	242	913	95	335	671	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	157	794	354	233	947	422	310	1040	464	368	981	123
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.22	0.22	0.13	0.27	0.27	0.09	0.29	0.29	0.11	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	51.0	35.5	27.8	78.9	35.0	29.7	50.9	37.3	23.9	65.0	29.5	29.6
Ln Grp LOS	D	D	C	E	D	C	D	D	C	E	C	C
Approach Vol, veh/h		810			1265			1250			1090	
Approach Delay, s/veh		37.5			41.5			38.9			40.5	
Approach LOS		D			D			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		12.5	34.1	12.4	30.3	14.0	32.6	16.2	26.5			
Change Period (Y+Rc), s		4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5			
Max Green (Gmax), s		8.0	30.3	10.5	29.2	9.5	28.8	11.7	28.0			
Max Allow Headway (MAH), s		2.7	4.4	2.7	4.1	2.7	4.3	2.7	4.3			
Max Q Clear (g_c+I1), s		8.1	18.6	8.2	20.7	10.6	23.8	12.8	17.3			
Green Ext Time (g_e), s		0.0	2.7	0.0	3.1	0.0	2.3	0.0	2.5			
Prob of Phs Call (p_c)		1.00	1.00	0.96	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.17	1.00	0.41	1.00	0.89	1.00	0.16			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3172		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			397		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

07/11/2019

Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	242	0	126	0	335	0	218	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	6.1	0.0	6.2	0.0	8.6	0.0	10.8	0.0
Cycle Q Clear Time (g_c), s	6.1	0.0	6.2	0.0	8.6	0.0	10.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	310	0	157	0	368	0	233	0
V/C Ratio (X)	0.78	0.00	0.80	0.00	0.91	0.00	0.93	0.00
Avail Cap (c_a), veh/h	310	0	210	0	368	0	233	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	39.8	0.0	39.9	0.0	39.5	0.0	38.4	0.0
Incr Delay (d2), s/veh	11.2	0.0	11.1	0.0	25.6	0.0	40.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.9	0.0	51.0	0.0	65.0	0.0	78.9	0.0
1st-Term Q (Q1), veh/ln	2.5	0.0	2.6	0.0	3.4	0.0	4.4	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.5	0.0	1.3	0.0	2.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.0	0.0	3.1	0.0	4.7	0.0	7.0	0.0
%ile Storage Ratio (RQ%)	0.83	0.00	0.50	0.00	0.52	0.00	0.60	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	2	0	2	0	2
Grp Vol (v), veh/h	0	376	0	789	0	913	0	642
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	16.5	0.0	18.7	0.0	21.8	0.0	15.3
Cycle Q Clear Time (g_c), s	0.0	16.5	0.0	18.7	0.0	21.8	0.0	15.3
Lane Grp Cap (c), veh/h	0	550	0	947	0	1040	0	794
V/C Ratio (X)	0.00	0.68	0.00	0.83	0.00	0.88	0.00	0.81
Avail Cap (c_a), veh/h	0	603	0	1162	0	1147	0	1115
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.0	0.0	30.9	0.0	30.1	0.0	32.8
Incr Delay (d2), s/veh	0.0	2.5	0.0	4.1	0.0	7.3	0.0	2.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.5	0.0	35.0	0.0	37.3	0.0	35.5
1st-Term Q (Q1), veh/ln	0.0	6.3	0.0	7.3	0.0	8.6	0.0	6.1
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.5	0.0	1.0	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

27: Bob Hope Dr & Country Club Dr

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.7	0.0	7.8	0.0	9.6	0.0	6.4
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.04	0.00	0.04	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	379	0	258	0	95	0	42
Grp Sat Flow (s), veh/h/ln	0	1792	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	16.6	0.0	12.7	0.0	4.0	0.0	1.9
Cycle Q Clear Time (g_c), s	0.0	16.6	0.0	12.7	0.0	4.0	0.0	1.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.22	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	554	0	422	0	464	0	354
V/C Ratio (X)	0.00	0.68	0.00	0.61	0.00	0.20	0.00	0.12
Avail Cap (c_a), veh/h	0	608	0	518	0	511	0	497
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.0	0.0	28.7	0.0	23.8	0.0	27.6
Incr Delay (d2), s/veh	0.0	2.6	0.0	1.1	0.0	0.2	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.6	0.0	29.7	0.0	23.9	0.0	27.8
1st-Term Q (Q1), veh/ln	0.0	6.4	0.0	4.5	0.0	1.4	0.0	0.7
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.8	0.0	4.6	0.0	1.4	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	1.38	0.00	0.23	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	39.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 28: Monterey Ave & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔
Traffic Volume (veh/h)	183	682	326	220	752	223	329	1485	570	311	1475	227
Future Volume (veh/h)	183	682	326	220	752	223	329	1485	570	311	1475	227
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	193	718	0	232	792	0	346	1563	484	327	1553	122
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	846		282	908		398	2269	704	372	2231	692
Arrive On Green	0.07	0.17	0.00	0.08	0.18	0.00	0.04	0.15	0.15	0.11	0.44	0.44
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	193	718	0	232	792	0	346	1563	484	327	1553	122
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	7.2	17.7	0.0	8.6	19.6	0.0	12.9	37.8	37.7	12.1	32.0	6.1
Cycle Q Clear(g_c), s	7.2	17.7	0.0	8.6	19.6	0.0	12.9	37.8	37.7	12.1	32.0	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	846		282	908		398	2269	704	372	2231	692
V/C Ratio(X)	0.81	0.85		0.82	0.87		0.87	0.69	0.69	0.88	0.70	0.18
Avail Cap(c_a), veh/h	239	1218		292	1296		425	2269	704	372	2231	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.00	0.73	0.73	0.00	0.51	0.51	0.51	0.65	0.65	0.65
Uniform Delay (d), s/veh	59.6	52.7	0.0	58.8	52.0	0.0	61.5	46.9	46.9	57.2	29.6	22.3
Incr Delay (d2), s/veh	11.0	1.7	0.0	11.7	2.7	0.0	8.7	0.9	2.8	14.1	1.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.4	7.5	0.0	4.1	8.3	0.0	6.4	17.3	16.5	5.8	12.4	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.6	54.4	0.0	70.5	54.7	0.0	70.3	47.8	49.7	71.2	30.8	22.7
LnGrp LOS	E	D		E	D		E	D	D	E	C	C
Approach Vol, veh/h		911	A		1024	A		2393			2002	
Approach Delay, s/veh		57.8			58.3			51.4			36.9	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.0	65.2	16.6	28.2	21.0	64.2	15.0	29.8				
Change Period (Y+Rc), s	6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7				
Max Green Setting (Gmax), s	14.0	47.9	11.0	31.0	16.0	45.9	9.0	33.0				
Max Q Clear Time (g_c+14), s	14.0	39.8	10.6	19.7	14.9	34.0	9.2	21.6				
Green Ext Time (p_c), s	0.0	3.1	0.0	1.3	0.0	3.2	0.0	1.5				

Intersection Summary





































HCM 6th Ctrl Delay	48.9
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
 28: Monterey Ave & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	  		 	  	
Traffic Volume (veh/h)	183	682	326	220	752	223	329	1485	570	311	1475	227
Future Volume (veh/h)	183	682	326	220	752	223	329	1485	570	311	1475	227
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	193	718	0	232	792	0	346	1563	484	327	1553	122
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	239	846		282	908		398	2269	704	372	2231	692
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.17	0.00	0.08	0.18	0.00	0.04	0.15	0.15	0.11	0.44	0.44
Unsig. Movement Delay												
Ln Grp Delay, s/veh	70.6	54.4	0.0	70.5	54.7	0.0	70.3	47.8	49.7	71.2	30.8	22.7
Ln Grp LOS	E	D		E	D		E	D	D	E	C	C
Approach Vol, veh/h		911			1024			2393			2002	
Approach Delay, s/veh		57.8			58.3			51.4			36.9	
Approach LOS		E			E			D			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		20.0	65.2	16.6	28.2	21.0	64.2	15.0	29.8			
Change Period (Y+Rc), s		6.0	7.4	6.0	6.7	6.0	7.4	6.0	6.7			
Max Green (Gmax), s		14.0	47.9	11.0	31.0	16.0	45.9	9.0	33.0			
Max Allow Headway (MAH), s		1.6	2.6	1.7	2.8	1.7	2.7	1.7	2.8			
Max Q Clear (g_c+I1), s		14.1	39.8	10.6	19.7	14.9	34.0	9.2	21.6			
Green Ext Time (g_e), s		0.0	3.1	0.0	1.3	0.0	3.2	0.0	1.5			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	1.00	0.01	1.00	0.00	1.00	0.01			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		5106		5106			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	327	0	232	0	346	0	193	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	12.1	0.0	8.6	0.0	12.9	0.0	7.2	0.0
Cycle Q Clear Time (g_c), s	12.1	0.0	8.6	0.0	12.9	0.0	7.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	372	0	282	0	398	0	239	0
V/C Ratio (X)	0.88	0.00	0.82	0.00	0.87	0.00	0.81	0.00
Avail Cap (c_a), veh/h	372	0	292	0	425	0	239	0
Upstream Filter (I)	0.65	0.00	0.73	0.00	0.51	0.00	0.61	0.00
Uniform Delay (d1), s/veh	57.2	0.0	58.8	0.0	61.5	0.0	59.6	0.0
Incr Delay (d2), s/veh	14.1	0.0	11.7	0.0	8.7	0.0	11.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	71.2	0.0	70.5	0.0	70.3	0.0	70.6	0.0
1st-Term Q (Q1), veh/ln	5.1	0.0	3.7	0.0	6.0	0.0	3.0	0.0
2nd-Term Q (Q2), veh/ln	0.7	0.0	0.5	0.0	0.5	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	5.8	0.0	4.1	0.0	6.4	0.0	3.4	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.47	0.00	0.64	0.00	0.62	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	3	0	3
Grp Vol (v), veh/h	0	1563	0	718	0	1553	0	792
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	37.8	0.0	17.7	0.0	32.0	0.0	19.6
Cycle Q Clear Time (g_c), s	0.0	37.8	0.0	17.7	0.0	32.0	0.0	19.6
Lane Grp Cap (c), veh/h	0	2269	0	846	0	2231	0	908
V/C Ratio (X)	0.00	0.69	0.00	0.85	0.00	0.70	0.00	0.87
Avail Cap (c_a), veh/h	0	2269	0	1218	0	2231	0	1296
Upstream Filter (I)	0.00	0.51	0.00	0.61	0.00	0.65	0.00	0.73
Uniform Delay (d1), s/veh	0.0	46.9	0.0	52.7	0.0	29.6	0.0	52.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	1.7	0.0	1.2	0.0	2.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	47.8	0.0	54.4	0.0	30.8	0.0	54.7
1st-Term Q (Q1), veh/ln	0.0	17.1	0.0	7.3	0.0	12.2	0.0	8.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.2	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	17.3	0.0	7.5	0.0	12.4	0.0	8.3
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.04	0.00	0.06	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	484	0	0	0	122	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	37.7	0.0	0.0	0.0	6.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	37.7	0.0	0.0	0.0	6.1	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	704	0	262	0	692	0	282
V/C Ratio (X)	0.00	0.69	0.00	0.00	0.00	0.18	0.00	0.00
Avail Cap (c_a), veh/h	0	704	0	378	0	692	0	402
Upstream Filter (I)	0.00	0.51	0.00	0.00	0.00	0.65	0.00	0.00
Uniform Delay (d1), s/veh	0.0	46.9	0.0	0.0	0.0	22.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.8	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	49.7	0.0	0.0	0.0	22.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	15.9	0.0	0.0	0.0	2.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	16.5	0.0	0.0	0.0	2.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	2.14	0.00	0.00	0.00	0.13	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	48.9
HCM 6th LOS	D

Notes

Unsignalized Delay for [EBR, WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 29: Portola Ave & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (veh/h)	40	1167	256	170	561	160	264	940	180	80	900	80
Future Volume (veh/h)	40	1167	256	170	561	160	264	940	180	80	900	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1228	183	179	591	88	278	989	124	84	947	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	1215	542	166	1351	603	261	1263	563	115	902	80
Arrive On Green	0.06	0.34	0.34	0.09	0.38	0.38	0.15	0.36	0.36	0.06	0.27	0.27
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	3554	1585	1781	3302	293
Grp Volume(v), veh/h	42	1228	183	179	591	88	278	989	124	84	510	521
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1818
Q Serve(g_s), s	3.4	51.3	12.9	14.0	18.5	5.5	22.0	37.3	8.2	6.9	41.0	41.0
Cycle Q Clear(g_c), s	3.4	51.3	12.9	14.0	18.5	5.5	22.0	37.3	8.2	6.9	41.0	41.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.16
Lane Grp Cap(c), veh/h	98	1215	542	166	1351	603	261	1263	563	115	486	497
V/C Ratio(X)	0.43	1.01	0.34	1.08	0.44	0.15	1.06	0.78	0.22	0.73	1.05	1.05
Avail Cap(c_a), veh/h	119	1215	542	166	1351	603	261	1263	563	119	486	497
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	68.6	49.3	36.7	68.0	34.6	30.5	64.0	43.2	33.8	68.9	54.5	54.5
Incr Delay (d2), s/veh	1.1	28.4	0.1	91.7	0.1	0.0	73.6	3.0	0.1	17.1	54.4	54.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	27.4	5.1	10.6	8.1	2.1	15.3	16.9	3.2	3.7	25.6	26.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.7	77.7	36.8	159.7	34.6	30.5	137.6	46.2	33.9	85.9	108.9	108.5
LnGrp LOS	E	F	D	F	C	C	F	D	C	F	F	F
Approach Vol, veh/h		1453			858			1391			1115	
Approach Delay, s/veh		72.4			60.3			63.4			106.9	
Approach LOS		E			E			E			F	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.3	62.7	27.0	47.0	19.0	57.0	14.7	59.3				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	10.0	55.3	22.0	41.0	14.0	51.3	10.0	53.0				
Max Q Clear Time (g_c+1/4), s	15.4	20.5	24.0	43.0	16.0	53.3	8.9	39.3				
Green Ext Time (p_c), s	0.0	3.0	0.0	0.0	0.0	0.0	0.0	4.5				

Intersection Summary

























HCM 6th Ctrl Delay	75.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1167	256	170	561	160	264	940	180	80	900	80
Future Volume (veh/h)	40	1167	256	170	561	160	264	940	180	80	900	80
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1228	183	179	591	88	278	989	124	84	947	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	98	1215	542	166	1351	603	261	1263	563	115	902	80
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.34	0.34	0.09	0.38	0.38	0.15	0.36	0.36	0.06	0.27	0.27
Unsig. Movement Delay												
Ln Grp Delay, s/veh	69.7	77.7	36.8	159.7	34.6	30.5	137.6	46.2	33.9	85.9	108.9	108.5
Ln Grp LOS	E	F	D	F	C	C	F	D	C	F	F	F
Approach Vol, veh/h		1453			858			1391			1115	
Approach Delay, s/veh		72.4			60.3			63.4			106.9	
Approach LOS		E			E			E			F	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		13.3	62.7	27.0	47.0	19.0	57.0	14.7	59.3			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		10.0	55.3	22.0	41.0	14.0	51.3	10.0	53.0			
Max Allow Headway (MAH), s		1.8	4.1	1.8	4.3	1.8	4.1	1.8	4.1			
Max Q Clear (g_c+I1), s		5.4	20.5	24.0	43.0	16.0	53.3	8.9	39.3			
Green Ext Time (g_e), s		0.0	3.0	0.0	0.0	0.0	0.0	0.0	4.5			
Prob of Phs Call (p_c)		0.83	1.00	1.00	1.00	1.00	1.00	0.97	1.00			
Prob of Max Out (p_x)		0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.18			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3302		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		293		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	42	0	278	0	179	0	84	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	3.4	0.0	22.0	0.0	14.0	0.0	6.9	0.0
Cycle Q Clear Time (g_c), s	3.4	0.0	22.0	0.0	14.0	0.0	6.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	98	0	261	0	166	0	115	0
V/C Ratio (X)	0.43	0.00	1.06	0.00	1.08	0.00	0.73	0.00
Avail Cap (c_a), veh/h	119	0	261	0	166	0	119	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	68.6	0.0	64.0	0.0	68.0	0.0	68.9	0.0
Incr Delay (d2), s/veh	1.1	0.0	73.6	0.0	91.7	0.0	17.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	69.7	0.0	137.6	0.0	159.7	0.0	85.9	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	10.0	0.0	6.4	0.0	3.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	5.3	0.0	4.2	0.0	0.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	15.3	0.0	10.6	0.0	3.7	0.0
%ile Storage Ratio (RQ%)	0.20	0.00	2.44	0.00	1.50	0.00	0.49	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	4.2	0.0	3.2	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.3	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	2
Grp Vol (v), veh/h	0	591	0	510	0	1228	0	989
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	18.5	0.0	41.0	0.0	51.3	0.0	37.3
Cycle Q Clear Time (g_c), s	0.0	18.5	0.0	41.0	0.0	51.3	0.0	37.3
Lane Grp Cap (c), veh/h	0	1351	0	486	0	1215	0	1263
V/C Ratio (X)	0.00	0.44	0.00	1.05	0.00	1.01	0.00	0.78
Avail Cap (c_a), veh/h	0	1351	0	486	0	1215	0	1263
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	34.6	0.0	54.5	0.0	49.3	0.0	43.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	54.4	0.0	28.4	0.0	3.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	34.6	0.0	108.9	0.0	77.7	0.0	46.2
1st-Term Q (Q1), veh/ln	0.0	8.1	0.0	18.3	0.0	22.6	0.0	16.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	7.3	0.0	4.8	0.0	0.5

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.1	0.0	25.6	0.0	27.4	0.0	16.9
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.76	0.00	0.13	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	6.0	0.0	3.2	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	88	0	521	0	183	0	124
Grp Sat Flow (s), veh/h/ln	0	1585	0	1818	0	1585	0	1585
Q Serve Time (g_s), s	0.0	5.5	0.0	41.0	0.0	12.9	0.0	8.2
Cycle Q Clear Time (g_c), s	0.0	5.5	0.0	41.0	0.0	12.9	0.0	8.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.16	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	603	0	497	0	542	0	563
V/C Ratio (X)	0.00	0.15	0.00	1.05	0.00	0.34	0.00	0.22
Avail Cap (c_a), veh/h	0	603	0	497	0	542	0	563
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.5	0.0	54.5	0.0	36.7	0.0	33.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	54.0	0.0	0.1	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.5	0.0	108.5	0.0	36.8	0.0	33.9
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	18.7	0.0	5.1	0.0	3.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	26.2	0.0	5.1	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.72	0.00	0.78	0.00	1.29	0.00	0.51
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	6.1	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	75.6
HCM 6th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 30: Monterey Ave & Hovley Ln W

07/11/2019


























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	125	10	387	20	1898	200	242	1599	180
Future Volume (veh/h)	10	10	10	125	10	387	20	1898	200	242	1599	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	11	132	11	171	21	1998	211	255	1683	189
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	107	107	212	233	197	51	2819	295	275	3383	379
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.03	0.60	0.60	0.31	1.00	1.00
Sat Flow, veh/h	1202	858	858	1390	1870	1585	1781	4695	491	1781	4659	522
Grp Volume(v), veh/h	11	0	22	132	11	171	21	1444	765	255	1228	644
Grp Sat Flow(s),veh/h/ln	1202	0	1716	1390	1870	1585	1781	1702	1782	1781	1702	1776
Q Serve(g_s), s	1.1	0.0	1.5	12.1	0.7	13.8	1.5	38.3	39.1	18.0	0.0	0.0
Cycle Q Clear(g_c), s	1.7	0.0	1.5	13.6	0.7	13.8	1.5	38.3	39.1	18.0	0.0	0.0
Prop In Lane	1.00		0.50	1.00		1.00	1.00		0.28	1.00		0.29
Lane Grp Cap(c), veh/h	199	0	213	212	233	197	51	2044	1070	275	2472	1290
V/C Ratio(X)	0.06	0.00	0.10	0.62	0.05	0.87	0.41	0.71	0.72	0.93	0.50	0.50
Avail Cap(c_a), veh/h	336	0	409	371	446	378	96	2044	1070	315	2472	1290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	0.09	0.09	0.09	0.59	0.59	0.59
Uniform Delay (d), s/veh	50.9	0.0	50.5	56.5	50.1	55.9	62.1	18.0	18.2	44.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.1	1.1	0.0	4.4	0.2	0.2	0.4	19.9	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.6	4.2	0.3	5.6	0.7	13.4	14.4	8.4	0.1	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.9	0.0	50.6	57.6	50.2	60.3	62.2	18.2	18.6	64.1	0.4	0.8
LnGrp LOS	D	A	D	E	D	E	E	B	B	E	A	A
Approach Vol, veh/h		33			314			2230			2127	
Approach Delay, s/veh		50.7			58.8			18.7			8.2	
Approach LOS		D			E			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.1	83.8		21.2	8.7	100.1		21.2				
Change Period (Y+Rc), s	5.0	5.7		5.0	5.0	5.7		5.0				
Max Green Setting (Gmax), s	23.0	60.3		31.0	7.0	76.3		31.0				
Max Q Clear Time (g_c+20), s	20.0	41.1		3.7	3.5	2.0		15.8				
Green Ext Time (p_c), s	0.0	10.1		0.0	0.0	6.7		0.4				

Intersection Summary

HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

HCM 6th Signalized Intersection Capacity Analysis
 30: Monterey Ave & Hovley Ln W

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	10	10	125	10	387	20	1898	200	242	1599	180
Future Volume (veh/h)	10	10	10	125	10	387	20	1898	200	242	1599	180
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	11	11	11	132	11	171	21	1998	211	255	1683	189
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	199	107	107	212	233	197	51	2819	295	275	3383	379
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.03	0.60	0.60	0.31	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	50.9	0.0	50.6	57.6	50.2	60.3	62.2	18.2	18.6	64.1	0.4	0.8
Ln Grp LOS	D	A	D	E	D	E	E	B	B	E	A	A
Approach Vol, veh/h	33		314				2230			2127		
Approach Delay, s/veh	50.7		58.8				18.7			8.2		
Approach LOS	D		E				B			A		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1		2		4		5		6		8	
Case No	2.0		4.0		6.0		2.0		4.0		5.0	
Phs Duration (G+Y+Rc), s	25.1		83.8		21.2		8.7		100.1		21.2	
Change Period (Y+Rc), s	5.0		5.7		5.0		5.0		5.7		5.0	
Max Green (Gmax), s	23.0		60.3		31.0		7.0		76.3		31.0	
Max Allow Headway (MAH), s	1.8		3.8		3.0		1.7		3.3		2.8	
Max Q Clear (g_c+I1), s	20.0		41.1		3.7		3.5		2.0		15.8	
Green Ext Time (g_e), s	0.0		10.1		0.0		0.0		6.7		0.4	
Prob of Phs Call (p_c)	1.00		1.00		1.00		0.53		1.00		1.00	
Prob of Max Out (p_x)	0.15		0.00		0.00		0.00		0.00		0.00	
Left-Turn Movement Data												
Assigned Mvmt	1		7				5		3			
Mvmt Sat Flow, veh/h	1781		1202				1781		1390			
Through Movement Data												
Assigned Mvmt	2		4				6		8			
Mvmt Sat Flow, veh/h	4695		858				4659		1870			
Right-Turn Movement Data												
Assigned Mvmt	12		14				16		18			
Mvmt Sat Flow, veh/h	491		858				522		1585			
Left Lane Group Data												
Assigned Mvmt	1	0	0	7	5	0	0	3				
Lane Assignment	L (Prot)			L L (Prot)			L					

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	1	0	0	1	1	0	0	1
Grp Vol (v), veh/h	255	0	0	11	21	0	0	132
Grp Sat Flow (s), veh/h/ln	1781	0	0	1202	1781	0	0	1390
Q Serve Time (g_s), s	18.0	0.0	0.0	1.1	1.5	0.0	0.0	12.1
Cycle Q Clear Time (g_c), s	18.0	0.0	0.0	1.7	1.5	0.0	0.0	13.6
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1202	0	0	0	1390
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	16.2	0.0	0.0	0.0	16.2
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	15.5	0.0	0.0	0.0	14.7
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	12.1
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	275	0	0	199	51	0	0	212
V/C Ratio (X)	0.93	0.00	0.00	0.06	0.41	0.00	0.00	0.62
Avail Cap (c_a), veh/h	315	0	0	336	96	0	0	371
Upstream Filter (I)	0.59	0.00	0.00	1.00	0.09	0.00	0.00	1.00
Uniform Delay (d1), s/veh	44.2	0.0	0.0	50.9	62.1	0.0	0.0	56.5
Incr Delay (d2), s/veh	19.9	0.0	0.0	0.0	0.2	0.0	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	64.1	0.0	0.0	50.9	62.2	0.0	0.0	57.6
1st-Term Q (Q1), veh/ln	6.9	0.0	0.0	0.3	0.7	0.0	0.0	4.1
2nd-Term Q (Q2), veh/ln	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	8.4	0.0	0.0	0.3	0.7	0.0	0.0	4.2
%ile Storage Ratio (RQ%)	1.06	0.00	0.00	0.01	0.18	0.00	0.00	0.97
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		T
Lanes in Grp	0	2	0	0	0	2	0	1
Grp Vol (v), veh/h	0	1444	0	0	0	1228	0	11
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	1870
Q Serve Time (g_s), s	0.0	38.3	0.0	0.0	0.0	0.0	0.0	0.7
Cycle Q Clear Time (g_c), s	0.0	38.3	0.0	0.0	0.0	0.0	0.0	0.7
Lane Grp Cap (c), veh/h	0	2044	0	0	0	2472	0	233
V/C Ratio (X)	0.00	0.71	0.00	0.00	0.00	0.50	0.00	0.05
Avail Cap (c_a), veh/h	0	2044	0	0	0	2472	0	446
Upstream Filter (I)	0.00	0.09	0.00	0.00	0.00	0.59	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.0	0.0	0.0	0.0	0.0	0.0	50.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.2	0.0	0.0	0.0	0.4	0.0	50.2
1st-Term Q (Q1), veh/ln	0.0	13.4	0.0	0.0	0.0	0.0	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	13.4	0.0	0.0	0.0	0.1	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	765	0	22	0	644	0	171
Grp Sat Flow (s), veh/h/ln	0	1782	0	1716	0	1776	0	1585
Q Serve Time (g_s), s	0.0	39.1	0.0	1.5	0.0	0.0	0.0	13.8
Cycle Q Clear Time (g_c), s	0.0	39.1	0.0	1.5	0.0	0.0	0.0	13.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.28	0.00	0.50	0.00	0.29	0.00	1.00
Lane Grp Cap (c), veh/h	0	1070	0	213	0	1290	0	197
V/C Ratio (X)	0.00	0.72	0.00	0.10	0.00	0.50	0.00	0.87
Avail Cap (c_a), veh/h	0	1070	0	409	0	1290	0	378
Upstream Filter (I)	0.00	0.09	0.00	1.00	0.00	0.59	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	50.5	0.0	0.0	0.0	55.9
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.1	0.0	0.8	0.0	4.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.6	0.0	50.6	0.0	0.8	0.0	60.3
1st-Term Q (Q1), veh/ln	0.0	14.3	0.0	0.6	0.0	0.0	0.0	5.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	14.4	0.0	0.6	0.0	0.3	0.0	5.6
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.03	0.00	0.00	0.00	1.29
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.9
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
 31: Monterey Ave & Fred Waring Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗ ↘ ↙	↖ ↗ ↘ ↙		↖ ↗ ↘ ↙	↖ ↗ ↘ ↙	↖ ↗ ↘ ↙	↖ ↗ ↘ ↙	↖ ↗ ↘ ↙	↖ ↗ ↘ ↙	↖ ↗ ↘ ↙	↖ ↗ ↘ ↙	↖ ↗ ↘ ↙
Traffic Volume (veh/h)	420	970	90	460	830	541	140	997	430	407	1072	250
Future Volume (veh/h)	420	970	90	460	830	541	140	997	430	407	1072	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	442	1021	95	484	874	0	147	1049	453	428	1128	196
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	452	1282	119	530	1493		212	994	429	425	1769	549
Arrive On Green	0.13	0.27	0.27	0.15	0.29	0.00	0.06	0.28	0.28	0.12	0.35	0.35
Sat Flow, veh/h	3456	4753	442	3456	5106	1585	3456	3494	1509	3456	5106	1585
Grp Volume(v), veh/h	442	731	385	484	874	0	147	1022	480	428	1128	196
Grp Sat Flow(s),veh/h/ln	1728	1702	1791	1728	1702	1585	1728	1702	1599	1728	1702	1585
Q Serve(g_s), s	16.6	25.9	26.0	17.9	19.0	0.0	5.4	37.0	37.0	16.0	24.1	12.0
Cycle Q Clear(g_c), s	16.6	25.9	26.0	17.9	19.0	0.0	5.4	37.0	37.0	16.0	24.1	12.0
Prop In Lane	1.00		0.25	1.00		1.00	1.00		0.94	1.00		1.00
Lane Grp Cap(c), veh/h	452	918	483	530	1493		212	969	455	425	1769	549
V/C Ratio(X)	0.98	0.80	0.80	0.91	0.59		0.69	1.05	1.05	1.01	0.64	0.36
Avail Cap(c_a), veh/h	452	918	483	532	1493		266	969	455	425	1769	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.83	0.83	0.83
Uniform Delay (d), s/veh	56.3	44.1	44.2	54.2	39.3	0.0	59.8	46.5	46.5	57.0	35.6	31.7
Incr Delay (d2), s/veh	36.4	7.1	12.9	19.8	1.7	0.0	3.4	44.5	57.4	41.3	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	11.5	12.9	9.1	8.0	0.0	2.4	21.1	21.4	9.2	9.8	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.7	51.2	57.0	74.0	41.0	0.0	63.2	91.0	103.9	98.3	37.1	33.2
LnGrp LOS	F	D	E	E	D		E	F	F	F	D	C
Approach Vol, veh/h		1558			1358	A		1649			1752	
Approach Delay, s/veh		64.4			52.7			92.3			51.6	
Approach LOS		E			D			F			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	44.0	13.0	51.0	24.9	41.1	21.0	43.0				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0				
Max Green Setting (Gmax), s	38.0	38.0	10.0	43.0	20.0	35.0	16.0	37.0				
Max Q Clear Time (g_c+1/10), s	21.0	21.0	7.4	26.1	19.9	28.0	18.0	39.0				
Green Ext Time (p_c), s	0.0	2.0	0.0	2.5	0.0	1.7	0.0	0.0				

Intersection Summary

HCM 6th Ctrl Delay	65.6
HCM 6th LOS	E

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis
31: Monterey Ave & Fred Waring Dr

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	420	970	90	460	830	541	140	997	430	407	1072	250
Future Volume (veh/h)	420	970	90	460	830	541	140	997	430	407	1072	250
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	442	1021	95	484	874	0	147	1049	453	428	1128	196
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	452	1282	119	530	1493		212	994	429	425	1769	549
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.27	0.27	0.15	0.29	0.00	0.06	0.28	0.28	0.12	0.35	0.35
Unsig. Movement Delay												
Ln Grp Delay, s/veh	92.7	51.2	57.0	74.0	41.0	0.0	63.2	91.0	103.9	98.3	37.1	33.2
Ln Grp LOS	F	D	E	E	D		E	F	F	F	D	C
Approach Vol, veh/h		1558			1358			1649			1752	
Approach Delay, s/veh		64.4			52.7			92.3			51.6	
Approach LOS		E			D			F			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		22.0	44.0	13.0	51.0	24.9	41.1	21.0	43.0			
Change Period (Y+Rc), s		5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0			
Max Green (Gmax), s		17.0	38.0	10.0	43.0	20.0	35.0	16.0	37.0			
Max Allow Headway (MAH), s		1.7	2.9	1.7	2.7	1.7	2.9	1.7	3.0			
Max Q Clear (g_c+I1), s		18.6	21.0	7.4	26.1	19.9	28.0	18.0	39.0			
Green Ext Time (g_e), s		0.0	2.0	0.0	2.5	0.0	1.7	0.0	0.0			
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.08	0.00	1.00	0.00	1.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		3456		3456		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			5106		5106		4753		3494			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		1585		442		1509			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	442	0	147	0	484	0	428	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	16.6	0.0	5.4	0.0	17.9	0.0	16.0	0.0
Cycle Q Clear Time (g_c), s	16.6	0.0	5.4	0.0	17.9	0.0	16.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	452	0	212	0	530	0	425	0
V/C Ratio (X)	0.98	0.00	0.69	0.00	0.91	0.00	1.01	0.00
Avail Cap (c_a), veh/h	452	0	266	0	532	0	425	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.83	0.00
Uniform Delay (d1), s/veh	56.3	0.0	59.8	0.0	54.2	0.0	57.0	0.0
Incr Delay (d2), s/veh	36.4	0.0	3.4	0.0	19.8	0.0	41.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	92.7	0.0	63.2	0.0	74.0	0.0	98.3	0.0
1st-Term Q (Q1), veh/ln	7.0	0.0	2.3	0.0	7.6	0.0	6.8	0.0
2nd-Term Q (Q2), veh/ln	2.3	0.0	0.1	0.0	1.5	0.0	2.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	9.3	0.0	2.4	0.0	9.1	0.0	9.2	0.0
%ile Storage Ratio (RQ%)	1.75	0.00	0.36	0.00	1.32	0.00	1.73	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	3	0	2	0	2
Grp Vol (v), veh/h	0	874	0	1128	0	731	0	1022
Grp Sat Flow (s), veh/h/ln	0	1702	0	1702	0	1702	0	1702
Q Serve Time (g_s), s	0.0	19.0	0.0	24.1	0.0	25.9	0.0	37.0
Cycle Q Clear Time (g_c), s	0.0	19.0	0.0	24.1	0.0	25.9	0.0	37.0
Lane Grp Cap (c), veh/h	0	1493	0	1769	0	918	0	969
V/C Ratio (X)	0.00	0.59	0.00	0.64	0.00	0.80	0.00	1.05
Avail Cap (c_a), veh/h	0	1493	0	1769	0	918	0	969
Upstream Filter (I)	0.00	1.00	0.00	0.83	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	39.3	0.0	35.6	0.0	44.1	0.0	46.5
Incr Delay (d2), s/veh	0.0	1.7	0.0	1.5	0.0	7.1	0.0	44.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	41.0	0.0	37.1	0.0	51.2	0.0	91.0
1st-Term Q (Q1), veh/ln	0.0	7.7	0.0	9.6	0.0	10.6	0.0	15.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	0.9	0.0	6.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.0	0.0	9.8	0.0	11.5	0.0	21.1
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.03	0.00	0.10	0.00	0.44
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.3
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	196	0	385	0	480
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1791	0	1599
Q Serve Time (g_s), s	0.0	0.0	0.0	12.0	0.0	26.0	0.0	37.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	12.0	0.0	26.0	0.0	37.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.25	0.00	0.94
Lane Grp Cap (c), veh/h	0	463	0	549	0	483	0	455
V/C Ratio (X)	0.00	0.00	0.00	0.36	0.00	0.80	0.00	1.05
Avail Cap (c_a), veh/h	0	463	0	549	0	483	0	455
Upstream Filter (I)	0.00	0.00	0.00	0.83	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	31.7	0.0	44.2	0.0	46.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.5	0.0	12.9	0.0	57.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	33.2	0.0	57.0	0.0	103.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.5	0.0	11.2	0.0	14.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	1.7	0.0	7.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	4.7	0.0	12.9	0.0	21.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	1.59	0.00	0.11	0.00	0.44
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

Intersection Summary

HCM 6th Ctrl Delay	65.6
HCM 6th LOS	E

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary

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

































Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔	↑↑	↔	↔↔	↑↑	↔
Traffic Volume (veh/h)	240	1382	180	270	1190	315	300	691	220	428	1017	220
Future Volume (veh/h)	240	1382	180	270	1190	315	300	691	220	428	1017	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	1455	63	284	1253	268	316	727	132	451	1071	113
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	1690	525	292	1675	520	365	1038	463	452	1128	503
Arrive On Green	0.09	0.33	0.33	0.08	0.33	0.33	0.11	0.29	0.29	0.13	0.32	0.32
Sat Flow, veh/h	3456	5106	1585	3456	5106	1585	3456	3554	1585	3456	3554	1585
Grp Volume(v), veh/h	253	1455	63	284	1253	268	316	727	132	451	1071	113
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1702	1585	1728	1777	1585	1728	1777	1585
Q Serve(g_s), s	9.4	34.7	3.6	10.7	28.4	17.8	11.7	23.7	8.4	17.0	38.3	6.8
Cycle Q Clear(g_c), s	9.4	34.7	3.6	10.7	28.4	17.8	11.7	23.7	8.4	17.0	38.3	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	303	1690	525	292	1675	520	365	1038	463	452	1128	503
V/C Ratio(X)	0.84	0.86	0.12	0.97	0.75	0.52	0.87	0.70	0.29	1.00	0.95	0.22
Avail Cap(c_a), veh/h	319	1690	525	292	1675	520	372	1093	488	452	1175	524
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.4	40.7	30.3	59.3	38.9	35.3	57.2	41.0	35.5	56.5	43.4	32.6
Incr Delay (d2), s/veh	15.5	6.0	0.5	44.4	3.1	3.6	17.9	1.5	0.1	41.8	15.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	14.9	1.4	6.4	11.9	7.2	5.9	10.3	3.2	9.8	18.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.9	46.7	30.8	103.8	42.0	38.9	75.1	42.5	35.7	98.3	58.5	32.7
LnGrp LOS	E	D	C	F	D	D	E	D	D	F	E	C
Approach Vol, veh/h		1771			1805			1175			1635	
Approach Delay, s/veh		50.0			51.3			50.5			67.7	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	60.0	49.0	18.7	46.3	16.4	48.6	22.0	43.0				
Change Period (Y+Rc), s	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0				
Max Green Setting (Gmax), s	60.0	41.0	14.0	43.0	12.0	40.0	17.0	40.0				
Max Q Clear Time (g_c+I1), s	60.0	36.7	13.7	40.3	11.4	30.4	19.0	25.7				
Green Ext Time (p_c), s	0.0	1.9	0.0	1.0	0.0	2.6	0.0	1.5				

Intersection Summary

HCM 6th Ctrl Delay	55.0
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 	 		 	 	 
Traffic Volume (veh/h)	240	1382	180	270	1190	315	300	691	220	428	1017	220
Future Volume (veh/h)	240	1382	180	270	1190	315	300	691	220	428	1017	220
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	1455	63	284	1253	268	316	727	132	451	1071	113
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	303	1690	525	292	1675	520	365	1038	463	452	1128	503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.33	0.33	0.08	0.33	0.33	0.11	0.29	0.29	0.13	0.32	0.32
Unsig. Movement Delay												
Ln Grp Delay, s/veh	73.9	46.7	30.8	103.8	42.0	38.9	75.1	42.5	35.7	98.3	58.5	32.7
Ln Grp LOS	E	D	C	F	D	D	E	D	D	F	E	C
Approach Vol, veh/h	1771			1805			1175			1635		
Approach Delay, s/veh	50.0			51.3			50.5			67.7		
Approach LOS	D			D			D			E		
Timer:	1 2 3 4 5 6 7 8											
Assigned Phs	1 2 3 4 5 6 7 8											
Case No	2.0 3.0 2.0 3.0 2.0 3.0 2.0 3.0											
Phs Duration (G+Y+Rc), s	16.0 49.0 18.7 46.3 16.4 48.6 22.0 43.0											
Change Period (Y+Rc), s	5.0 6.0 5.0 5.0 5.0 6.0 5.0 5.0											
Max Green (Gmax), s	11.0 41.0 14.0 43.0 12.0 40.0 17.0 40.0											
Max Allow Headway (MAH), s	1.7 2.9 1.7 2.8 1.7 2.7 1.7 2.8											
Max Q Clear (g_c+I1), s	12.7 36.7 13.7 40.3 11.4 30.4 19.0 25.7											
Green Ext Time (g_e), s	0.0 1.9 0.0 1.0 0.0 2.6 0.0 1.5											
Prob of Phs Call (p_c)	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00											
Prob of Max Out (p_x)	1.00 0.00 1.00 1.00 1.00 0.00 1.00 0.00											
Left-Turn Movement Data												
Assigned Mvmt	1 3 5 7											
Mvmt Sat Flow, veh/h	3456 3456 3456 3456											
Through Movement Data												
Assigned Mvmt	2 4 6 8											
Mvmt Sat Flow, veh/h	5106 3554 5106 3554											
Right-Turn Movement Data												
Assigned Mvmt	12 14 16 18											
Mvmt Sat Flow, veh/h	1585 1585 1585 1585											
Left Lane Group Data												
Assigned Mvmt	1 0 3 0 5 0 7 0											
Lane Assignment	L (Prot) L (Prot) L (Prot) L (Prot)											

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	284	0	316	0	253	0	451	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	10.7	0.0	11.7	0.0	9.4	0.0	17.0	0.0
Cycle Q Clear Time (g_c), s	10.7	0.0	11.7	0.0	9.4	0.0	17.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	292	0	365	0	303	0	452	0
V/C Ratio (X)	0.97	0.00	0.87	0.00	0.84	0.00	1.00	0.00
Avail Cap (c_a), veh/h	292	0	372	0	319	0	452	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	59.3	0.0	57.2	0.0	58.4	0.0	56.5	0.0
Incr Delay (d2), s/veh	44.4	0.0	17.9	0.0	15.5	0.0	41.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	103.8	0.0	75.1	0.0	73.9	0.0	98.3	0.0
1st-Term Q (Q1), veh/ln	4.6	0.0	5.0	0.0	4.0	0.0	7.2	0.0
2nd-Term Q (Q2), veh/ln	1.8	0.0	0.9	0.0	0.7	0.0	2.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	6.4	0.0	5.9	0.0	4.7	0.0	9.8	0.0
%ile Storage Ratio (RQ%)	0.87	0.00	1.67	0.00	0.47	0.00	1.31	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	3	0	2	0	3	0	2
Grp Vol (v), veh/h	0	1455	0	1071	0	1253	0	727
Grp Sat Flow (s), veh/h/ln	0	1702	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	34.7	0.0	38.3	0.0	28.4	0.0	23.7
Cycle Q Clear Time (g_c), s	0.0	34.7	0.0	38.3	0.0	28.4	0.0	23.7
Lane Grp Cap (c), veh/h	0	1690	0	1128	0	1675	0	1038
V/C Ratio (X)	0.00	0.86	0.00	0.95	0.00	0.75	0.00	0.70
Avail Cap (c_a), veh/h	0	1690	0	1175	0	1675	0	1093
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	40.7	0.0	43.4	0.0	38.9	0.0	41.0
Incr Delay (d2), s/veh	0.0	6.0	0.0	15.1	0.0	3.1	0.0	1.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	46.7	0.0	58.5	0.0	42.0	0.0	42.5
1st-Term Q (Q1), veh/ln	0.0	14.0	0.0	16.2	0.0	11.5	0.0	10.1
2nd-Term Q (Q2), veh/ln	0.0	0.9	0.0	2.4	0.0	0.5	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	14.9	0.0	18.5	0.0	11.9	0.0	10.3
%ile Storage Ratio (RQ%)	0.00	0.31	0.00	0.39	0.00	0.13	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	63	0	113	0	268	0	132
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	3.6	0.0	6.8	0.0	17.8	0.0	8.4
Cycle Q Clear Time (g_c), s	0.0	3.6	0.0	6.8	0.0	17.8	0.0	8.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	525	0	503	0	520	0	463
V/C Ratio (X)	0.00	0.12	0.00	0.22	0.00	0.52	0.00	0.29
Avail Cap (c_a), veh/h	0	525	0	524	0	520	0	488
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	30.3	0.0	32.6	0.0	35.3	0.0	35.5
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.1	0.0	3.6	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.8	0.0	32.7	0.0	38.9	0.0	35.7
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	2.6	0.0	6.7	0.0	3.2
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	2.6	0.0	7.2	0.0	3.2
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.05	0.00	2.81	0.00	0.62
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	55.0
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
 33: Gerald Ford Dr & Oasis Way

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑↑		↘	↑↑	↘	↘	↑		↘	↘	
Traffic Volume (veh/h)	40	1043	60	82	1239	30	50	0	42	60	0	50
Future Volume (veh/h)	40	1043	60	82	1239	30	50	0	42	60	0	50
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1098	63	86	1304	16	53	0	44	63	0	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	1852	106	393	1927	860	417	0	259	426	0	259
Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.16	0.00	0.16	0.16	0.00	0.16
Sat Flow, veh/h	416	3416	196	484	3554	1585	1351	0	1585	1362	0	1585
Grp Volume(v), veh/h	42	571	590	86	1304	16	53	0	44	63	0	53
Grp Sat Flow(s),veh/h/ln	416	1777	1835	484	1777	1585	1351	0	1585	1362	0	1585
Q Serve(g_s), s	2.5	6.6	6.6	4.5	8.1	0.1	1.1	0.0	0.7	1.3	0.0	0.9
Cycle Q Clear(g_c), s	10.6	6.6	6.6	11.1	8.1	0.1	2.0	0.0	0.7	2.0	0.0	0.9
Prop In Lane	1.00		0.11	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	351	964	995	393	1927	860	417	0	259	426	0	259
V/C Ratio(X)	0.12	0.59	0.59	0.22	0.68	0.02	0.13	0.00	0.17	0.15	0.00	0.20
Avail Cap(c_a), veh/h	370	1046	1080	415	2091	933	992	0	933	1005	0	933
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.9	4.7	4.7	8.5	5.1	3.2	11.9	0.0	11.0	11.9	0.0	11.1
Incr Delay (d2), s/veh	0.2	0.8	0.8	0.3	0.8	0.0	0.1	0.0	0.3	0.2	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	1.0	1.1	0.2	0.3	0.0	0.3	0.0	0.2	0.3	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.0	5.5	5.5	8.7	5.9	3.2	12.1	0.0	11.3	12.0	0.0	11.5
LnGrp LOS	A	A	A	A	A	A	B	A	B	B	A	B
Approach Vol, veh/h		1203			1406			97				116
Approach Delay, s/veh		5.6			6.0			11.7				11.8
Approach LOS		A			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		21.1		9.5		21.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+1), s		4.0		12.6		4.0		13.1				
Green Ext Time (p_c), s		0.3		3.5		0.3		3.5				
Intersection Summary												
HCM 6th Ctrl Delay				6.3								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Capacity Analysis
 33: Gerald Ford Dr & Oasis Way

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	1043	60	82	1239	30	50	0	42	60	0	50
Future Volume (veh/h)	40	1043	60	82	1239	30	50	0	42	60	0	50
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1098	63	86	1304	16	53	0	44	63	0	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	351	1852	106	393	1927	860	417	0	259	426	0	259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.54	0.54	0.54	0.54	0.54	0.54	0.16	0.00	0.16	0.16	0.00	0.16
Unsig. Movement Delay												
Ln Grp Delay, s/veh	9.0	5.5	5.5	8.7	5.9	3.2	12.1	0.0	11.3	12.0	0.0	11.5
Ln Grp LOS	A	A	A	A	A	A	B	A	B	B	A	B
Approach Vol, veh/h		1203			1406			97			116	
Approach Delay, s/veh		5.6			6.0			11.7			11.8	
Approach LOS		A			A			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		6.0		6.0		5.0			
Phs Duration (G+Y+Rc), s			9.5		21.1		9.5		21.1			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			18.0		18.0		18.0		18.0			
Max Allow Headway (MAH), s			4.6		5.4		4.6		5.0			
Max Q Clear (g_c+I1), s			4.0		12.6		4.0		13.1			
Green Ext Time (g_e), s			0.3		3.5		0.3		3.5			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		1.00		0.00		1.00			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			1351		416		1362		484			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			0		3416		0		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		196		1585		1585			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis
 33: Gerald Ford Dr & Oasis Way

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	53	0	42	0	63	0	86
Grp Sat Flow (s), veh/h/ln	0	1351	0	416	0	1362	0	484
Q Serve Time (g_s), s	0.0	1.1	0.0	2.5	0.0	1.3	0.0	4.5
Cycle Q Clear Time (g_c), s	0.0	2.0	0.0	10.6	0.0	2.0	0.0	11.1
Perm LT Sat Flow (s_l), veh/h/ln	0	1351	0	416	0	1362	0	484
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	5.0	0.0	16.6	0.0	5.0	0.0	16.6
Perm LT Serve Time (g_u), s	0.0	4.1	0.0	8.5	0.0	4.3	0.0	9.9
Perm LT Q Serve Time (g_ps), s	0.0	1.1	0.0	2.5	0.0	1.3	0.0	4.5
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	417	0	351	0	426	0	393
V/C Ratio (X)	0.00	0.13	0.00	0.12	0.00	0.15	0.00	0.22
Avail Cap (c_a), veh/h	0	992	0	370	0	1005	0	415
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.9	0.0	8.9	0.0	11.9	0.0	8.5
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.1	0.0	9.0	0.0	12.0	0.0	8.7
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.2	0.0	0.3	0.0	0.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	0.2	0.0	0.3	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.03	0.00	0.01	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	2
Grp Vol (v), veh/h	0	0	0	571	0	0	0	1304
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	6.6	0.0	0.0	0.0	8.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	6.6	0.0	0.0	0.0	8.1
Lane Grp Cap (c), veh/h	0	0	0	964	0	0	0	1927
V/C Ratio (X)	0.00	0.00	0.00	0.59	0.00	0.00	0.00	0.68
Avail Cap (c_a), veh/h	0	0	0	1046	0	0	0	2091
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	4.7	0.0	0.0	0.0	5.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	5.5	0.0	0.0	0.0	5.9
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	44	0	590	0	53	0	16
Grp Sat Flow (s), veh/h/ln	0	1585	0	1835	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.7	0.0	6.6	0.0	0.9	0.0	0.1
Cycle Q Clear Time (g_c), s	0.0	0.7	0.0	6.6	0.0	0.9	0.0	0.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.11	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	259	0	995	0	259	0	860
V/C Ratio (X)	0.00	0.17	0.00	0.59	0.00	0.20	0.00	0.02
Avail Cap (c_a), veh/h	0	933	0	1080	0	933	0	933
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.0	0.0	4.7	0.0	11.1	0.0	3.2
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.8	0.0	0.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.3	0.0	5.5	0.0	11.5	0.0	3.2
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.9	0.0	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	1.1	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.02	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	6.3
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
 34: Monterey Ave & Shadow Ridge Rd

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↔		↔	↔		↔	↑↑↑	↔	↔	↑↑↑	
Traffic Volume (veh/h)	261	0	88	90	0	70	138	1886	50	50	1875	261
Future Volume (veh/h)	261	0	88	90	0	70	138	1886	50	50	1875	261
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	275	0	93	95	0	74	145	1985	32	53	1974	275
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	339	0	157	117	0	100	162	3278	1018	70	2680	368
Arrive On Green	0.10	0.00	0.10	0.07	0.00	0.06	0.09	0.64	0.64	0.08	1.00	1.00
Sat Flow, veh/h	3456	0	1585	1781	0	1585	1781	5106	1585	1781	4538	624
Grp Volume(v), veh/h	275	0	93	95	0	74	145	1985	32	53	1474	775
Grp Sat Flow(s),veh/h/ln	1728	0	1585	1781	0	1585	1781	1702	1585	1781	1702	1758
Q Serve(g_s), s	10.1	0.0	7.3	6.8	0.0	6.0	10.5	29.6	1.0	3.8	0.0	0.0
Cycle Q Clear(g_c), s	10.1	0.0	7.3	6.8	0.0	6.0	10.5	29.6	1.0	3.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	339	0	157	117	0	100	162	3278	1018	70	2010	1038
V/C Ratio(X)	0.81	0.00	0.59	0.81	0.00	0.74	0.90	0.61	0.03	0.76	0.73	0.75
Avail Cap(c_a), veh/h	561	0	330	178	0	219	162	3278	1018	103	2010	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.87	0.87	0.87	0.35	0.35	0.35
Uniform Delay (d), s/veh	57.4	0.0	56.1	59.9	0.0	59.9	58.5	13.6	8.5	59.3	0.0	0.0
Incr Delay (d2), s/veh	4.7	0.0	1.3	8.4	0.0	10.4	38.5	0.7	0.0	3.0	0.9	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	3.0	3.4	0.0	2.7	6.3	9.9	0.3	1.7	0.2	0.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.1	0.0	57.4	68.3	0.0	70.3	97.0	14.4	8.6	62.2	0.9	1.8
LnGrp LOS	E	A	E	E	A	E	F	B	A	E	A	A
Approach Vol, veh/h		368			169			2162			2302	
Approach Delay, s/veh		60.9			69.2			19.8			2.6	
Approach LOS		E			E			B			A	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.3	83.8	12.6	17.4	9.6	90.5	17.3	12.7				
Change Period (Y+Rc), s	4.5	7.0	4.0	* 4.5	4.5	7.0	4.5	4.5				
Max Green Setting (Gmax), s	1.8	58.6	13.0	* 27	7.5	62.9	21.1	18.0				
Max Q Clear Time (g_c+1/2g_s), s	12.5	2.0	8.8	9.3	5.8	31.6	12.1	8.0				
Green Ext Time (p_c), s	0.0	5.7	0.0	0.2	0.0	5.5	0.6	0.2				

Intersection Summary






























HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	 	
Traffic Volume (veh/h)	261	0	88	90	0	70	138	1886	50	50	1875	261
Future Volume (veh/h)	261	0	88	90	0	70	138	1886	50	50	1875	261
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	275	0	93	95	0	74	145	1985	32	53	1974	275
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	339	0	157	117	0	100	162	3278	1018	70	2680	368
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Prop Arrive On Green	0.10	0.00	0.10	0.07	0.00	0.06	0.09	0.64	0.64	0.08	1.00	1.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	62.1	0.0	57.4	68.3	0.0	70.3	97.0	14.4	8.6	62.2	0.9	1.8
Ln Grp LOS	E	A	E	E	A	E	F	B	A	E	A	A
Approach Vol, veh/h		368			169			2162			2302	
Approach Delay, s/veh		60.9			69.2			19.8			2.6	
Approach LOS		E			E			B			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	4.0	2.0	4.0	2.0	3.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		16.3	83.8	12.6	17.4	9.6	90.5	17.3	12.7			
Change Period (Y+Rc), s		4.5	7.0	4.0	* 4.5	4.5	7.0	4.5	4.5			
Max Green (Gmax), s		11.8	58.6	13.0	* 27	7.5	62.9	21.1	18.0			
Max Allow Headway (MAH), s		3.6	2.8	1.8	3.6	1.6	2.7	3.8	5.6			
Max Q Clear (g_c+I1), s		12.5	2.0	8.8	9.3	5.8	31.6	12.1	8.0			
Green Ext Time (g_e), s		0.0	5.7	0.0	0.2	0.0	5.5	0.6	0.2			
Prob of Phs Call (p_c)		0.99	1.00	0.97	0.97	0.85	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	0.00	0.01	0.00	0.83	0.00	0.02	0.04			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		1781		1781		3456				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			4538		0		5106		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			624		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
 34: Monterey Ave & Shadow Ridge Rd

07/11/2019

Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	145	0	95	0	53	0	275	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	10.5	0.0	6.8	0.0	3.8	0.0	10.1	0.0
Cycle Q Clear Time (g_c), s	10.5	0.0	6.8	0.0	3.8	0.0	10.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	162	0	117	0	70	0	339	0
V/C Ratio (X)	0.90	0.00	0.81	0.00	0.76	0.00	0.81	0.00
Avail Cap (c_a), veh/h	162	0	178	0	103	0	561	0
Upstream Filter (I)	0.87	0.00	1.00	0.00	0.35	0.00	1.00	0.00
Uniform Delay (d1), s/veh	58.5	0.0	59.9	0.0	59.3	0.0	57.4	0.0
Incr Delay (d2), s/veh	38.5	0.0	8.4	0.0	3.0	0.0	4.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	97.0	0.0	68.3	0.0	62.2	0.0	62.1	0.0
1st-Term Q (Q1), veh/ln	4.5	0.0	3.1	0.0	1.6	0.0	4.4	0.0
2nd-Term Q (Q2), veh/ln	1.7	0.0	0.3	0.0	0.1	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	6.3	0.0	3.4	0.0	1.7	0.0	4.7	0.0
%ile Storage Ratio (RQ%)	1.06	0.00	0.09	0.00	0.28	0.00	0.79	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	2	0	0	0	3	0	0
Grp Vol (v), veh/h	0	1474	0	0	0	1985	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	29.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	29.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	2010	0	0	0	3278	0	0
V/C Ratio (X)	0.00	0.73	0.00	0.00	0.00	0.61	0.00	0.00
Avail Cap (c_a), veh/h	0	2010	0	0	0	3278	0	0
Upstream Filter (I)	0.00	0.35	0.00	0.00	0.00	0.87	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	13.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.0	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.9	0.0	0.0	0.0	14.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	9.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

34: Monterey Ave & Shadow Ridge Rd

07/11/2019

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	9.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	775	0	93	0	32	0	74
Grp Sat Flow (s), veh/h/ln	0	1758	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	7.3	0.0	1.0	0.0	6.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	7.3	0.0	1.0	0.0	6.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.35	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	1038	0	157	0	1018	0	100
V/C Ratio (X)	0.00	0.75	0.00	0.59	0.00	0.03	0.00	0.74
Avail Cap (c_a), veh/h	0	1038	0	330	0	1018	0	219
Upstream Filter (I)	0.00	0.35	0.00	1.00	0.00	0.87	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	56.1	0.0	8.5	0.0	59.9
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.3	0.0	0.0	0.0	10.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	1.8	0.0	57.4	0.0	8.6	0.0	70.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	2.9	0.0	0.3	0.0	2.4
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.0	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	3.0	0.0	0.3	0.0	2.7
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.12	0.00	0.04	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	16.6
HCM 6th LOS	B

Notes

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
 35: Bob Hope Dr & Sunny Lands Center






















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↗	↘		↗	↕		↗	↘	
Traffic Volume (veh/h)	0	0	10	18	0	54	10	1269	29	89	1133	10
Future Volume (veh/h)	0	0	10	18	0	54	10	1269	29	89	1133	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	11	19	0	57	11	1336	31	94	1193	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	0	138	365	0	138	437	2124	49	393	2158	20
Arrive On Green	0.00	0.00	0.09	0.09	0.00	0.09	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	0	0	1585	1404	0	1585	464	3550	82	398	3608	33
Grp Volume(v), veh/h	0	0	11	19	0	57	11	668	699	94	587	617
Grp Sat Flow(s),veh/h/ln	0	0	1585	1404	0	1585	464	1777	1856	398	1777	1864
Q Serve(g_s), s	0.0	0.0	0.2	0.4	0.0	1.0	0.4	6.9	6.9	5.7	5.7	5.7
Cycle Q Clear(g_c), s	0.0	0.0	0.2	0.5	0.0	1.0	6.1	6.9	6.9	12.7	5.7	5.7
Prop In Lane	0.00		1.00	1.00		1.00	1.00		0.04	1.00		0.02
Lane Grp Cap(c), veh/h	0	0	138	365	0	138	437	1063	1110	393	1063	1115
V/C Ratio(X)	0.00	0.00	0.08	0.05	0.00	0.41	0.03	0.63	0.63	0.24	0.55	0.55
Avail Cap(c_a), veh/h	0	0	997	1126	0	997	452	1118	1167	405	1118	1173
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	12.0	12.3	0.0	12.4	5.3	3.7	3.7	7.8	3.5	3.5
Incr Delay (d2), s/veh	0.0	0.0	0.2	0.1	0.0	2.0	0.0	1.1	1.0	0.3	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.1	0.0	0.3	0.0	0.3	0.3	0.3	0.4	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	12.2	12.3	0.0	14.3	5.3	4.8	4.7	8.1	4.0	4.0
LnGrp LOS	A	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		11			76			1378			1298	
Approach Delay, s/veh		12.2			13.8			4.7			4.3	
Approach LOS		B			B			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.6		7.0		21.6		7.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+1), s		8.9		2.2		14.7		3.0				
Green Ext Time (p_c), s		5.2		0.0		2.5		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				4.8								
HCM 6th LOS				A								

HCM 6th Signalized Intersection Capacity Analysis
 35: Bob Hope Dr & Sunny Lands Center

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	10	18	0	54	10	1269	29	89	1133	10
Future Volume (veh/h)	0	0	10	18	0	54	10	1269	29	89	1133	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	11	19	0	57	11	1336	31	94	1193	11
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	0	0	138	365	0	138	437	2124	49	393	2158	20
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.00	0.00	0.09	0.09	0.00	0.09	0.60	0.60	0.60	0.60	0.60	0.60
Unsig. Movement Delay												
Ln Grp Delay, s/veh	0.0	0.0	12.2	12.3	0.0	14.3	5.3	4.8	4.7	8.1	4.0	4.0
Ln Grp LOS	A	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		11			76			1378			1298	
Approach Delay, s/veh		12.2			13.8			4.7			4.3	
Approach LOS		B			B			A			A	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			6.0		8.0		6.0		6.0		6.0	
Phs Duration (G+Y+Rc), s			21.6		7.0		21.6		7.0		7.0	
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5		4.5	
Max Green (Gmax), s			18.0		18.0		18.0		18.0		18.0	
Max Allow Headway (MAH), s			4.8		5.6		5.6		5.1		5.1	
Max Q Clear (g_c+I1), s			8.9		2.2		14.7		3.0		3.0	
Green Ext Time (g_e), s			5.2		0.0		2.5		0.2		0.2	
Prob of Phs Call (p_c)			1.00		0.50		1.00		0.50		0.50	
Prob of Max Out (p_x)			0.72		0.00		1.00		0.00		0.00	
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			464		0		398		1404			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3550		0		3608		0			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			82		1585		33		1585			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L				L		L			

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	0	1	0	0	0	1	0	1
Grp Vol (v), veh/h	0	11	0	0	0	94	0	19
Grp Sat Flow (s), veh/h/ln	0	464	0	0	0	398	0	1404
Q Serve Time (g_s), s	0.0	0.4	0.0	0.0	0.0	5.7	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	6.1	0.0	0.0	0.0	12.7	0.0	0.5
Perm LT Sat Flow (s_l), veh/h/ln	0	464	0	0	0	398	0	1404
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	17.1	0.0	0.0	0.0	17.1	0.0	2.5
Perm LT Serve Time (g_u), s	0.0	11.4	0.0	0.0	0.0	10.2	0.0	2.3
Perm LT Q Serve Time (g_ps), s	0.0	0.4	0.0	0.0	0.0	5.7	0.0	0.4
Time to First Blk (g_f), s	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	437	0	0	0	393	0	365
V/C Ratio (X)	0.00	0.03	0.00	0.00	0.00	0.24	0.00	0.05
Avail Cap (c_a), veh/h	0	452	0	0	0	405	0	1126
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	5.3	0.0	0.0	0.0	7.8	0.0	12.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.3	0.0	0.0	0.0	8.1	0.0	12.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.1
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.08	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T				T		
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	668	0	0	0	587	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	6.9	0.0	0.0	0.0	5.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.9	0.0	0.0	0.0	5.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	1063	0	0	0	1063	0	0
V/C Ratio (X)	0.00	0.63	0.00	0.00	0.00	0.55	0.00	0.00
Avail Cap (c_a), veh/h	0	1118	0	0	0	1118	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.7	0.0	0.0	0.0	3.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.8	0.0	0.0	0.0	4.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	0.0	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	699	0	11	0	617	0	57
Grp Sat Flow (s), veh/h/ln	0	1856	0	1585	0	1864	0	1585
Q Serve Time (g_s), s	0.0	6.9	0.0	0.2	0.0	5.7	0.0	1.0
Cycle Q Clear Time (g_c), s	0.0	6.9	0.0	0.2	0.0	5.7	0.0	1.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.04	0.00	1.00	0.00	0.02	0.00	1.00
Lane Grp Cap (c), veh/h	0	1110	0	138	0	1115	0	138
V/C Ratio (X)	0.00	0.63	0.00	0.08	0.00	0.55	0.00	0.41
Avail Cap (c_a), veh/h	0	1167	0	997	0	1173	0	997
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	3.7	0.0	12.0	0.0	3.5	0.0	12.4
Incr Delay (d2), s/veh	0.0	1.0	0.0	0.2	0.0	0.5	0.0	2.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.7	0.0	12.2	0.0	4.0	0.0	14.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	0.1	0.0	0.4	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	4.8
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
 36: Monterey Ave & Project Access Intersection South

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Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖	↗	↖	↑↑↑	↑↑↑	
Traffic Volume (veh/h)	32	30	55	2042	1983	52
Future Volume (veh/h)	32	30	55	2042	1983	52
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	23	58	2149	2087	55
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	83	73	231	4257	4265	112
Arrive On Green	0.05	0.05	0.83	0.83	0.83	0.83
Sat Flow, veh/h	1781	1585	187	5274	5284	135
Grp Volume(v), veh/h	34	23	58	2149	1387	755
Grp Sat Flow(s),veh/h/ln	1781	1585	187	1702	1702	1846
Q Serve(g_s), s	1.4	1.1	9.5	9.1	8.6	8.6
Cycle Q Clear(g_c), s	1.4	1.1	18.1	9.1	8.6	8.6
Prop In Lane	1.00	1.00	1.00			0.07
Lane Grp Cap(c), veh/h	83	73	231	4257	2838	1539
V/C Ratio(X)	0.41	0.31	0.25	0.50	0.49	0.49
Avail Cap(c_a), veh/h	430	383	231	4257	2838	1539
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.17	0.17	0.49	0.49
Uniform Delay (d), s/veh	34.8	34.6	4.3	1.8	1.8	1.8
Incr Delay (d2), s/veh	3.3	2.4	0.4	0.1	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.4	0.2	0.0	0.1	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.0	37.0	4.7	1.9	2.0	2.3
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	57			2207	2142	
Approach Delay, s/veh	37.6			1.9	2.1	
Approach LOS	D			A	A	
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		67.0		8.0		67.0
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		47.9		18.1		47.9
Max Q Clear Time (g_c+I1), s		20.1		3.4		10.6
Green Ext Time (p_c), s		20.0		0.1		20.0
Intersection Summary						
HCM 6th Ctrl Delay			2.5			
HCM 6th LOS			A			

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations	↘	↗	↘	↑↑↑	↑↑↑				
Traffic Volume (veh/h)	32	30	55	2042	1983	52			
Future Volume (veh/h)	32	30	55	2042	1983	52			
Number	7	14	5	2	6	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00	1.00			1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	34	23	58	2149	2087	55			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes		Yes						
Cap, veh/h	83	73	231	4257	4265	112			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.05	0.05	0.83	0.83	0.83	0.83			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	38.0	37.0	4.7	1.9	2.0	2.3			
Ln Grp LOS	D	D	A	A	A	A			
Approach Vol, veh/h	57			2207	2142				
Approach Delay, s/veh	37.6			1.9	2.1				
Approach LOS	D			A	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4		6		
Case No			6.0		9.0		8.0		
Phs Duration (G+Y+Rc), s			67.0		8.0		67.0		
Change Period (Y+Rc), s			4.5		4.5		4.5		
Max Green (Gmax), s			47.9		18.1		47.9		
Max Allow Headway (MAH), s			5.1		3.9		4.7		
Max Q Clear (g_c+I1), s			20.1		3.4		10.6		
Green Ext Time (g_e), s			20.0		0.1		20.0		
Prob of Phs Call (p_c)			1.00		0.70		1.00		
Prob of Max Out (p_x)			0.00		0.00		0.00		
Left-Turn Movement Data									
Assigned Mvmt			5		7		1		
Mvmt Sat Flow, veh/h			187		1781		0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			5274		0		5284		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		135		
Left Lane Group Data									
Assigned Mvmt		0	5	0	7	0	1	0	0
Lane Assignment			L		L				

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Lanes in Grp	0	1	0	1	0	0	0	0
Grp Vol (v), veh/h	0	58	0	34	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	187	0	1781	0	0	0	0
Q Serve Time (g_s), s	0.0	9.5	0.0	1.4	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	18.1	0.0	1.4	0.0	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	187	0	1781	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	62.5	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	53.9	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	9.5	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	62.5	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	231	0	83	0	0	0	0
V/C Ratio (X)	0.00	0.25	0.00	0.41	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	231	0	430	0	0	0	0
Upstream Filter (I)	0.00	0.17	0.00	1.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	4.3	0.0	34.8	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	3.3	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.7	0.0	38.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.6	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.7	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.02	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment		T				T		
Lanes in Grp	0	3	0	0	0	2	0	0
Grp Vol (v), veh/h	0	2149	0	0	0	1387	0	0
Grp Sat Flow (s), veh/h/ln	0	1702	0	0	0	1702	0	0
Q Serve Time (g_s), s	0.0	9.1	0.0	0.0	0.0	8.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.1	0.0	0.0	0.0	8.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	4257	0	0	0	2838	0	0
V/C Ratio (X)	0.00	0.50	0.00	0.00	0.00	0.49	0.00	0.00
Avail Cap (c_a), veh/h	0	4257	0	0	0	2838	0	0
Upstream Filter (I)	0.00	0.17	0.00	0.00	0.00	0.49	0.00	0.00
Uniform Delay (d1), s/veh	0.0	1.8	0.0	0.0	0.0	1.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	1.9	0.0	0.0	0.0	2.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment				R		T+R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	23	0	755	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1846	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	1.1	0.0	8.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.1	0.0	8.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	0.07	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	73	0	1539	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.31	0.00	0.49	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	383	0	1539	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.49	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	34.6	0.0	1.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.4	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	37.0	0.0	2.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.4	0.0	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	2.5
HCM 6th LOS	A

HCM 6th Signalized Intersection Summary
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

















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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	979	10	10	1022	60	10	0	10	32	0	28
Future Volume (veh/h)	36	979	10	10	1022	60	10	0	10	32	0	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	1031	11	11	1076	63	11	0	11	34	0	29
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	1916	20	427	1815	106	263	47	130	479	0	265
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.17	0.00	0.17	0.17	0.00	0.17
Sat Flow, veh/h	494	3602	38	541	3412	200	495	283	777	1404	0	1585
Grp Volume(v), veh/h	38	509	533	11	560	579	22	0	0	34	0	29
Grp Sat Flow(s),veh/h/ln	494	1777	1863	541	1777	1834	1555	0	0	1404	0	1585
Q Serve(g_s), s	1.7	5.6	5.6	0.4	6.4	6.5	0.0	0.0	0.0	0.2	0.0	0.5
Cycle Q Clear(g_c), s	8.2	5.6	5.6	6.0	6.4	6.5	0.3	0.0	0.0	0.5	0.0	0.5
Prop In Lane	1.00		0.02	1.00		0.11	0.50		0.50	1.00		1.00
Lane Grp Cap(c), veh/h	397	945	992	427	945	976	440	0	0	479	0	265
V/C Ratio(X)	0.10	0.54	0.54	0.03	0.59	0.59	0.05	0.00	0.00	0.07	0.00	0.11
Avail Cap(c_a), veh/h	506	1336	1401	546	1336	1379	1106	0	0	1113	0	980
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.6	4.6	4.6	6.6	4.8	4.8	10.5	0.0	0.0	10.6	0.0	10.6
Incr Delay (d2), s/veh	0.1	0.5	0.5	0.0	0.6	0.6	0.0	0.0	0.0	0.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.8	0.9	0.0	0.2	0.2	0.1	0.0	0.0	0.1	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	5.1	5.0	6.6	5.4	5.4	10.6	0.0	0.0	10.6	0.0	10.8
LnGrp LOS	A	A	A	A	A	A	B	A	A	B	A	B
Approach Vol, veh/h	1080			1150			22			63		
Approach Delay, s/veh	5.1			5.4			10.6			10.7		
Approach LOS	A			A			B			B		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	9.5		20.4		9.5		20.4					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.5		22.5		18.5		22.5					
Max Q Clear Time (g_c+I1), s	2.3		10.2		2.5		8.5					
Green Ext Time (p_c), s	0.0		5.8		0.1		5.8					
Intersection Summary												
HCM 6th Ctrl Delay			5.5									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Capacity Analysis
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	979	10	10	1022	60	10	0	10	32	0	28
Future Volume (veh/h)	36	979	10	10	1022	60	10	0	10	32	0	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	1031	11	11	1076	63	11	0	11	34	0	29
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	397	1916	20	427	1815	106	263	47	130	479	0	265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.17	0.00	0.17	0.17	0.00	0.17
Unsig. Movement Delay												
Ln Grp Delay, s/veh	7.7	5.1	5.0	6.6	5.4	5.4	10.6	0.0	0.0	10.6	0.0	10.8
Ln Grp LOS	A	A	A	A	A	A	B	A	A	B	A	B
Approach Vol, veh/h		1080			1150			22			63	
Approach Delay, s/veh		5.1			5.4			10.6			10.7	
Approach LOS		A			A			B			B	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs			2		4		6		8			
Case No			8.0		6.0		6.0		6.0			
Phs Duration (G+Y+Rc), s			9.5		20.4		9.5		20.4			
Change Period (Y+Rc), s			4.5		4.5		4.5		4.5			
Max Green (Gmax), s			18.5		22.5		18.5		22.5			
Max Allow Headway (MAH), s			5.4		5.3		4.6		4.9			
Max Q Clear (g_c+I1), s			2.3		10.2		2.5		8.5			
Green Ext Time (g_e), s			0.0		5.8		0.1		5.8			
Prob of Phs Call (p_c)			1.00		1.00		1.00		1.00			
Prob of Max Out (p_x)			0.00		0.53		0.00		0.38			
Left-Turn Movement Data												
Assigned Mvmt			5		7		1		3			
Mvmt Sat Flow, veh/h			495		494		1404		541			
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			283		3602		0		3412			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			777		38		1585		200			
Left Lane Group Data												
Assigned Mvmt		0	5	0	7	0	1	0	3			
Lane Assignment			L+T+R		L		L		L			

HCM 6th Signalized Intersection Capacity Analysis
 37: Kavendish Way & Frank Sinatra Dr

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Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	22	0	38	0	34	0	11
Grp Sat Flow (s), veh/h/ln	0	1555	0	494	0	1404	0	541
Q Serve Time (g_s), s	0.0	0.0	0.0	1.7	0.0	0.2	0.0	0.4
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	8.2	0.0	0.5	0.0	6.0
Perm LT Sat Flow (s_l), veh/h/ln	0	1403	0	494	0	1404	0	541
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	1781	0	0
Perm LT Eff Green (g_p), s	0.0	5.0	0.0	15.9	0.0	5.0	0.0	15.9
Perm LT Serve Time (g_u), s	0.0	4.5	0.0	9.5	0.0	4.7	0.0	10.3
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	1.7	0.0	0.2	0.0	0.4
Time to First Blk (g_f), s	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.50	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	440	0	397	0	479	0	427
V/C Ratio (X)	0.00	0.05	0.00	0.10	0.00	0.07	0.00	0.03
Avail Cap (c_a), veh/h	0	1106	0	506	0	1113	0	546
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.5	0.0	7.6	0.0	10.6	0.0	6.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.6	0.0	7.7	0.0	10.6	0.0	6.6
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.06	0.00	0.08	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment				T				T
Lanes in Grp	0	0	0	1	0	0	0	1
Grp Vol (v), veh/h	0	0	0	509	0	0	0	560
Grp Sat Flow (s), veh/h/ln	0	0	0	1777	0	0	0	1777
Q Serve Time (g_s), s	0.0	0.0	0.0	5.6	0.0	0.0	0.0	6.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	5.6	0.0	0.0	0.0	6.4
Lane Grp Cap (c), veh/h	0	0	0	945	0	0	0	945
V/C Ratio (X)	0.00	0.00	0.00	0.54	0.00	0.00	0.00	0.59
Avail Cap (c_a), veh/h	0	0	0	1336	0	0	0	1336
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	4.6	0.0	0.0	0.0	4.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	5.1	0.0	0.0	0.0	5.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

37: Kavendish Way & Frank Sinatra Dr

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				T+R		T+R		T+R
Lanes in Grp	0	0	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	533	0	29	0	579
Grp Sat Flow (s), veh/h/ln	0	0	0	1863	0	1585	0	1834
Q Serve Time (g_s), s	0.0	0.0	0.0	5.6	0.0	0.5	0.0	6.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	5.6	0.0	0.5	0.0	6.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.50	0.00	0.02	0.00	1.00	0.00	0.11
Lane Grp Cap (c), veh/h	0	0	0	992	0	265	0	976
V/C Ratio (X)	0.00	0.00	0.00	0.54	0.00	0.11	0.00	0.59
Avail Cap (c_a), veh/h	0	0	0	1401	0	980	0	1379
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	4.6	0.0	10.6	0.0	4.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	0.2	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	5.0	0.0	10.8	0.0	5.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.7	0.0	0.1	0.0	0.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.9	0.0	0.1	0.0	0.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

























HCM 6th Ctrl Delay	5.5
HCM 6th LOS	A

APPENDIX F: MITIGATED LEVEL OF SERVICE CALCULATION SHEETS



HCM 6th Signalized Intersection Summary
6: Monterey Ave & Varner Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	87	201	725	194	108	152	176	212	45	495	14
Future Volume (veh/h)	19	87	201	725	194	108	152	176	212	45	495	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	101	126	843	226	34	177	205	0	52	576	0
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	138	233	899	1052	469	702	1496		124	993	
Arrive On Green	0.05	0.07	0.07	0.26	0.30	0.30	0.20	0.42	0.00	0.07	0.28	0.00
Sat Flow, veh/h	1781	1870	3170	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	22	101	126	843	226	34	177	205	0	52	576	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.6	7.2	5.2	32.5	6.5	2.1	5.9	4.8	0.0	3.8	19.0	0.0
Cycle Q Clear(g_c), s	1.6	7.2	5.2	32.5	6.5	2.1	5.9	4.8	0.0	3.8	19.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	138	233	899	1052	469	702	1496		124	993	
V/C Ratio(X)	0.27	0.73	0.54	0.94	0.21	0.07	0.25	0.14		0.42	0.58	
Avail Cap(c_a), veh/h	148	182	308	1209	1293	577	702	1496		152	993	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.79	0.79	0.79	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.7	61.7	60.8	49.2	36.0	34.4	45.5	24.2	0.0	60.6	42.1	0.0
Incr Delay (d2), s/veh	0.7	10.2	1.9	8.2	0.1	0.1	0.1	0.2	0.0	0.8	2.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	3.7	2.1	14.4	2.7	0.8	2.6	2.1	0.0	1.7	8.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.4	71.9	62.7	57.4	36.1	34.5	45.7	24.4	0.0	61.5	44.6	0.0
LnGrp LOS	E	E	E	E	D	C	D	C		E	D	
Approach Vol, veh/h		249			1103			382	A		628	A
Approach Delay, s/veh		66.5			52.3			34.2			46.0	
Approach LOS		E			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.9	63.5	41.9	15.8	33.8	44.5	10.9	46.8				
Change Period (Y+Rc), s	5.4	6.2	6.5	* 5.8	6.2	* 6.5	* 4.7	6.5				
Max Green Setting (Gmax), s	11.6	40.3	47.6	* 13	13.9	* 38	* 11	49.5				
Max Q Clear Time (g_c+I1), s	5.8	6.8	34.5	9.2	7.9	21.0	3.6	8.5				
Green Ext Time (p_c), s	0.0	1.4	0.9	0.3	0.2	3.0	0.0	1.4				
Intersection Summary												
HCM 6th Ctrl Delay			49.2									
HCM 6th LOS			D									
Notes												
User approved volume balancing among the lanes for turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary
 18: Cook St & I-10 WB Ramps

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↕	↕		↕↕	↕		↕↕↕	
Traffic Volume (veh/h)	0	0	0	884	3	83	0	411	303	0	418	40
Future Volume (veh/h)	0	0	0	884	3	83	0	411	303	0	418	40
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach				No		No		No		No		
Adj Sat Flow, veh/h/ln				1870	1870	1870	0	1870	1870	0	1870	1870
Adj Flow Rate, veh/h				1065	4	65	0	495	0	0	504	48
Peak Hour Factor				0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %				2	2	2	0	2	2	0	2	2
Cap, veh/h				1128	4	1008	0	939		0	1255	118
Arrive On Green				0.64	0.64	0.64	0.00	0.09	0.00	0.00	0.26	0.26
Sat Flow, veh/h				1775	7	1585	0	3647	1585	0	4916	447
Grp Volume(v), veh/h				1069	0	65	0	495	0	0	360	192
Grp Sat Flow(s),veh/h/ln				1782	0	1585	0	1777	1585	0	1702	1790
Q Serve(g_s), s				60.1	0.0	1.7	0.0	14.7	0.0	0.0	9.6	9.7
Cycle Q Clear(g_c), s				60.1	0.0	1.7	0.0	14.7	0.0	0.0	9.6	9.7
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.25
Lane Grp Cap(c), veh/h				1132	0	1008	0	939		0	900	473
V/C Ratio(X)				0.94	0.00	0.06	0.00	0.53		0.00	0.40	0.41
Avail Cap(c_a), veh/h				1231	0	1095	0	939		0	900	473
HCM Platoon Ratio				1.00	1.00	1.00	1.00	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.88	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				18.3	0.0	7.6	0.0	43.6	0.0	0.0	33.3	33.3
Incr Delay (d2), s/veh				13.7	0.0	0.0	0.0	1.9	0.0	0.0	1.3	2.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				26.4	0.0	0.6	0.0	7.2	0.0	0.0	3.9	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				32.0	0.0	7.6	0.0	45.5	0.0	0.0	34.6	35.9
LnGrp LOS				C	A	A	A	D		A	C	D
Approach Vol, veh/h				1134			495			552		
Approach Delay, s/veh				30.6			45.5			35.1		
Approach LOS				C			D			D		
Timer - Assigned Phs	2			6			8					
Phs Duration (G+Y+Rc), s	35.1			35.1			74.9					
Change Period (Y+Rc), s	6.0			6.0			5.0					
Max Green Setting (Gmax), s	23.0			23.0			76.0					
Max Q Clear Time (g_c+I1), s	16.7			11.7			62.1					
Green Ext Time (p_c), s	1.7			2.3			7.8					

Intersection Summary

























HCM 6th Ctrl Delay	35.1
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

























HCM 6th Signalized Intersection Summary
6: Monterey Ave & Varner Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	78	213	566	192	172	238	440	250	34	451	13
Future Volume (veh/h)	33	78	213	566	192	172	238	440	250	34	451	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	80	119	584	198	26	245	454	0	35	465	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	156	264	644	769	343	754	1664		112	1081	
Arrive On Green	0.06	0.08	0.08	0.19	0.22	0.22	0.22	0.47	0.00	0.06	0.30	0.00
Sat Flow, veh/h	1781	1870	3170	3456	3554	1585	3456	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	34	80	119	584	198	26	245	454	0	35	465	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1728	1777	1585	1728	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.2	4.9	4.3	19.9	5.5	1.6	7.2	9.3	0.0	2.3	12.6	0.0
Cycle Q Clear(g_c), s	2.2	4.9	4.3	19.9	5.5	1.6	7.2	9.3	0.0	2.3	12.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	111	156	264	644	769	343	754	1664		112	1081	
V/C Ratio(X)	0.31	0.51	0.45	0.91	0.26	0.08	0.33	0.27		0.31	0.43	
Avail Cap(c_a), veh/h	168	265	449	829	1022	456	754	1664		163	1081	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.86	0.86	0.86	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.8	52.7	52.4	47.8	39.0	37.5	39.5	19.4	0.0	53.7	33.4	0.0
Incr Delay (d2), s/veh	0.6	2.6	1.2	8.9	0.2	0.1	0.2	0.4	0.0	0.6	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.3	1.7	8.9	2.3	0.6	3.1	4.0	0.0	1.0	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.4	55.3	53.6	56.7	39.2	37.5	39.7	19.9	0.0	54.3	34.7	0.0
LnGrp LOS	D	E	D	E	D	D	D	B		D	C	
Approach Vol, veh/h		233			808			699	A		500	A
Approach Delay, s/veh		54.3			51.8			26.8			36.0	
Approach LOS		D			D			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.0	62.4	28.8	15.8	32.4	43.0	12.2	32.5				
Change Period (Y+Rc), s	5.4	6.2	6.5	* 5.8	6.2	* 6.5	* 4.7	6.5				
Max Green Setting (Gmax), s	11.0	40.4	28.8	* 17	14.9	* 37	* 11	34.5				
Max Q Clear Time (g_c+I1), s	4.3	11.3	21.9	6.9	9.2	14.6	4.2	7.5				
Green Ext Time (p_c), s	0.0	3.2	0.5	0.5	0.3	3.1	0.0	1.1				
Intersection Summary												
HCM 6th Ctrl Delay			40.7									
HCM 6th LOS			D									
Notes												
User approved volume balancing among the lanes for turning movement.												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												
Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	78	213	566	192	172	238	440	250	34	451	13
Future Volume (veh/h)	33	78	213	566	192	172	238	440	250	34	451	13
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	80	119	584	198	26	245	454	0	35	465	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	111	156	264	644	769	343	754	1664		112	1081	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.08	0.08	0.19	0.22	0.22	0.22	0.47	0.00	0.06	0.30	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	54.4	55.3	53.6	56.7	39.2	37.5	39.7	19.9	0.0	54.3	34.7	0.0
Ln Grp LOS	D	E	D	E	D	D	D	B		D	C	
Approach Vol, veh/h		233			808			699			500	
Approach Delay, s/veh		54.3			51.8			26.8			36.0	
Approach LOS		D			D			C			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	4	3	6	5	7	8			
Case No		2.0	3.0	3.0	2.0	3.0	2.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		13.0	62.4	15.8	28.8	43.0	32.4	12.2	32.5			
Change Period (Y+Rc), s		5.4	6.2	* 5.8	6.5	* 6.5	6.2	* 4.7	6.5			
Max Green (Gmax), s		11.0	40.4	* 17	28.8	* 37	14.9	* 11	34.5			
Max Allow Headway (MAH), s		2.3	5.2	4.2	2.1	5.2	3.3	2.1	4.6			
Max Q Clear (g_c+I1), s		4.3	11.3	6.9	21.9	14.6	9.2	4.2	7.5			
Green Ext Time (g_e), s		0.0	3.2	0.5	0.5	3.1	0.3	0.0	1.1			
Prob of Phs Call (p_c)		0.69	1.00	1.00	1.00	1.00	1.00	0.68	1.00			
Prob of Max Out (p_x)		0.00	0.00	0.01	0.00	0.00	0.10	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt		1			3		5	7				
Mvmt Sat Flow, veh/h		1781			3456		3456	1781				
Through Movement Data												
Assigned Mvmt			2	4		6			8			
Mvmt Sat Flow, veh/h			3554	1870		3554			3554			
Right-Turn Movement Data												
Assigned Mvmt			12	14		16			18			
Mvmt Sat Flow, veh/h			1585	3170		1585			1585			
Left Lane Group Data												
Assigned Mvmt		1	0	0	3	0	5	7	0			
Lane Assignment		L (Prot)			L (Prot)		L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
6: Monterey Ave & Varner Rd

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Lanes in Grp	1	0	0	2	0	2	1	0
Grp Vol (v), veh/h	35	0	0	584	0	245	34	0
Grp Sat Flow (s), veh/h/ln	1781	0	0	1728	0	1728	1781	0
Q Serve Time (g_s), s	2.3	0.0	0.0	19.9	0.0	7.2	2.2	0.0
Cycle Q Clear Time (g_c), s	2.3	0.0	0.0	19.9	0.0	7.2	2.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	112	0	0	644	0	754	111	0
V/C Ratio (X)	0.31	0.00	0.00	0.91	0.00	0.33	0.31	0.00
Avail Cap (c_a), veh/h	163	0	0	829	0	754	168	0
Upstream Filter (I)	1.00	0.00	0.00	0.86	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	53.7	0.0	0.0	47.8	0.0	39.5	53.8	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	8.9	0.0	0.2	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	54.3	0.0	0.0	56.7	0.0	39.7	54.4	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	0.0	8.1	0.0	3.1	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.0	0.0	0.0	8.9	0.0	3.1	1.0	0.0
%ile Storage Ratio (RQ%)	0.15	0.00	0.00	0.75	0.00	0.39	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	4	0	6	0	0	8
Lane Assignment		T	T		T			T
Lanes in Grp	0	2	1	0	2	0	0	2
Grp Vol (v), veh/h	0	454	80	0	465	0	0	198
Grp Sat Flow (s), veh/h/ln	0	1777	1870	0	1777	0	0	1777
Q Serve Time (g_s), s	0.0	9.3	4.9	0.0	12.6	0.0	0.0	5.5
Cycle Q Clear Time (g_c), s	0.0	9.3	4.9	0.0	12.6	0.0	0.0	5.5
Lane Grp Cap (c), veh/h	0	1664	156	0	1081	0	0	769
V/C Ratio (X)	0.00	0.27	0.51	0.00	0.43	0.00	0.00	0.26
Avail Cap (c_a), veh/h	0	1664	265	0	1081	0	0	1022
Upstream Filter (I)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	0.86
Uniform Delay (d1), s/veh	0.0	19.4	52.7	0.0	33.4	0.0	0.0	39.0
Incr Delay (d2), s/veh	0.0	0.4	2.6	0.0	1.3	0.0	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.9	55.3	0.0	34.7	0.0	0.0	39.2
1st-Term Q (Q1), veh/ln	0.0	3.9	2.2	0.0	5.4	0.0	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.1	0.0	0.2	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Monterey Ave & Varner Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.0	2.3	0.0	5.6	0.0	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.50	0.04	0.00	0.18	0.00	0.00	0.10
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	14	0	16	0	0	18
Lane Assignment		R	R		R			R
Lanes in Grp	0	1	2	0	1	0	0	1
Grp Vol (v), veh/h	0	0	119	0	0	0	0	26
Grp Sat Flow (s), veh/h/ln	0	1585	1585	0	1585	0	0	1585
Q Serve Time (g_s), s	0.0	0.0	4.3	0.0	0.0	0.0	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	0.0	4.3	0.0	0.0	0.0	0.0	1.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	742	264	0	482	0	0	343
V/C Ratio (X)	0.00	0.00	0.45	0.00	0.00	0.00	0.00	0.08
Avail Cap (c_a), veh/h	0	742	449	0	482	0	0	456
Upstream Filter (I)	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.86
Uniform Delay (d1), s/veh	0.0	0.0	52.4	0.0	0.0	0.0	0.0	37.5
Incr Delay (d2), s/veh	0.0	0.0	1.2	0.0	0.0	0.0	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	53.6	0.0	0.0	0.0	0.0	37.5
1st-Term Q (Q1), veh/ln	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th Edition computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
 27: Bob Hope Dr & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	650	180	275	600	364	95	336	121	478	1357	180
Future Volume (veh/h)	140	650	180	275	600	364	95	336	121	478	1357	180
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	684	54	289	632	255	100	354	39	503	1428	189
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	768	343	282	982	695	147	980	437	561	1405	617
Arrive On Green	0.10	0.22	0.22	0.16	0.28	0.28	0.04	0.28	0.28	0.16	0.40	0.40
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	3456	3554	1585	3456	3554	1562
Grp Volume(v), veh/h	147	684	54	289	632	255	100	354	39	503	1428	189
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1728	1777	1585	1728	1777	1562
Q Serve(g_s), s	9.5	21.9	3.2	18.6	18.4	12.6	3.3	9.4	2.1	16.7	46.4	9.8
Cycle Q Clear(g_c), s	9.5	21.9	3.2	18.6	18.4	12.6	3.3	9.4	2.1	16.7	46.4	9.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	175	768	343	282	982	695	147	980	437	561	1405	617
V/C Ratio(X)	0.84	0.89	0.16	1.02	0.64	0.37	0.68	0.36	0.09	0.90	1.02	0.31
Avail Cap(c_a), veh/h	281	848	378	282	982	695	147	980	437	624	1405	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.0	44.7	37.3	49.4	37.4	22.0	55.4	34.2	31.6	48.2	35.5	24.4
Incr Delay (d2), s/veh	6.2	10.6	0.2	59.8	1.3	0.2	9.9	0.2	0.1	13.8	28.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	10.4	1.2	12.6	7.8	4.5	1.6	4.0	0.8	8.0	24.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.2	55.3	37.5	109.2	38.7	22.3	65.3	34.4	31.6	62.0	63.7	24.6
LnGrp LOS	E	E	D	F	D	C	E	C	C	E	F	C
Approach Vol, veh/h		885			1176			493			2120	
Approach Delay, s/veh		54.7			52.4			40.4			59.8	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.5	52.9	16.0	38.9	23.6	38.8	23.1	31.9				
Change Period (Y+Rc), s	4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5				
Max Green Setting (Gmax), s	5.0	46.4	18.5	28.1	21.2	30.2	18.6	28.0				
Max Q Clear Time (g_c+I1), s	5.3	48.4	11.5	20.4	18.7	11.4	20.6	23.9				
Green Ext Time (p_c), s	0.0	0.0	0.1	2.4	0.3	1.6	0.0	1.4				

Intersection Summary

HCM 6th Ctrl Delay	54.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 27: Bob Hope Dr & Country Club Dr

07/11/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	650	180	275	600	364	95	336	121	478	1357	180
Future Volume (veh/h)	140	650	180	275	600	364	95	336	121	478	1357	180
Number	3	8	18	7	4	14	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	147	684	54	289	632	255	100	354	39	503	1428	189
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	175	768	343	282	982	695	147	980	437	561	1405	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.22	0.22	0.16	0.28	0.28	0.04	0.28	0.28	0.16	0.40	0.40
Unsig. Movement Delay												
Ln Grp Delay, s/veh	58.2	55.3	37.5	109.2	38.7	22.3	65.3	34.4	31.6	62.0	63.7	24.6
Ln Grp LOS	E	E	D	F	D	C	E	C	C	E	F	C
Approach Vol, veh/h		885			1176			493			2120	
Approach Delay, s/veh		54.7			52.4			40.4			59.8	
Approach LOS		D			D			D			E	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0			
Phs Duration (G+Y+Rc), s		9.5	52.9	16.0	38.9	23.6	38.8	23.1	31.9			
Change Period (Y+Rc), s		4.5	6.5	4.5	6.5	4.5	6.5	4.5	6.5			
Max Green (Gmax), s		5.0	46.4	18.5	28.1	21.2	30.2	18.6	28.0			
Max Allow Headway (MAH), s		2.7	4.2	2.7	4.1	2.7	4.3	2.7	4.3			
Max Q Clear (g_c+I1), s		5.3	48.4	11.5	20.4	18.7	11.4	20.6	23.9			
Green Ext Time (g_e), s		0.0	0.0	0.1	2.4	0.3	1.6	0.0	1.4			
Prob of Phs Call (p_c)		0.96	1.00	0.99	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)		1.00	1.00	0.00	0.40	1.00	0.00	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		3456		1781		3456		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3554		3554		3554			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1562		1585		1585		1585			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis
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Lanes in Grp	2	0	1	0	2	0	1	0
Grp Vol (v), veh/h	100	0	147	0	503	0	289	0
Grp Sat Flow (s), veh/h/ln	1728	0	1781	0	1728	0	1781	0
Q Serve Time (g_s), s	3.3	0.0	9.5	0.0	16.7	0.0	18.6	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	9.5	0.0	16.7	0.0	18.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	147	0	175	0	561	0	282	0
V/C Ratio (X)	0.68	0.00	0.84	0.00	0.90	0.00	1.02	0.00
Avail Cap (c_a), veh/h	147	0	281	0	624	0	282	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	55.4	0.0	52.0	0.0	48.2	0.0	49.4	0.0
Incr Delay (d2), s/veh	9.9	0.0	6.2	0.0	13.8	0.0	59.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	65.3	0.0	58.2	0.0	62.0	0.0	109.2	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	4.1	0.0	6.9	0.0	7.9	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.3	0.0	1.1	0.0	4.7	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	4.4	0.0	8.0	0.0	12.6	0.0
%ile Storage Ratio (RQ%)	0.46	0.00	0.73	0.00	0.88	0.00	1.07	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	1428	0	632	0	354	0	684
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1777	0	1777
Q Serve Time (g_s), s	0.0	46.4	0.0	18.4	0.0	9.4	0.0	21.9
Cycle Q Clear Time (g_c), s	0.0	46.4	0.0	18.4	0.0	9.4	0.0	21.9
Lane Grp Cap (c), veh/h	0	1405	0	982	0	980	0	768
V/C Ratio (X)	0.00	1.02	0.00	0.64	0.00	0.36	0.00	0.89
Avail Cap (c_a), veh/h	0	1405	0	982	0	980	0	848
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	35.5	0.0	37.4	0.0	34.2	0.0	44.7
Incr Delay (d2), s/veh	0.0	28.2	0.0	1.3	0.0	0.2	0.0	10.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	63.7	0.0	38.7	0.0	34.4	0.0	55.3
1st-Term Q (Q1), veh/ln	0.0	18.5	0.0	7.6	0.0	3.9	0.0	9.3
2nd-Term Q (Q2), veh/ln	0.0	5.5	0.0	0.2	0.0	0.0	0.0	1.1

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	24.0	0.0	7.8	0.0	4.0	0.0	10.4
%ile Storage Ratio (RQ%)	0.00	0.17	0.00	0.04	0.00	0.02	0.00	0.06
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	5.8	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	189	0	255	0	39	0	54
Grp Sat Flow (s), veh/h/ln	0	1562	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	9.8	0.0	12.6	0.0	2.1	0.0	3.2
Cycle Q Clear Time (g_c), s	0.0	9.8	0.0	12.6	0.0	2.1	0.0	3.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1585.1	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	19.1	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	617	0	695	0	437	0	343
V/C Ratio (X)	0.00	0.31	0.00	0.37	0.00	0.09	0.00	0.16
Avail Cap (c_a), veh/h	0	617	0	695	0	437	0	378
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.4	0.0	22.0	0.0	31.6	0.0	37.3
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.2	0.0	0.1	0.0	0.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.6	0.0	22.3	0.0	31.6	0.0	37.5
1st-Term Q (Q1), veh/ln	0.0	3.5	0.0	4.5	0.0	0.8	0.0	1.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.5	0.0	4.5	0.0	0.8	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	1.35	0.00	0.13	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	54.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary
 29: Portola Ave & Country Club Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↑↑ ↗			↖ ↑↑ ↗		↖ ↗	↖ ↗	↑↑		↖ ↑↑ ↗		
Traffic Volume (veh/h)	70	577	274	180	1149	80	282	810	190	140	820	60
Future Volume (veh/h)	70	577	274	180	1149	80	282	810	190	140	820	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	607	160	189	1209	29	297	853	106	147	863	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	1192	308	217	1198	535	335	936	116	174	992	72
Arrive On Green	0.08	0.29	0.29	0.12	0.34	0.34	0.10	0.29	0.29	0.10	0.30	0.30
Sat Flow, veh/h	1781	4041	1045	1781	3554	1585	3456	3181	395	1781	3358	245
Grp Volume(v), veh/h	74	509	258	189	1209	29	297	476	483	147	457	469
Grp Sat Flow(s),veh/h/ln	1781	1702	1682	1781	1777	1585	1728	1777	1799	1781	1777	1826
Q Serve(g_s), s	4.5	14.1	14.5	11.8	38.3	1.4	9.6	29.4	29.4	9.2	27.7	27.7
Cycle Q Clear(g_c), s	4.5	14.1	14.5	11.8	38.3	1.4	9.6	29.4	29.4	9.2	27.7	27.7
Prop In Lane	1.00		0.62	1.00		1.00	1.00		0.22	1.00		0.13
Lane Grp Cap(c), veh/h	142	1004	496	217	1198	535	335	523	530	174	525	539
V/C Ratio(X)	0.52	0.51	0.52	0.87	1.01	0.05	0.89	0.91	0.91	0.84	0.87	0.87
Avail Cap(c_a), veh/h	157	1004	496	282	1198	535	335	595	602	188	610	627
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.2	33.2	33.3	49.0	37.6	25.4	50.7	38.6	38.6	50.4	38.0	38.0
Incr Delay (d2), s/veh	1.1	0.2	0.5	17.0	28.2	0.0	23.1	16.0	15.8	24.6	10.5	10.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	5.5	5.7	6.1	20.2	0.5	5.1	14.4	14.5	5.1	12.7	13.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.3	33.4	33.8	66.0	65.8	25.4	73.8	54.6	54.5	75.0	48.4	48.2
LnGrp LOS	D	C	C	E	F	C	E	D	D	E	D	D
Approach Vol, veh/h	841			1427			1256			1073		
Approach Delay, s/veh	35.1			65.0			59.1			52.0		
Approach LOS	D			E			E			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.0	44.0	16.0	39.5	18.8	39.2	16.1	39.4				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	10.0	38.3	11.0	39.0	18.0	30.3	12.0	38.0				
Max Q Clear Time (g_c+1), s	10.5	40.3	11.6	29.7	13.8	16.5	11.2	31.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	2.3	0.0	2.5	0.0	2.1				

Intersection Summary
























HCM 6th Ctrl Delay	54.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Capacity Analysis
 29: Portola Ave & Country Club Dr

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	577	274	180	1149	80	282	810	190	140	820	60
Future Volume (veh/h)	70	577	274	180	1149	80	282	810	190	140	820	60
Number	1	6	16	5	2	12	3	8	18	7	4	14
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	607	160	189	1209	29	297	853	106	147	863	63
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	142	1192	308	217	1198	535	335	936	116	174	992	72
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.29	0.29	0.12	0.34	0.34	0.10	0.29	0.29	0.10	0.30	0.30
Unsig. Movement Delay												
Ln Grp Delay, s/veh	51.3	33.4	33.8	66.0	65.8	25.4	73.8	54.6	54.5	75.0	48.4	48.2
Ln Grp LOS	D	C	C	E	F	C	E	D	D	E	D	D
Approach Vol, veh/h		841			1427			1256			1073	
Approach Delay, s/veh		35.1			65.0			59.1			52.0	
Approach LOS		D			E			E			D	
Timer:		1	2	3	4	5	6	7	8			
Assigned Phs		1	2	3	4	5	6	7	8			
Case No		2.0	3.0	2.0	4.0	2.0	4.0	2.0	4.0			
Phs Duration (G+Y+Rc), s		14.0	44.0	16.0	39.5	18.8	39.2	16.1	39.4			
Change Period (Y+Rc), s		5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0			
Max Green (Gmax), s		10.0	38.3	11.0	39.0	18.0	30.3	12.0	38.0			
Max Allow Headway (MAH), s		1.7	3.8	1.7	3.8	1.7	3.9	1.6	3.8			
Max Q Clear (g_c+I1), s		6.5	40.3	11.6	29.7	13.8	16.5	11.2	31.4			
Green Ext Time (g_e), s		0.0	0.0	0.0	2.3	0.0	2.5	0.0	2.1			
Prob of Phs Call (p_c)		0.90	1.00	1.00	1.00	1.00	1.00	0.99	1.00			
Prob of Max Out (p_x)		0.01	1.00	1.00	0.25	0.01	0.04	1.00	0.53			
Left-Turn Movement Data												
Assigned Mvmt		1		3		5		7				
Mvmt Sat Flow, veh/h		1781		3456		1781		1781				
Through Movement Data												
Assigned Mvmt			2		4		6		8			
Mvmt Sat Flow, veh/h			3554		3358		4041		3181			
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			1585		245		1045		395			
Left Lane Group Data												
Assigned Mvmt		1	0	3	0	5	0	7	0			
Lane Assignment		L (Prot)		L (Prot)		L (Prot)		L (Prot)				

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Lanes in Grp	1	0	2	0	1	0	1	0
Grp Vol (v), veh/h	74	0	297	0	189	0	147	0
Grp Sat Flow (s), veh/h/ln	1781	0	1728	0	1781	0	1781	0
Q Serve Time (g_s), s	4.5	0.0	9.6	0.0	11.8	0.0	9.2	0.0
Cycle Q Clear Time (g_c), s	4.5	0.0	9.6	0.0	11.8	0.0	9.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	142	0	335	0	217	0	174	0
V/C Ratio (X)	0.52	0.00	0.89	0.00	0.87	0.00	0.84	0.00
Avail Cap (c_a), veh/h	157	0	335	0	282	0	188	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	50.2	0.0	50.7	0.0	49.0	0.0	50.4	0.0
Incr Delay (d2), s/veh	1.1	0.0	23.1	0.0	17.0	0.0	24.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	51.3	0.0	73.8	0.0	66.0	0.0	75.0	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	4.0	0.0	5.1	0.0	3.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	1.1	0.0	1.0	0.0	1.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.0	0.0	5.1	0.0	6.1	0.0	5.1	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.81	0.00	0.86	0.00	0.67	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	1209	0	457	0	509	0	476
Grp Sat Flow (s), veh/h/ln	0	1777	0	1777	0	1702	0	1777
Q Serve Time (g_s), s	0.0	38.3	0.0	27.7	0.0	14.1	0.0	29.4
Cycle Q Clear Time (g_c), s	0.0	38.3	0.0	27.7	0.0	14.1	0.0	29.4
Lane Grp Cap (c), veh/h	0	1198	0	525	0	1004	0	523
V/C Ratio (X)	0.00	1.01	0.00	0.87	0.00	0.51	0.00	0.91
Avail Cap (c_a), veh/h	0	1198	0	610	0	1004	0	595
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	37.6	0.0	38.0	0.0	33.2	0.0	38.6
Incr Delay (d2), s/veh	0.0	28.2	0.0	10.5	0.0	0.2	0.0	16.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	65.8	0.0	48.4	0.0	33.4	0.0	54.6
1st-Term Q (Q1), veh/ln	0.0	15.5	0.0	11.2	0.0	5.5	0.0	12.0
2nd-Term Q (Q2), veh/ln	0.0	4.7	0.0	1.5	0.0	0.0	0.0	2.3

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	20.2	0.0	12.7	0.0	5.5	0.0	14.4
%ile Storage Ratio (RQ%)	0.00	0.50	0.00	0.38	0.00	0.03	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		T+R		T+R		T+R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	29	0	469	0	258	0	483
Grp Sat Flow (s), veh/h/ln	0	1585	0	1826	0	1682	0	1799
Q Serve Time (g_s), s	0.0	1.4	0.0	27.7	0.0	14.5	0.0	29.4
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	27.7	0.0	14.5	0.0	29.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.13	0.00	0.62	0.00	0.22
Lane Grp Cap (c), veh/h	0	535	0	539	0	496	0	530
V/C Ratio (X)	0.00	0.05	0.00	0.87	0.00	0.52	0.00	0.91
Avail Cap (c_a), veh/h	0	535	0	627	0	496	0	602
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	25.4	0.0	38.0	0.0	33.3	0.0	38.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	10.2	0.0	0.5	0.0	15.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.4	0.0	48.2	0.0	33.8	0.0	54.5
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	11.5	0.0	5.6	0.0	12.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.5	0.0	0.1	0.0	2.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	13.0	0.0	5.7	0.0	14.5
%ile Storage Ratio (RQ%)	0.00	0.17	0.00	0.39	0.00	0.03	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	54.9
HCM 6th LOS	D




































Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary

4: Bob Hope Dr & Ramon Rd

07/11/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	 		 	  		 	  	
Traffic Volume (veh/h)	240	950	517	120	630	50	545	1008	490	135	1535	590
Future Volume (veh/h)	240	950	517	120	630	50	545	1008	490	135	1535	590
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	253	1000	338	126	663	13	574	1061	377	142	1616	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	300	1229	640	282	836	373	564	2056	768	309	1679	
Arrive On Green	0.09	0.24	0.24	0.08	0.24	0.24	0.16	0.40	0.40	0.09	0.33	0.00
Sat Flow, veh/h	3456	5106	1585	3456	3554	1585	3456	5106	1585	3456	5106	1585
Grp Volume(v), veh/h	253	1000	338	126	663	13	574	1061	377	142	1616	0
Grp Sat Flow(s),veh/h/ln	1728	1702	1585	1728	1777	1585	1728	1702	1585	1728	1702	1585
Q Serve(g_s), s	9.6	24.7	21.6	4.6	23.4	0.8	21.8	20.9	21.5	5.2	41.5	0.0
Cycle Q Clear(g_c), s	9.6	24.7	21.6	4.6	23.4	0.8	21.8	20.9	21.5	5.2	41.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	300	1229	640	282	836	373	564	2056	768	309	1679	
V/C Ratio(X)	0.84	0.81	0.53	0.45	0.79	0.03	1.02	0.52	0.49	0.46	0.96	
Avail Cap(c_a), veh/h	300	1453	710	295	1006	449	564	2057	768	310	1682	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	60.1	47.9	30.2	58.5	48.0	39.4	55.9	30.1	23.3	57.8	44.0	0.0
Incr Delay (d2), s/veh	18.2	3.2	0.7	0.4	3.7	0.0	42.4	0.3	0.6	0.4	14.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	10.4	7.9	2.0	10.4	0.3	12.4	8.1	7.6	2.2	18.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.3	51.0	30.8	58.9	51.7	39.4	98.3	30.3	23.9	58.2	58.1	0.0
LnGrp LOS	E	D	C	E	D	D	F	C	C	E	E	
Approach Vol, veh/h		1591			802			2012			1758	A
Approach Delay, s/veh		51.1			52.6			48.5			58.1	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.3	61.3	16.3	38.6	27.2	51.4	17.0	37.9				
Change Period (Y+Rc), s	5.4	7.5	5.4	6.5	5.4	7.5	5.4	6.5				
Max Green Setting (Gmax), s	12.0	53.8	11.4	38.0	21.8	44.0	11.6	37.8				
Max Q Clear Time (g_c+I1), s	7.2	23.5	6.6	26.7	23.8	43.5	11.6	25.4				
Green Ext Time (p_c), s	0.1	11.4	0.0	5.4	0.0	0.4	0.0	3.1				
Intersection Summary												
HCM 6th Ctrl Delay			52.4									
HCM 6th LOS			D									
Notes												
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th Signalized Intersection Summary
 29: Portola Ave & Country Club Dr

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↑↑ ↗			↖ ↑↑ ↗		↖	↖ ↗	↑↑		↖ ↑↑ ↗		
Traffic Volume (veh/h)	40	1167	256	170	561	160	264	940	180	80	900	80
Future Volume (veh/h)	40	1167	256	170	561	160	264	940	180	80	900	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	42	1228	183	179	591	88	278	989	124	84	947	84
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	1278	190	178	1135	506	340	1059	133	150	1053	93
Arrive On Green	0.07	0.28	0.28	0.10	0.32	0.32	0.10	0.33	0.33	0.08	0.32	0.32
Sat Flow, veh/h	1781	4486	668	1781	3554	1585	3456	3177	398	1781	3302	293
Grp Volume(v), veh/h	42	932	479	179	591	88	278	553	560	84	510	521
Grp Sat Flow(s),veh/h/ln	1781	1702	1750	1781	1777	1585	1728	1777	1799	1781	1777	1818
Q Serve(g_s), s	2.5	29.6	29.6	11.0	14.9	4.4	8.7	33.1	33.1	5.0	30.1	30.1
Cycle Q Clear(g_c), s	2.5	29.6	29.6	11.0	14.9	4.4	8.7	33.1	33.1	5.0	30.1	30.1
Prop In Lane	1.00		0.38	1.00		1.00	1.00		0.22	1.00		0.16
Lane Grp Cap(c), veh/h	117	970	499	178	1135	506	340	592	600	150	567	580
V/C Ratio(X)	0.36	0.96	0.96	1.00	0.52	0.17	0.82	0.93	0.93	0.56	0.90	0.90
Avail Cap(c_a), veh/h	178	970	499	178	1135	506	598	615	622	292	599	612
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	49.1	38.7	38.7	49.4	30.5	26.9	48.6	35.4	35.4	48.4	35.7	35.7
Incr Delay (d2), s/veh	0.7	19.8	30.2	68.3	0.2	0.1	1.9	20.6	20.6	1.2	15.4	15.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	14.8	16.7	8.3	6.4	1.7	3.8	17.4	17.6	2.3	15.2	15.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	49.8	58.5	68.9	117.7	30.7	27.0	50.4	56.0	56.0	49.6	51.1	50.8
LnGrp LOS	D	E	E	F	C	C	D	E	E	D	D	D
Approach Vol, veh/h	1453			858			1391			1115		
Approach Delay, s/veh	61.7			48.5			54.9			50.9		
Approach LOS	E			D			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	42.2	40.8	15.8	41.0	16.0	37.0	14.2	42.6				
Change Period (Y+Rc), s	5.0	5.7	5.0	6.0	5.0	5.7	5.0	6.0				
Max Green Setting (Gmax), s	31.3	31.3	19.0	37.0	11.0	31.3	18.0	38.0				
Max Q Clear Time (g_c+1/5), s	14.5	16.9	10.7	32.1	13.0	31.6	7.0	35.1				
Green Ext Time (p_c), s	0.0	2.5	0.1	2.1	0.0	0.0	0.0	1.5				

Intersection Summary

HCM 6th Ctrl Delay	54.9
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

HCM 6th Signalized Intersection Summary

31: Monterey Ave & Fred Waring Dr

07/11/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶ ↷ ↸	↶ ↷ ↸		↶ ↷ ↸	↶ ↷ ↸	↶ ↷ ↸	↶ ↷ ↸	↶ ↷ ↸	↶ ↷ ↸	↶ ↷ ↸	↶ ↷ ↸	↶ ↷ ↸
Traffic Volume (veh/h)	420	970	90	460	830	541	140	997	430	407	1072	250
Future Volume (veh/h)	420	970	90	460	830	541	140	997	430	407	1072	250
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	442	1021	95	484	874	0	147	1049	453	428	1128	196
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	491	1134	105	531	1277		212	1093	731	452	1926	823
Arrive On Green	0.14	0.24	0.24	0.15	0.25	0.00	0.06	0.31	0.31	0.13	0.38	0.38
Sat Flow, veh/h	3456	4753	442	3456	5106	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	442	731	385	484	874	0	147	1049	453	428	1128	196
Grp Sat Flow(s),veh/h/ln	1728	1702	1791	1728	1702	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	16.4	27.1	27.1	17.9	20.1	0.0	5.4	37.7	28.0	16.0	23.0	8.8
Cycle Q Clear(g_c), s	16.4	27.1	27.1	17.9	20.1	0.0	5.4	37.7	28.0	16.0	23.0	8.8
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	491	812	427	531	1277		212	1093	731	452	1926	823
V/C Ratio(X)	0.90	0.90	0.90	0.91	0.68		0.69	0.96	0.62	0.95	0.59	0.24
Avail Cap(c_a), veh/h	558	812	427	558	1277		452	1093	731	452	1926	823
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.84	0.84	0.84
Uniform Delay (d), s/veh	54.9	48.0	48.0	54.1	44.1	0.0	59.8	44.2	26.4	56.1	32.4	17.1
Incr Delay (d2), s/veh	15.2	14.9	24.8	18.1	3.0	0.0	1.5	19.0	3.9	25.9	1.1	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	12.8	14.7	8.9	8.6	0.0	2.4	18.8	10.9	8.4	9.2	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	62.9	72.8	72.2	47.1	0.0	61.4	63.2	30.3	82.0	33.5	17.7
LnGrp LOS	E	E	E	E	D		E	E	C	F	C	B
Approach Vol, veh/h		1558			1358	A		1649			1752	
Approach Delay, s/veh		67.4			56.0			54.0			43.5	
Approach LOS		E			E			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.5	38.5	13.0	55.0	25.0	37.0	22.0	46.0				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0				
Max Green Setting (Gmax), s	21.0	30.0	17.0	40.0	21.0	30.0	17.0	40.0				
Max Q Clear Time (g_c+1/4), s	11.4	22.1	7.4	25.0	19.9	29.1	18.0	39.7				
Green Ext Time (p_c), s	0.1	1.5	0.1	2.5	0.1	0.3	0.0	0.1				

Intersection Summary

HCM 6th Ctrl Delay	54.8
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

APPENDIX G: QUEUEING REPORTS



Queues

33: Gerald Ford Dr & Oasis Way

07/10/2019



Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	42	1161	86	1304	32	53	44	63	53
v/c Ratio	0.19	0.63	0.39	0.71	0.04	0.19	0.12	0.22	0.15
Control Delay	7.3	7.8	11.7	9.0	2.2	12.7	6.4	13.2	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	7.8	11.7	9.0	2.2	12.7	6.4	13.2	7.2
Queue Length 50th (ft)	3	61	7	75	0	8	1	10	3
Queue Length 95th (ft)	16	118	34	142	6	25	15	28	18
Internal Link Dist (ft)		1719		3522			316		539
Turn Bay Length (ft)	130		130		145				
Base Capacity (vph)	229	1899	229	1907	869	724	869	731	869
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.61	0.38	0.68	0.04	0.07	0.05	0.09	0.06

Intersection Summary

Queues

34: Monterey Ave & Shadow Ridge Rd

07/10/2019



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	275	93	95	74	145	1985	53	53	2249
v/c Ratio	0.94	0.27	0.70	0.38	0.64	0.63	0.05	0.52	0.84
Control Delay	96.6	1.9	88.5	5.4	67.0	25.1	4.1	57.7	50.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.6	1.9	88.5	5.4	67.0	25.1	4.1	57.7	50.7
Queue Length 50th (ft)	250	0	86	0	139	430	2	48	664
Queue Length 95th (ft)	#422	0	143	0	214	495	20	m55	720
Internal Link Dist (ft)		619		963		2367			1530
Turn Bay Length (ft)					150		200	150	
Base Capacity (vph)	297	453	189	326	228	3157	1025	126	2679
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.21	0.50	0.23	0.64	0.63	0.05	0.42	0.84

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

35: Bob Hope Dr & Sunny Lands Center

07/10/2019



Lane Group	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	11	19	57	11	1367	94	1204
v/c Ratio	0.04	0.06	0.20	0.04	0.51	0.40	0.45
Control Delay	2.0	13.1	9.2	4.2	4.9	16.0	4.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.0	13.1	9.2	4.2	4.9	16.0	4.5
Queue Length 50th (ft)	0	5	5	1	72	8	59
Queue Length 95th (ft)	3	12	19	5	135	#60	111
Internal Link Dist (ft)	712		505		1538		2358
Turn Bay Length (ft)				40		150	
Base Capacity (vph)	786	887	772	299	2679	237	2684
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.02	0.07	0.04	0.51	0.40	0.45

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Queues
36: Monterey Ave

07/10/2019



Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Group Flow (vph)	34	32	58	2149	2142
v/c Ratio	0.20	0.20	0.50	0.49	0.49
Control Delay	31.1	24.7	22.5	5.0	4.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	31.1	24.7	22.5	5.0	4.3
Queue Length 50th (ft)	14	9	24	322	229
Queue Length 95th (ft)	38	32	m33	m375	120
Internal Link Dist (ft)	937			1352	2367
Turn Bay Length (ft)			150		
Base Capacity (vph)	457	416	116	4357	4341
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.07	0.08	0.50	0.49	0.49

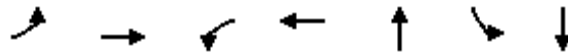
Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

37: Kavendish Way & Frank Sinatra Dr

07/10/2019



Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT
Lane Group Flow (vph)	38	1042	11	1139	11	34	29
v/c Ratio	0.17	0.55	0.05	0.61	0.03	0.13	0.08
Control Delay	6.1	6.4	4.3	6.9	0.3	14.0	4.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.1	6.4	4.3	6.9	0.3	14.0	4.9
Queue Length 50th (ft)	3	50	1	56	0	5	0
Queue Length 95th (ft)	13	92	5	104	1	22	11
Internal Link Dist (ft)		2232		2728	411		444
Turn Bay Length (ft)	150		95				
Base Capacity (vph)	287	2424	305	2413	930	788	912
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.43	0.04	0.47	0.01	0.04	0.03
Intersection Summary							

APPENDIX H: SIGNAL WARRANT REPORTS





Major Street Gerald Ford Dr
 Minor Street Oasis Way

Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	77	30	30	27
Through	0	0	873	801
Right	66	40	20	60
Total	143	70	923	888

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	120.5
Approach with Worst Case Delay	NB
Total Vehicles on Approach	143

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Year Plus Project	4.8	143	2,024
Limiting Value	4	100	800
Condition Satisfied?	Met	Met	Met
Warrant Met	<u>YES</u>		



Major Street Gerald Ford Dr
 Minor Street Oasis Way

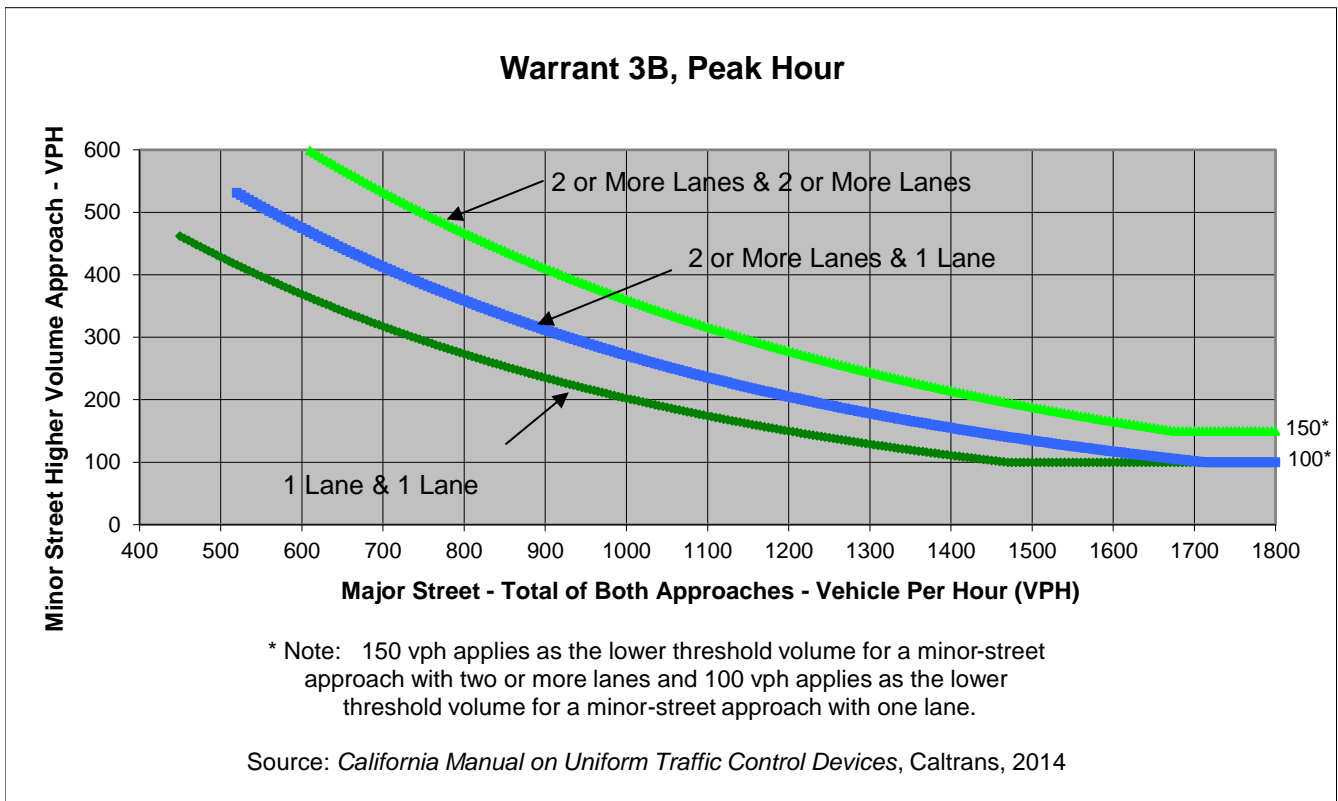
Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	77	30	30	27
Through	0	0	873	801
Right	66	40	20	60
Total	143	70	923	888

Major Street Direction

	North/South
X	East/West



	Major Street	Minor Street	Warrant Met
	Gerald Ford Dr	Oasis Way	
Number of Approach Lanes	2	1	<u>YES</u>
Traffic Volume (VPH) *	1,811	143	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Bob Hope Dr
 Minor Street Sunny Lands Center

Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	29	0	28
Through	722	1,716	0	0
Right	10	10	10	84
Total	742	1,755	10	112

Major Street Direction

X North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 1
 Total Approaches 4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 47.9
 Approach with Worst Case Delay WB
 Total Vehicles on Approach 112

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Year Plus Project	1.5	112	2,619
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Met	Met
Warrant Met	<u>NO</u>		



Major Street **Bob Hope Dr**
 Minor Street **Sunny Lands Center**

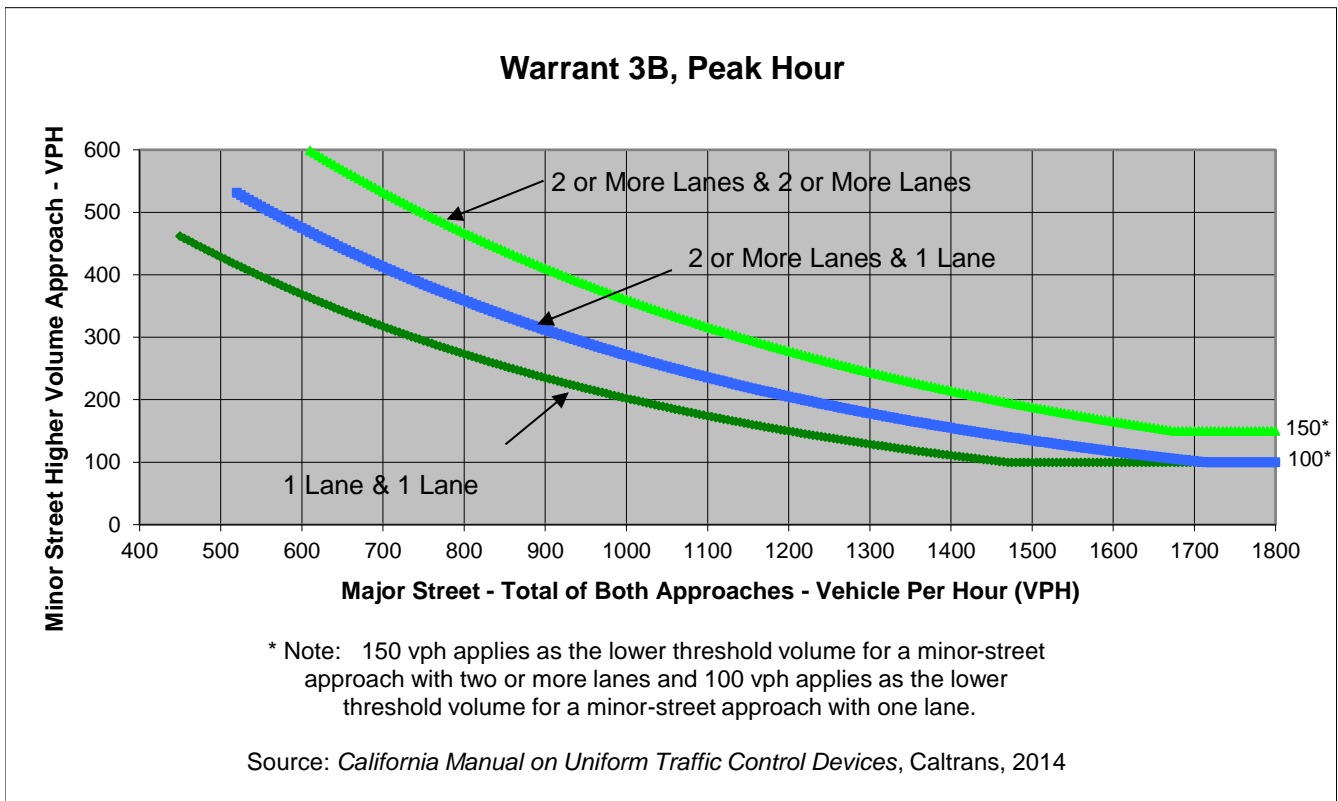
Project **Section 31 Traffic Impact Analysis**
 Scenario **Cumulative Year Plus Project**
 Peak Hour **AM**

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	29	0	28
Through	722	1,716	0	0
Right	10	10	10	84
Total	742	1,755	10	112

Major Street Direction

X	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Bob Hope Dr	Sunny Lands Center	
Number of Approach Lanes	2	1	YES
Traffic Volume (VPH) *	2,497	112	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Monterey Ave
 Minor Street _____

Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	18	0	49	0
Through	1,218	1,984	0	0
Right	0	17	47	0
Total	1,236	2,001	96	0

Major Street Direction

X North/South
 _____ East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 1
 Total Approaches 3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 280.4
 Approach with Worst Case Delay EB
 Total Vehicles on Approach 96

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Year Plus Project	7.5	96	3,333
Limiting Value	4	100	650
Condition Satisfied?	Met	Not Met	Met
Warrant Met	<u>NO</u>		



Major Street Monterey Ave
 Minor Street _____

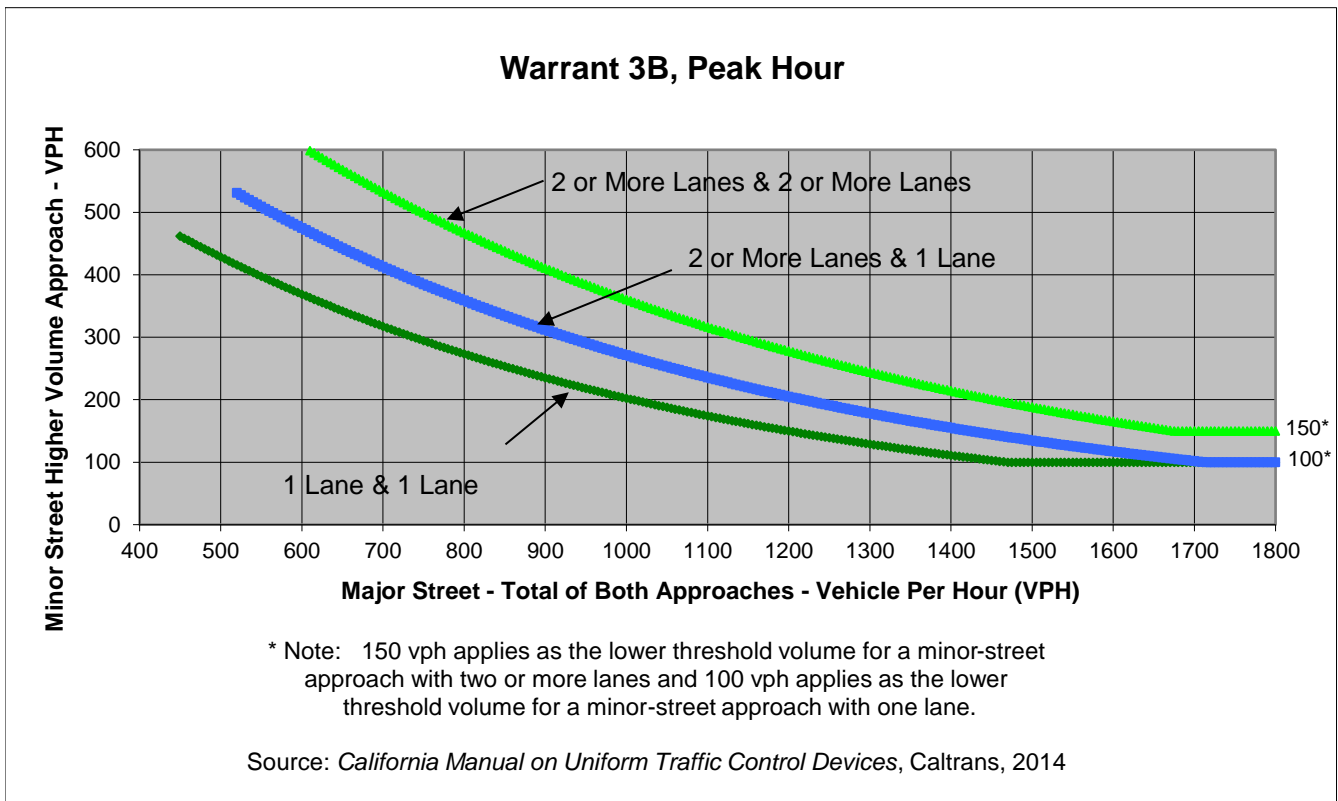
Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	18	0	49	0
Through	1,218	1,984	0	0
Right	0	17	47	0
Total	1,236	2,001	96	0

Major Street Direction

X	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Monterey Ave		
Number of Approach Lanes	3	1	<u>NO</u>
Traffic Volume (VPH) *	3,237	96	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Frank Sinatra Dr
 Minor Street Kavendish Way

Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	49	12	0
Through	0	0	554	1,142
Right	10	43	10	20
Total	20	92	576	1,162

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	69.2
Approach with Worst Case Delay	SB
Total Vehicles on Approach	92

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Year Plus Project	1.8	92	1,850
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		



Major Street Frank Sinatra Dr
 Minor Street Kavendish Way

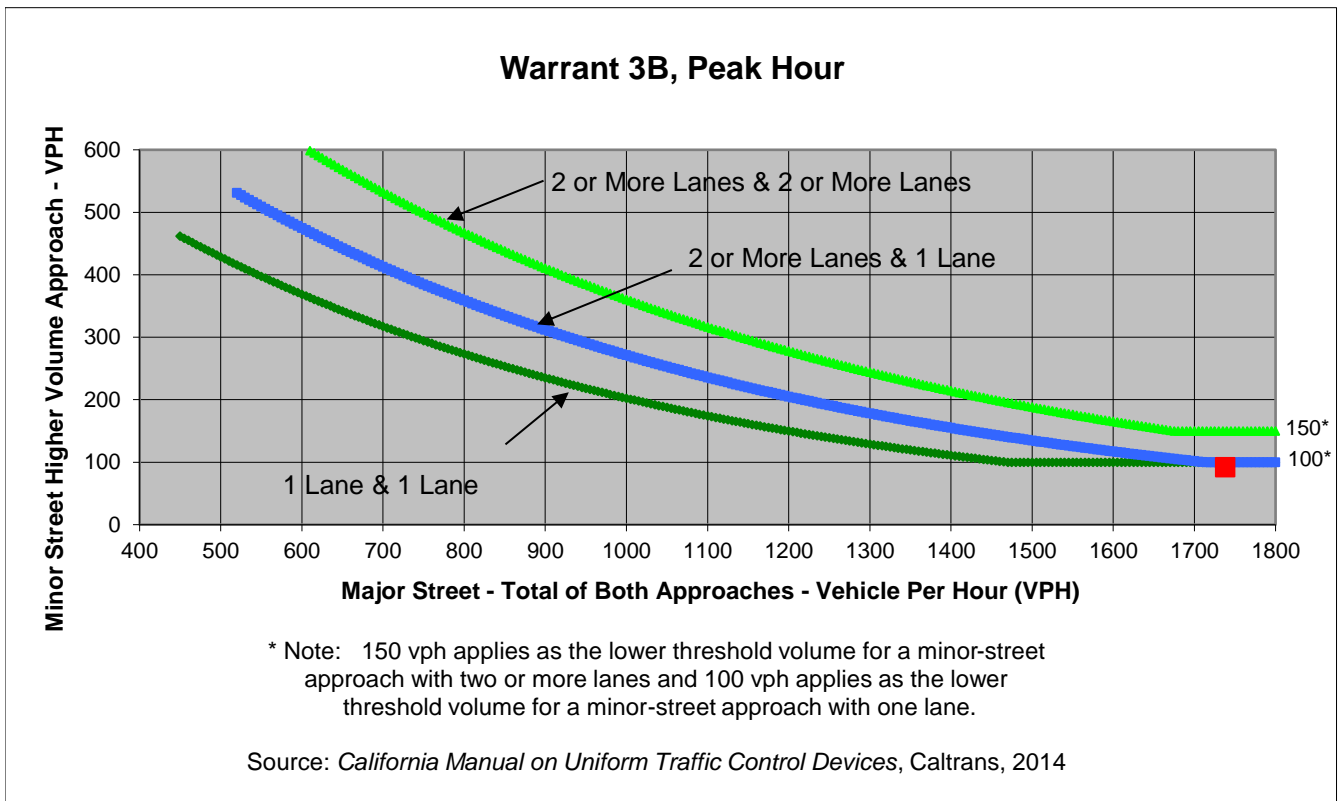
Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour AM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	49	12	0
Through	0	0	554	1,142
Right	10	43	10	20
Total	20	92	576	1,162

Major Street Direction

	North/South
X	East/West



	Major Street	Minor Street	Warrant Met
	Frank Sinatra Dr	Kavendish Way	
Number of Approach Lanes	2	1	<u>NO</u>
Traffic Volume (VPH) *	1,738	92	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Gerald Ford Dr
 Minor Street Oasis Way

Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	60	40	82
Through	0	0	1,043	1,239
Right	42	50	60	30
Total	92	110	1,143	1,351

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	668.4
Approach with Worst Case Delay	SB
Total Vehicles on Approach	110

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Year Plus Project	20.4	110	2,696
Limiting Value	4	100	800
Condition Satisfied?	Met	Met	Met
Warrant Met	<u>YES</u>		



Major Street Gerald Ford Dr
 Minor Street Oasis Way

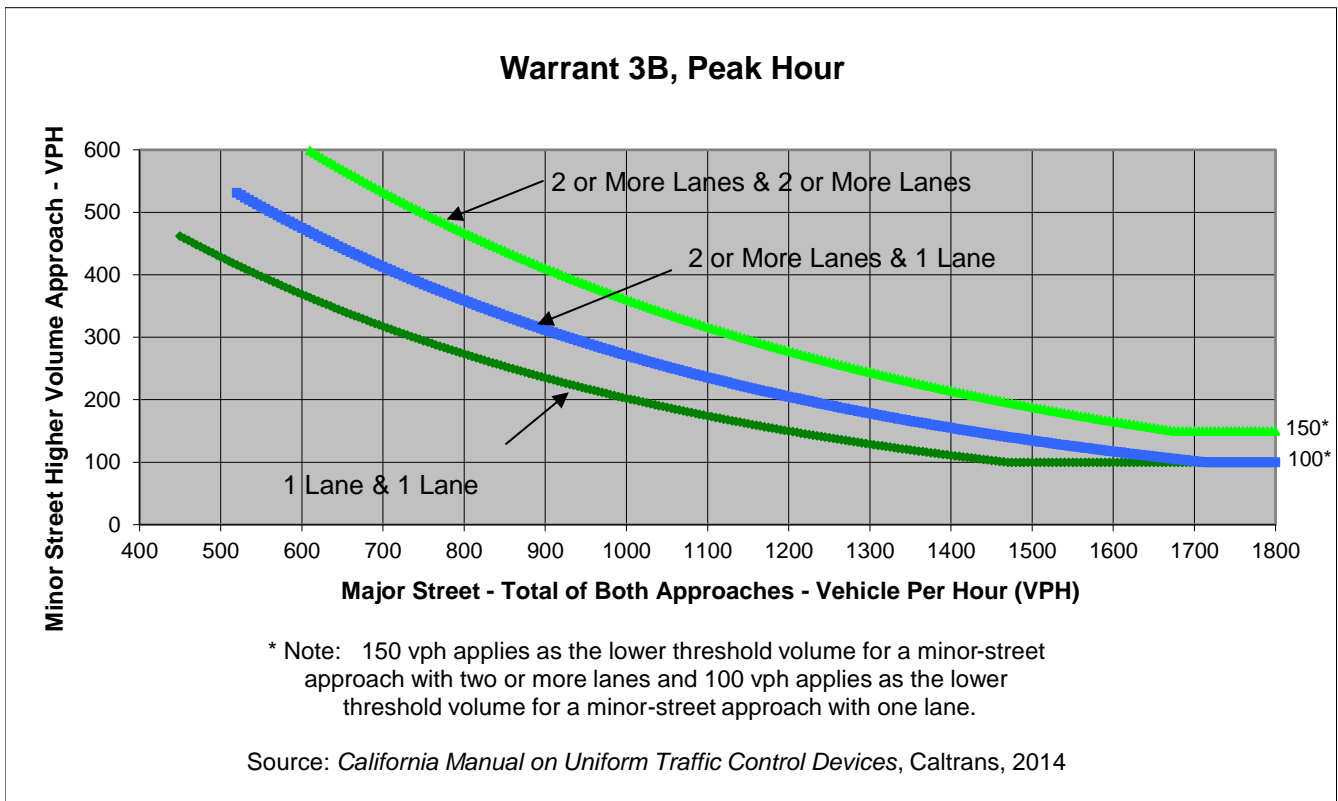
Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	50	60	40	82
Through	0	0	1,043	1,239
Right	42	50	60	30
Total	92	110	1,143	1,351

Major Street Direction

	North/South
X	East/West



	Major Street	Minor Street	Warrant Met
	Gerald Ford Dr	Oasis Way	
Number of Approach Lanes	2	1	YES
Traffic Volume (VPH) *	2,494	110	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Bob Hope Dr
 Minor Street Sunny Lands Center

Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	89	0	18
Through	1,269	1,133	0	0
Right	29	10	10	54
Total	1,308	1,232	10	72

Major Street Direction

X North/South
 East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 1
 Total Approaches 4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 109.7
 Approach with Worst Case Delay WB
 Total Vehicles on Approach 72

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Year Plus Project	2.2	72	2,622
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		



Major Street Bob Hope Dr
 Minor Street Sunny Lands Center

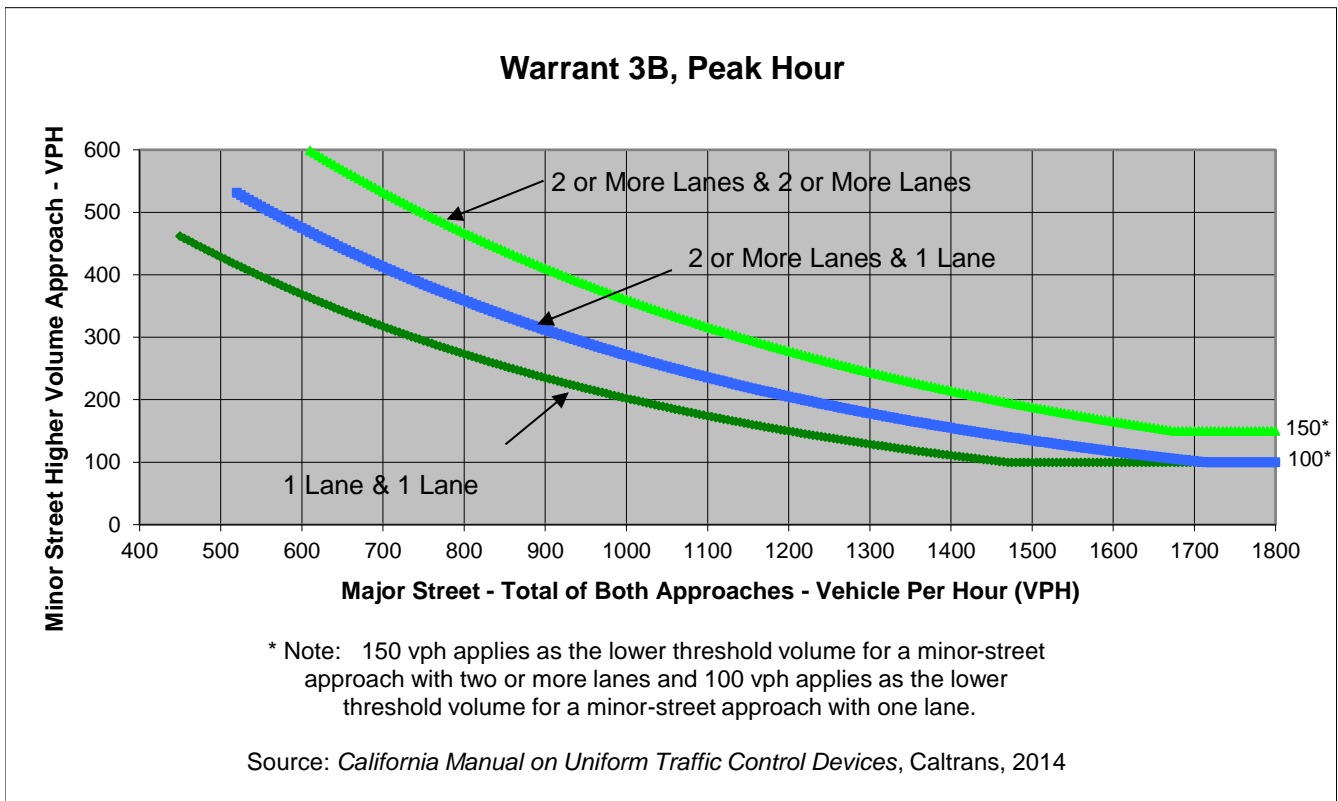
Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	10	89	0	18
Through	1,269	1,133	0	0
Right	29	10	10	54
Total	1,308	1,232	10	72

Major Street Direction

X	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Bob Hope Dr	Sunny Lands Center	
Number of Approach Lanes	2	1	<u>NO</u>
Traffic Volume (VPH) *	2,540	72	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Monterey Ave
 Minor Street _____

Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	55	0	32	0
Through	2,042	1,983	0	0
Right	0	52	30	0
Total	2,097	2,035	62	0

Major Street Direction

X North/South
 _____ East/West

Intersection Geometry

Number of Approach Lanes for Minor Street 1
 Total Approaches 3

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle) 947.3
 Approach with Worst Case Delay EB
 Total Vehicles on Approach 62

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Year Plus Project	16.3	62	4,194
Limiting Value	4	100	650
Condition Satisfied?	Met	Not Met	Met
Warrant Met	<u>NO</u>		



Major Street Monterey Ave
 Minor Street _____

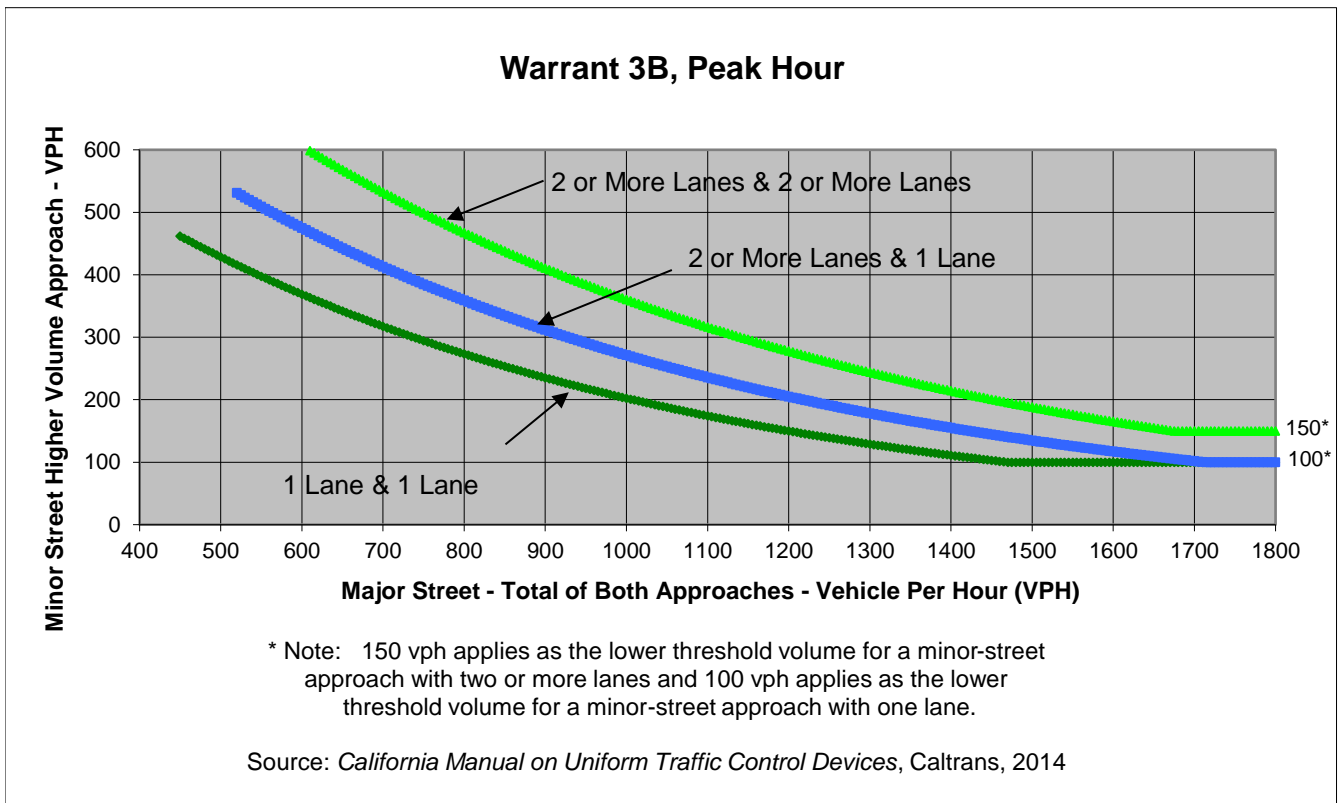
Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	55	0	32	0
Through	2,042	1,983	0	0
Right	0	52	30	0
Total	2,097	2,035	62	0

Major Street Direction

X	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Monterey Ave		
Number of Approach Lanes	3	1	<u>NO</u>
Traffic Volume (VPH) *	4,132	62	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



Major Street Frank Sinatra Dr
 Minor Street Kavendish Way

Project Section 31 Traffic Impact Analysis
 Scenario Cumulative Year Plus Project
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	32	36	10
Through	0	0	979	1,022
Right	10	28	10	60
Total	10	60	1,025	1,092

Major Street Direction

	North/South
X	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	90.3
Approach with Worst Case Delay	SB
Total Vehicles on Approach	60

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced (vph)
Cumulative Year Plus Project	1.5	60	2,187
Limiting Value	4	100	800
Condition Satisfied?	Not Met	Not Met	Met
Warrant Met	<u>NO</u>		



Major Street **Frank Sinatra Dr**
 Minor Street **Kavendish Way**

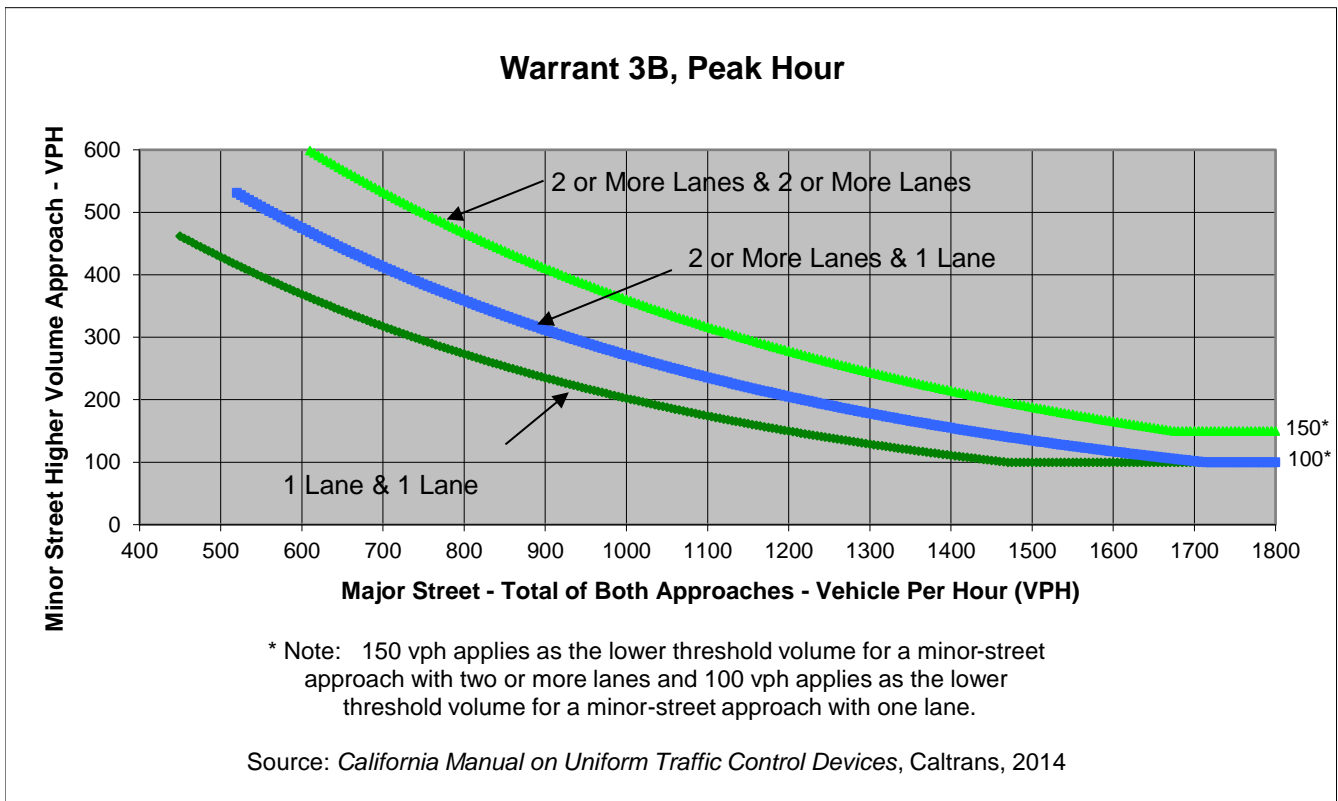
Project **Section 31 Traffic Impact Analysis**
 Scenario **Cumulative Year Plus Project**
 Peak Hour **PM**

Turn Movement Volumes

	NB	SB	EB	WB
Left	0	32	36	10
Through	0	0	979	1,022
Right	10	28	10	60
Total	10	60	1,025	1,092

Major Street Direction

	North/South
X	East/West



	Major Street	Minor Street	Warrant Met
	Frank Sinatra Dr	Kavendish Way	
Number of Approach Lanes	2	1	<u>NO</u>
Traffic Volume (VPH) *	2,117	60	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.



APPENDIX I.2

VMT Memo



TECHNICAL MEMORANDUM

Date: May 23, 2019

To: William Enos, P.E., City of Rancho Mirage
Bud Kopp, City of Rancho Mirage

From: Jason D. Pack, P.E.
Paul Herrmann, P.E.

Subject: DRAFT Vehicle Miles Traveled (VMT) Assessment for Section 31 Specific Plan Project

Fehr & Peers completed quantifying vehicle miles of travel (VMT) for the Section 31 Specific Plan Project (Project) in the City of Rancho Mirage, California. This VMT analysis is consistent with requirements of Senate Bill (SB-743), the Office of Planning and Research's (OPR's) technical advisory and the Rancho Mirage 2017 General Plan Update Environmental Impact Report. Our work to quantify VMT for the Project included use of the Rancho Mirage General Plan Model (RMGPM).

The purpose of this memorandum is to document our VMT estimates for the Project. The City of Rancho Mirage does not currently have adopted thresholds of significance for VMT so this technical memorandum is for informational purposes only. The remainder of this memorandum is divided into four sections. First, we report our methodology for estimating VMT. Next, we report the results for the Project VMT and the City VMT. Finally, we report the cumulative effect on VMT.

VMT Analysis Methodology

As a result of SB 743, the new recommended metric in the CEQA guidelines for transportation impacts is VMT per capita. The legislative intent of SB 743 is to balance the needs of congestion management with statewide goals for infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions.

VMT for a project or City can be estimated through the use of travel demand models that forecast traffic patterns for specific driver purposes on typical weekdays. Fehr & Peers utilized the RMGPM to estimate VMT for the Project and the City. RMGPM is a derivative the Riverside County



Transportation Analysis Model (RIVTAM) with additional detail added to the roadway network and socioeconomic land use data consistent with the Rancho Mirage General Plan assumptions. The RMGPM model was developed as a part of the Rancho Mirage General Plan Update. RMGPM is available in Base Year (2008) and Future Year (2035) versions, each with land use and roadway network assumptions for the given year. For use in this study, the RMGPM traffic analysis zones (TAZs) outside of Rancho Mirage were updated to be consistent with the 2016 Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS) growth projections with updated 2012 base year and 2040 future year land use assumptions.

The VMT estimates incorporate the “full accounting” methodology, in that it accounts for the complete length of the trip from the origin TAZ to the destination TAZ and assigns 100% of that trip distance to the Project or City of Rancho Mirage. To estimate the potential VMT impacts, Fehr & Peers had to estimate VMT from the Base Year (2012) No Project, Base Year (2012) With Project, Cumulative Year (2040) No Project and Cumulative Year (2040) With Project horizons in the RMGPM. To compare scenarios, VMT is normalized by dividing by the total service population. Service population represents residential population plus employment in the study area. A significant impact would occur if the listed conditions below are met:

- Project Level Impact: The buildout of the project increases the total daily VMT per service population (VMT/SP) above the baseline level for the City
- Cumulative Effect on VMT: The buildout of the project causes total daily VMT/SP within the City to be higher than the no project alternative under cumulative conditions (year 2040)

Project VMT

Project VMT was analyzed using the base year model runs. With VMT information from the base year we were able to calculate VMT per service population (VMT/SP). Employment from the project was estimated from the project description of the Plan and typical employment per square foot for general retail and hotel. The population was estimated using number of households provided by the project description of the Plan and proportional comparisons with similar city residential areas. The VMT estimate per service population information is summarized below:

Project Generated VMT Estimate per Service Population Information

- Base Year:



- Population – 3,913
- Employment – 1,038
- 217,538 VMT per day
- 43.94 VMT/SP per day

City of Rancho Mirage VMT

The VMT/SP for the City of Rancho Mirage is summarized below:

City of Rancho Mirage VMT Estimate per Service Population Information

- Base Year:
 - Population – 19,714
 - Employment – 12,363
 - 1,949,691 VMT per day
 - 60.78 VMT/SP per day

The City VMT per day increases with the addition of the population, employment and households of the project, however, the model results show that the project is performing 38% better than the City average (that is, travel from the project is much more efficient per person than existing travel in the City).

Please note that the base year model employment to population ratio is higher than we typically encounter in most cities in the CVAG Region. Cities that have an employment to population ratio that is this high forces the model to import more trips from outside the city to “match” the projected jobs in the City. It should be noted that census data indicates that the model employment is nearly double the latest measurement from 2015. Although, it is outside of our scope of services to validate the City’s base year model utilized for their General Plan update, this higher than expected employment could be one reason why the City VMT estimates are so much higher than the proposed project.

¹ United States Census Bureau, Longitudinal Employer-Household Dynamics (<https://lehd.ces.census.gov/data/>):
Employment – 4,983;



Cumulative Effect on VMT

Total VMT/SP can be calculated from the Cumulative Year (2040) no project and with project model results to determine if the project increases VMT/SP in the city. **Table 1-1** below, summarizes the City of Rancho Mirage VMT/SP. In many respects, this is a more informative metric as it demonstrates how the project effects VMT in a regional setting (e.g. does the project make travel more or less efficient for the City as a whole).

Table 1-1: Cumulative City of Rancho Mirage VMT per Service Population

	Cumulative Year (2040) No Project	Cumulative Year (2040) With Project
Population	35,940	39,853
Employment	34,730	35,768
VMT	4,371,311	4,521,564
VMT/SP	61.85	59.79

Source: Fehr & Peers, 2019

With the inclusion of the Section 31 Specific Plan Project the VMT/SP in the City of Rancho Mirage has decreased, indicating a net positive effect on Cumulative VMT in the region.

Please note that, similar to the base year conditions, the population to employment ratio continues to be higher than anticipated and the model likely is importing trips from a larger region to “match” them with the trip production. However, in the cumulative sense, the comparison as to whether the project makes travel more or less efficient is still a valuable comparison; especially since the addition of the project (which increases the amount of housing in the City) improves the employment-rich projections in the City and results in lower VMT/SP.

We hope this information is helpful. If you have any questions or concerns, please do not hesitate to contact us at (949)-308-6318.