

Appendix D
Traffic Impact Analysis

UNIVERSITY PARK MEDICAL CENTER

TRAFFIC ANALYSIS

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LIST OF ABBREVIATED TERMS

| | |
|----------|--|
| (1) | Reference |
| ADT | Average Daily Traffic |
| CAMUTCD | California Manual on Uniform Traffic Control Devices |
| Caltrans | California Department of Transportation |
| DU | Dwelling Unit |
| EAP | Existing Plus Ambient Plus Project |
| EAPC | Existing Plus Ambient Plus Project Plus Cumulative |
| HCM | Highway Capacity Manual |
| HY | Horizon Year |
| ITE | Institute of Transportation Engineers |
| LOS | Level of Service |
| PA | Planning Area |
| PHF | Peak Hour Factor |
| Project | University Park Medical Center |
| sf | Square Feet |
| TA | Traffic Analysis |

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1 INTRODUCTION

This report presents the results of the traffic analysis (TA) for University Park Medical Center (“Project”), located south of Gerald Ford Drive, north of College Drive, and west of Technology Drive in the City of Palm Desert, as shown on Exhibit 1-1.

The purpose of this TA is to evaluate the potential circulation system deficiencies that may result from the development of the proposed Project and recommend improvements to achieve acceptable circulation system operational conditions. This TA has been prepared based in accordance with the County of Riverside’s Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled (December 2020) as the City of Palm Desert utilizes the County guidelines. (1)

To ensure that this TA satisfies the City of Palm Desert’s traffic study requirements, Urban Crossroads, Inc. prepared a traffic study scoping package for review by City staff prior to the preparation of this report. The Agreement provides an outline of the Project study area, trip generation, trip distribution, and analysis methodology. The Agreement approved by the City is included in Appendix 1.1. Exhibit 1-2 shows the intersection analysis locations included in this study.

1.1 SUMMARY OF FINDINGS

For Existing (2022), Existing plus Ambient plus Project (EAP 2024), and Existing plus Ambient plus Project plus Cumulative (EAPC 2024) conditions, the intersection of Cook Street/I-10 WB Ramps (#7) is operating at an unacceptable level of service (LOS “E” or worse) during the AM peak hour.

For Existing plus Ambient plus Project plus Cumulative (EAPC 2024) conditions, the intersection of Cook Street/I-10 EB Ramps (#8) is anticipated to operate at an unacceptable LOS during the PM peak hour.

For Horizon Year (2040) future conditions, cumulative LOS deficiencies are also projected to occur at the same two intersections, without or with the Project:

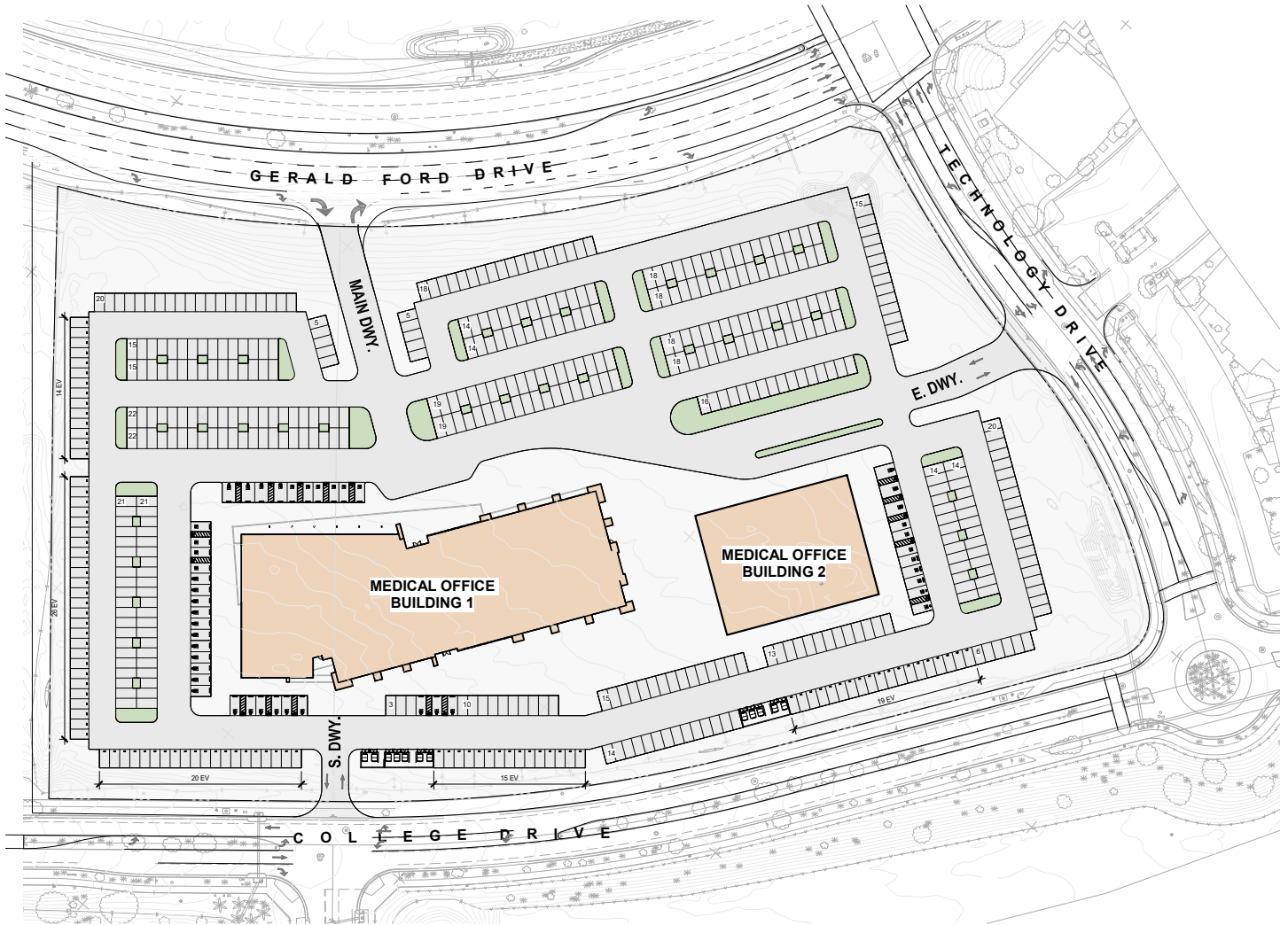
| # | Intersection |
|---|--------------------------|
| 7 | Cook St. / I-10 WB Ramps |
| 8 | Cook St. / I-10 EB Ramps |

Cook Street / I-10 WB Ramps (#7) – The improvement needed at this location to serve existing (2022), EAP and EAPC (2024), and future long range (2040) conditions consists of a 2nd westbound left turn lane on the westbound off-ramp.

Cook Street / I-10 EB Ramps (#8) – The improvement needed at this location to serve EAPC (2024) and future long range (2040) conditions consists of a separate northbound right turn lane with on Cook Street. For 2040 conditions, channelization of the northbound right turn lane is also needed.

In addition to access improvements, the Project’s fair share of cumulative traffic include 8.0% towards the lane improvements at Cook Street / I-10 WB Ramps (#7) and 9.2% towards the lane improvements at Cook Street / I-10 EB Ramps (#8).

EXHIBIT 1-1: PRELIMINARY SITE PLAN



LEGEND:

 ■ RIGHT-IN/RIGHT-OUT ONLY

EXHIBIT 1-2: TRAFFIC ANALYSIS STUDY AREA



LEGEND:

- ⑪ = EXISTING ANALYSIS LOCATION
- ① = FUTURE ANALYSIS LOCATION
- = FUTURE PROJECT DRIVEWAY
- ↔ = RIGHT-IN/RIGHT-OUT ONLY



The Project applicant shall participate in CVAG's TUMF program by paying the requisite TUMF fee and other City fees as determined by the City.

The results of the LOS analysis at all of the study area intersections for both existing and future traffic conditions are summarized in Table 1-1.

A separate letter contains VMT analysis for the Project: University Park Medical Center Vehicle Miles Traveled (VMT) Analysis (Urban Crossroads, Inc., January 25, 2023). The Project effect on VMT has been reviewed and With Virtual Appointments, there is a VMT decrease and therefore no impact occurs.

1.2 PROJECT OVERVIEW

The Project is to consist of 94,700 square foot building with medical offices, an urgent care, and lab uses, as well as a 20,000 square foot outpatient surgery center building. It is anticipated that the Project will be fully developed by year 2024. A preliminary site plan of the proposed Project is shown in Exhibit 1-1.

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) *Trip Generation* (11th Edition, 2021) manual for the proposed land use (ITE Land Use Code: 720 – Medical/Dental Office) is used. The Project is anticipated to generate a total of 4,129 trip-ends per day with 356 AM peak hour trips and 451 PM peak hour trips. The assumptions and methods used to estimate the Project's trip generation characteristics are discussed in greater detail in Section 4.1 *Project Trip Generation* of this report.

1.3 ANALYSIS SCENARIOS

For the purposes of this traffic study, potential deficiencies to traffic and circulation have been assessed for each of the following conditions:

- Existing (2022) Conditions
- Existing plus Ambient Growth plus Project (EAP) (2024)
- Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2024)
- Horizon Year 2040 Without Project
- Horizon Year 2040 With Project

All study area intersections are evaluated using the Highway Capacity Manual (HCM) 6th Edition analysis methodology.

1.3.1 EXISTING (2022) CONDITIONS

Information for Existing (2022) conditions is disclosed to represent the baseline traffic conditions as they existed at the time this report was prepared. For a detailed discussion on the existing traffic volumes, see Section 3.5 *Existing (2022) Traffic Counts*.

TABLE 1-1: LEVEL OF SERVICE (LOS) SUMMARY

| # Intersection | Existing (2022) | | EAP (2024) | | EAPC (2024) | | HY (2040) w/o Project | | HY (2040) w/ Project | |
|---|-----------------|-----|------------|-----|-------------|----|-----------------------|-----|----------------------|----|
| | AM | PM | AM | PM | AM | PM | AM | PM | AM | PM |
| 1 Technology Dr. / Gerald Ford Dr. | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 2 Technology Dr. / E. Dwy. - The Village W. Dwy. | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 3 Technology Dr. / College Dr. | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 4 S. Dwy. - University Park Dr. / College Dr. | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 5 Pacific Av. / College Dr. | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 6 Cook St. / University Park Dr. | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 7 Cook St. / I-10 WB Ramps | | | | | | | | | | |
| - Without Improvements | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| - With Improvements | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 8 Cook St. / I-10 EB Ramps | | | | | | | | | | |
| - Without Improvements | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| - With Improvements | N/A | N/A | N/A | N/A | ● | ● | ● | ● | ● | ● |
| 9 Cook St. / Gerald Ford Dr. | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 10 Cook St. / University Park Dr. - Berger Dr. W. | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 11 Cook St. / Frank Sinatra Dr. | ● | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 12 Main Dwy. / Gerald Ford Dr. | N/A | N/A | ● | ● | ● | ● | N/A | N/A | ● | ● |

Legend:

- = A - D
- = E
- = F

F:\UXR\jobs\14600-15000\14855\Excel\14855 - Report.xlsx\1-1_LoS Summary

1.3.2 EAP (2024) CONDITIONS

The Existing plus Ambient Growth plus Project (EAP) conditions analysis determines traffic deficiencies that would occur on the roadway system with the addition of Project traffic, when compared to existing traffic conditions at each location.

To account for background traffic growth, an ambient growth factor from Existing conditions of 4.04% (2% per year, compounded annually over 2 years) is included.

1.3.3 EAPC (2024) CONDITIONS

The Existing plus Project plus Ambient Growth plus Cumulative (EAPC) (2024) traffic conditions analysis determines the potential near-term cumulative circulation system deficiencies. To account for background traffic growth, traffic associated with other known cumulative development projects is combined with the ambient growth factor for EAPC scenario.

1.3.4 GENERAL PLAN BUILDOUT (2040) CONDITIONS

The General Plan Buildout (2040) conditions analysis is utilized to determine if improvements funded through regional transportation mitigation fee programs, such as the Transportation Uniform Mitigation Fee (TUMF), or other approved funding mechanism can accommodate the long-range cumulative traffic at the target Level of Service (LOS) identified in the City of Palm Desert (lead agency) General Plan.

1.4 STUDY AREA

The Project study area was defined in coordination with the City of Palm Desert. Consistent with County of Riverside traffic study guidelines, the study area includes any intersection of "Collector" or higher classification street, with "Collector" or higher classification streets, at which the proposed project will add 50 or more peak hour trips. Exhibit 1-2 presents the study area and intersection analysis locations.

The "50 peak hour trip" criteria generally represents a minimum number of trips at which a typical intersection would have the potential to be substantively impacted by a given development proposal. Although each intersection may have unique operating characteristics, this traffic engineering rule of thumb is a widely utilized tool for estimating a potential area of impact (i.e., study area).

To ensure that this TA satisfies the needs of the City of Palm Desert, Urban Crossroads, Inc. prepared a Project specific traffic study scoping agreement for review by County staff prior to the preparation of this TA. The agreement provides an outline of the study area, trip generation, trip distribution, and analysis methodology. The agreement approved by the City of Palm Desert is included in Appendix 1.1.

The study area intersections shown on Exhibit 1-2 and listed in Table 1-2 were selected for this TA based on consultation with City of Palm Desert.

TABLE 1-2: INTERSECTION ANALYSIS LOCATIONS

| # | Intersection | # | Intersection |
|---|--|----|--------------------------------|
| 1 | Technology Dr. / Gerald Ford Dr. | 7 | Cook St. / I-10 WB Ramps |
| 2 | Technology Dr. / E. Dwy. - The Village W. Dwy. | 8 | Cook St. / I-10 EB Ramps |
| 3 | Technology Dr. / College Dr. | 9 | Cook St. / Gerald Ford Dr. |
| 4 | S. Dwy. - University Park Dr. / College Dr. | 10 | Cook St. / University Park Dr. |
| 5 | Pacific Av. / College Dr. | 11 | Cook St. / Frank Sinatra Dr. |
| 6 | Cook St. / University Park Dr. | 12 | Main Dwy. / Gerald Ford Dr. |

1.5 RECOMMENDED CIRCULATION IMPROVEMENTS

Exhibit 1-3 shows the recommended site access improvements and Exhibit 1-4 depicts the cumulative off-site improvements determined to be needed without or with the project. All site access improvements will be designed in compliance with California Manual on Uniform Traffic Control Devices (CA MUTCD), 2014, Updated March 30, 2021 (Revision 6). (3)

1.5.1 SITE ACCESS IMPROVEMENTS

The following recommendations achieve acceptable peak hour operations with full occupancy of the Project.

Technology Drive / E. Driveway – The Village W. Driveway (#2)

- Install a cross street stop for the eastbound (EB) approach, provide one 100 ft. shared left/through/right outbound lane, and modify existing raised median to provided one 90 ft. northbound (NB) left turn lane.

S. Driveway – University Park Drive / College Drive (#4)

- Install a cross street stop for the southbound (SB) approach, provide one 50ft shared left/through/right outbound lane, and modify existing raised median to provided one 125 ft. EB left turn lane.

Main Driveway / Gerald Ford Drive (#12)

- Construct Project Main Driveway as a right-in/right-out access only, to be located 500 feet (centerline-to-centerline) from the Technology Drive intersection. Install a cross street stop for the northbound approach. Install an eastbound right turn lane west of the Main Driveway / Gerald Ford Drive and an auxiliary lane east of the Main Driveway / Gerald Ford Drive.

The existing roundabout at the intersection of Technology Drive and College Drive should be updated to bring the signing and striping at this roundabout into compliance with the CAMUTCD (Revision 6).

Sidewalks currently exist along Gerald Ford Drive, Technology Drive, and College Drive adjacent to the Project site. Site-adjacent sidewalks should be restored to excellent condition by the project prior to opening day. Crosswalks at Project access points will be provided in conjunction with the development of the Project.

EXHIBIT 1-3: RECOMMENDED ON-SITE IMPROVEMENTS

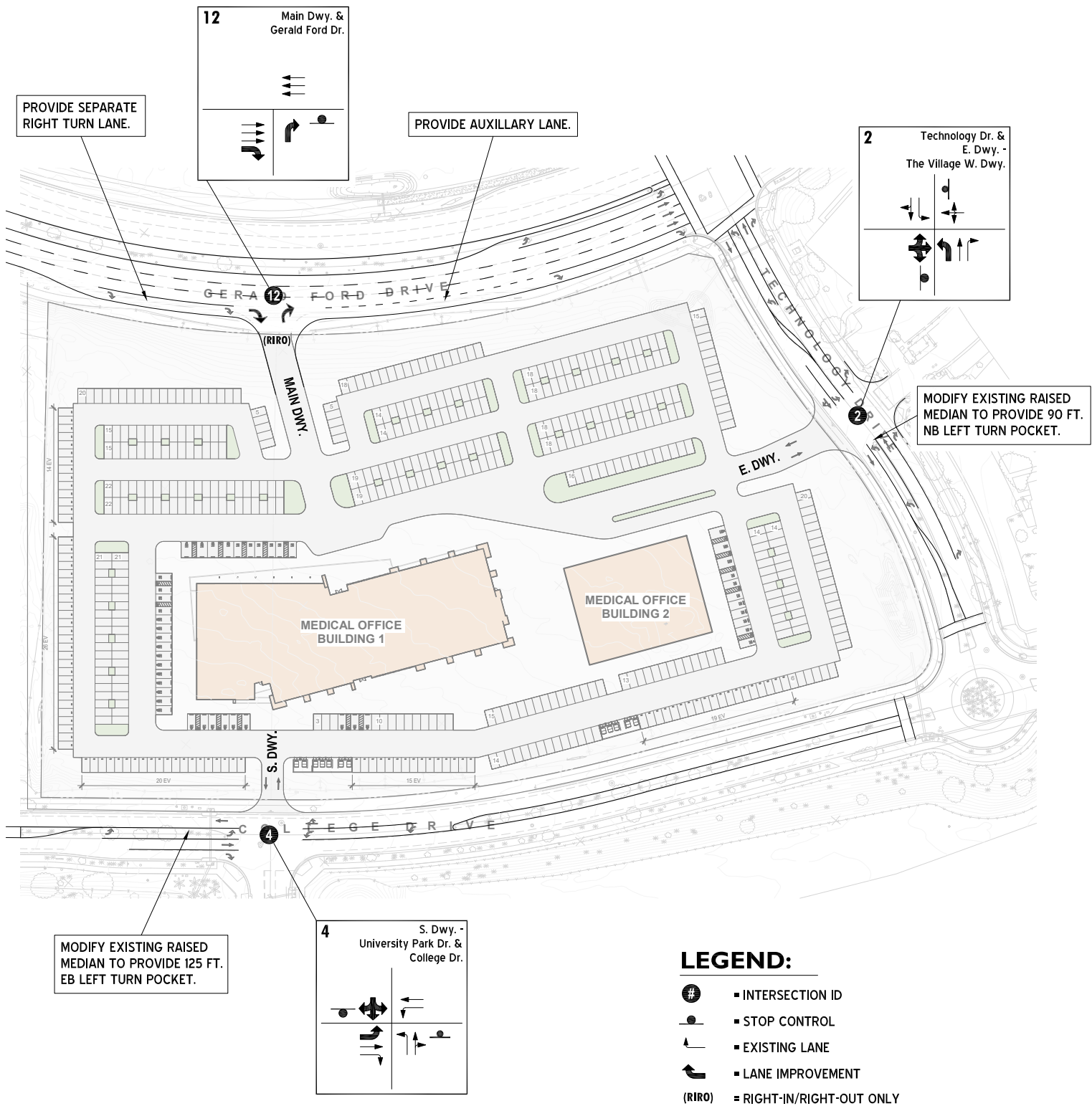
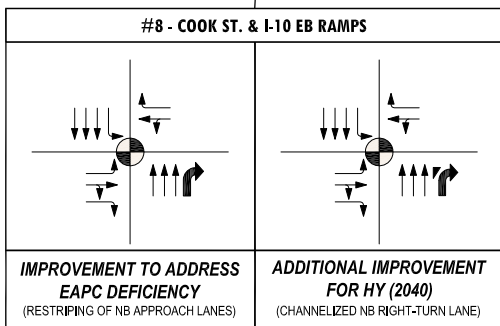
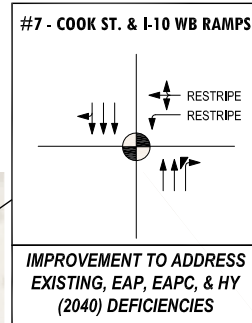
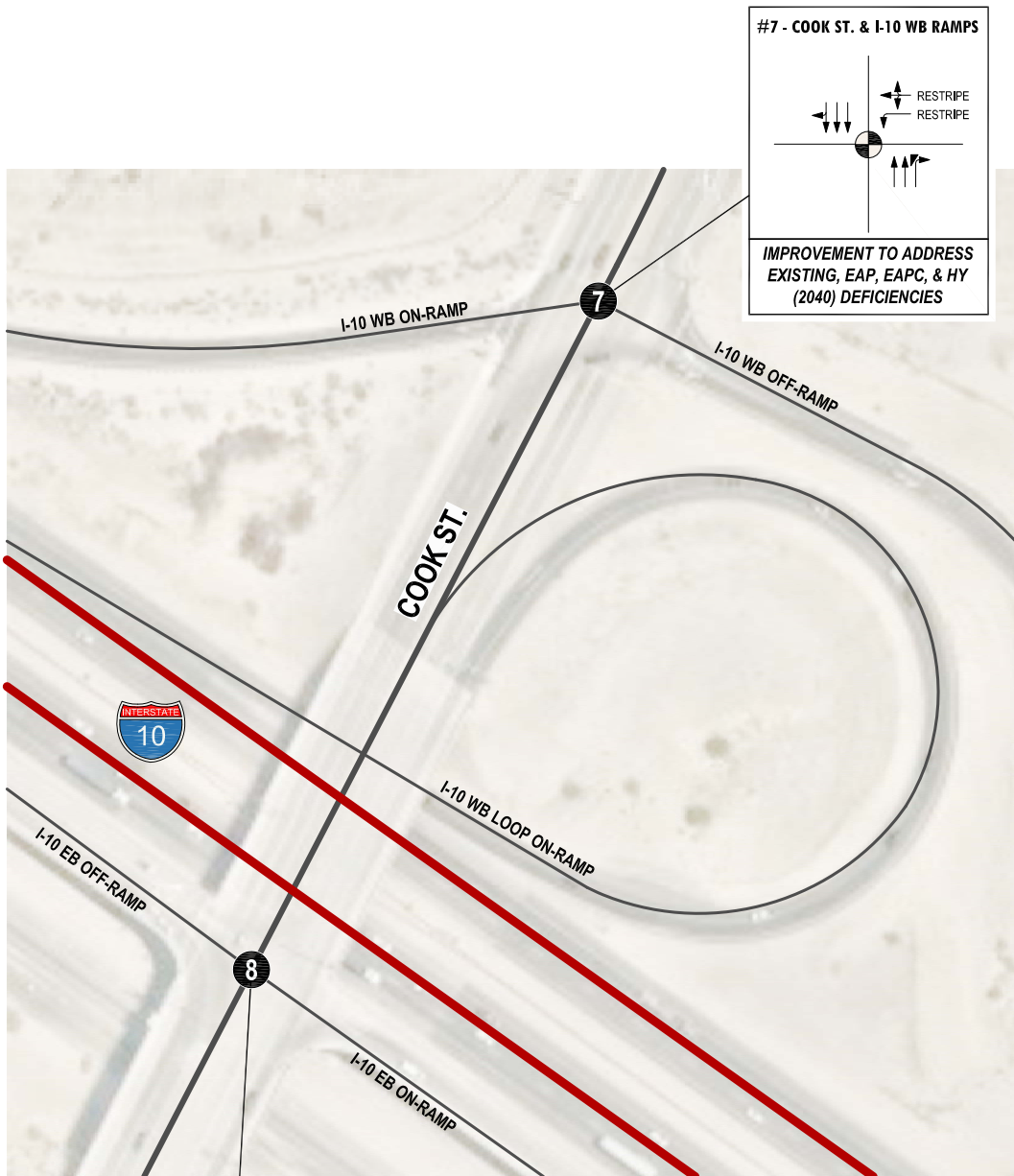


EXHIBIT 1-4: CUMULATIVE OFF-SITE IMPROVEMENTS



LEGEND:

- # INTERSECTION ID
- ⊙ EXISTING TRAFFIC SIGNAL
- ↔ EXISTING LANE
- ↪ LANE IMPROVEMENT
- ↪ FREE-RIGHT TURN LANE IMPROVEMENT



1.5.2 INTERSECTION QUEUES AT PROJECT ACCESS POINTS

A queuing analysis was performed for Horizon Year (2040) With Project conditions to assess the adequacy of turn bay lengths to accommodate vehicle queues at the Project entries. As shown in Table 7-3, the proposed Project turn bay lengths and driveway lengths provide adequate storage to accommodate the anticipated 95th percentile queues.

1.5.3 PARTICIPATION IN OFF-SITE INTERSECTION IMPROVEMENTS

The recommended cumulative improvements required to achieve acceptable circulation system performance are described in detail within Section 7 *Horizon Year (2045) Traffic Analysis* of this report. Exhibit 1-4 depicts the recommended cumulative improvements at these two locations:

Cook Street & I-10 WB Ramps (#7)

- Provide a 2nd 200 ft. WB left turn lane.

Cook Street & I-10 EB Ramps (#8)

- Restripe existing NB travel lanes to achieve a 12 ft. wide NB 200 ft. long right turn lane, with remaining through travel lanes at 11 ft. widths. Ultimately include NB free-right turn channelization.

Project participation may include a combination of fee payments to established programs (e.g., TUMF), payment of a fair share contribution toward future improvements, or a combination of these approaches.

Detailed fair share calculations, for each peak hour, are provided in Table 1-3 for study area intersections.

TABLE 1-3: PROJECT FAIR SHARE CALCULATIONS

| ID | Intersection | HY (2040) | | | Total New Traffic ¹ | Project Fair Share (%) ² |
|----|--------------------------|-------------------------|---------------------------------|----------------------|--------------------------------|-------------------------------------|
| | | Existing (2022) Traffic | w/ Project Traffic ³ | Project Only Traffic | | |
| 7 | Cook St. / I-10 WB Ramps | | | | | |
| | • AM Peak Hour | 2,387 | 3,604 | 93 | 1,217 | 7.6% |
| | • PM Peak Hour | 1,727 | 3,344 | 129 | 1,617 | 8.0% |
| 8 | Cook St. / I-10 EB Ramps | | | | | |
| | • AM Peak Hour | 3,240 | 5,213 | 178 | 1,973 | 9.0% |
| | • PM Peak Hour | 2,884 | 5,341 | 226 | 2,457 | 9.2% |

¹ Total New Traffic = (HY 2040 WP - Existing Traffic)

² Project Fair Share % = (Project Only Traffic / Total New Traffic)

³ Horizon Year (2040) With Project Conditions

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2 METHODOLOGIES

This section of the report presents the methodologies used to perform the traffic analyses summarized in this report. The methodologies described are consistent with County of Riverside's Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled. (1)

2.1 LEVEL OF SERVICE

Traffic operations of roadway facilities are described using the term "Level of Service" (LOS). LOS is a qualitative description of traffic flow based on several factors, such as speed, travel time, delay, and freedom to maneuver. Six levels are typically defined ranging from LOS A, representing completely free-flow conditions, to LOS F, representing breakdown in flow resulting in stop-and-go conditions. LOS E represents operations at or near Capacity, an unstable level where vehicles are operating with the minimum spacing for maintaining uniform flow.

2.2 INTERSECTION CAPACITY ANALYSIS

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The 6th Edition Highway Capacity Manual (HCM) methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. (2)The HCM uses different procedures depending on the type of intersection control.

2.2.1 SIGNALIZED INTERSECTIONS

The City of Palm Desert requires signalized intersection operations analysis based on the methodology described in the HCM. (2) Intersection LOS operations are based on an intersection's average control delay. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. For signalized intersections LOS is related to the average control delay per vehicle and is correlated to a LOS designation as described on Table 2-1.

The traffic modeling and signal timing optimization software package Synchro (Version 11) has been utilized to analyze signalized intersections. Synchro is a macroscopic traffic software program that is based on the signalized intersection Capacity analysis as specified in the HCM. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the study intersections. Equations are used to determine measures of effectiveness such as delay and queue length. The level of service and Capacity analysis performed by Synchro takes into consideration optimization and coordination of signalized intersections within a network.

A saturation flow rate of 1900 has been utilized for all study area intersections located within the study area. The peak hour traffic volumes are adjusted using a peak hour factor (PHF) to reflect peak 15-minute volumes. Common practice for LOS analysis is to use a peak 15-minute rate of flow. However, flow rates are typically expressed in vehicles per hour. The PHF is the relationship between the peak 15-minute flow rate and the full hourly volume (e.g. $PHF = \frac{Hourly\ Volume}{4 \times Peak\ 15\text{-minute\ Flow}}$)

Rate)). The use of a 15-minute PHF produces a more detailed analysis as compared to analyzing vehicles per hour. Existing PHFs have been used for all analysis scenarios. Per the HCM, PHF values over 0.95 often are indicative of high traffic volumes with capacity constraints on peak hour flows while lower PHF values are indicative of greater variability of flow during the peak hour. (2)

TABLE 2-1: SIGNALIZED INTERSECTION LOS THRESHOLDS

| Description | Average Control Delay (Seconds), $V/C \leq 1.0$ | Level of Service, $V/C \leq 1.0^1$ |
|---|---|------------------------------------|
| Operations with very low delay occurring with favorable progression and/or short cycle length. | 0 to 10.00 | A |
| Operations with low delay occurring with good progression and/or short cycle lengths. | 10.01 to 20.00 | B |
| Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear. | 20.01 to 35.00 | C |
| 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. | 35.01 to 55.00 | D |
| Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay. | 55.01 to 80.00 | E |
| Operation with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths. | 80.01 and up | F |

Source: HCM, 6th Edition

¹ If V/C is greater than 1.0 then LOS is F per HCM.

2.2.2 UNSIGNALIZED INTERSECTIONS

The City of Palm Desert requires the operations of unsignalized intersections be evaluated using the methodology described in the HCM. (2) The LOS rating is based on the weighted average control delay expressed in seconds per vehicle (see Table 2-2). At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane. Delay for the intersection is reported for the worst individual movement at a two-way stop-controlled intersection. For all-way stop controlled intersections, LOS is computed for the intersection as a whole (average delay).

TABLE 2-2: UNSIGNALIZED INTERSECTION LOS THRESHOLDS

| Description | Average Control Delay (Seconds), V/C ≤ 1.0 | Level of Service, V/C ≤ 1.0 ¹ |
|---|---|---|
| Little or no delays. | 0 to 10.00 | A |
| Short traffic delays. | 10.01 to 15.00 | B |
| Average traffic delays. | 15.01 to 25.00 | C |
| Long traffic delays. | 25.01 to 35.00 | D |
| Very long traffic delays. | 35.01 to 50.00 | E |
| Extreme traffic delays with intersection capacity exceeded. | > 50.00 | F |

Source: HCM, 6th Edition

¹ If V/C is greater than 1.0 then LOS is F per HCM.

2.3 TRAFFIC SIGNAL WARRANT ANALYSIS METHODOLOGY

The term "signal warrants" refers to the list of established criteria used by Caltrans and other public agencies to quantitatively justify or determine the potential need for installation of a traffic signal at an otherwise unsignalized intersection. This TA uses the signal warrant criteria presented in the Caltrans California Manual on Uniform Traffic Control Devices (CA MUTCD). (3)

The signal warrant criteria for existing study area intersections are based upon several factors, including volume of vehicular and pedestrian traffic, frequency of accidents, and location of school areas. The CA MUTCD indicates that the installation of a traffic signal should be considered if one or more of the signal warrants are met. (3) Specifically, this TA utilizes the Peak Hour Volume-based Warrant 3 as the appropriate representative traffic signal warrant analysis for existing traffic conditions and for all future analysis scenarios for existing unsignalized intersections. Warrant 3 is appropriate to use for this TA because it provides specialized warrant criteria for intersections with rural characteristics. For the purposes of this study, the speed limit was the basis for determining whether Urban or Rural warrants were used for a given intersection. Urban warrants have been used as posted speed limits on the major roadways with unsignalized intersections are 40 miles per hour or below and rural warrants have been used on roadways with speeds greater than 40 miles per hour.

Future intersections that do not currently exist have been assessed regarding the potential need for new traffic signals based on future average daily traffic (ADT) volumes, using the Caltrans planning level ADT-based signal warrant analysis worksheets. Similarly, the speed limit has been used as the basis for determining the use of Urban and Rural warrants. Traffic signal warrant analyses were performed for all of the following unsignalized study area intersections (see Table 2-3):

TABLE 2-3: UNSIGNALIZED INTERSECTION LOCATIONS

| # | Intersection |
|---|--|
| 2 | Technology Dr. / E. Dwy. - The Village W. Dwy. |
| 4 | S. Dwy. - University Park Dr. / College Dr. |

2.4 MINIMUM ACCEPTABLE LEVELS OF SERVICE (LOS)

Per the City of Palm Desert's General Plan, LOS D is the threshold for acceptable traffic conditions on the circulation network.

2.5 DEFICIENCY CRITERIA

This section outlines the methodology used in this analysis related to identifying circulation system deficiencies. To determine whether the addition of project-related traffic at a study intersection would result in a deficiency, the following will be utilized:

- A deficiency occurs at study area intersections if the pre-Project condition is at or better than LOS D (i.e., acceptable LOS), and the addition of project trips causes the peak hour LOS of the study area intersection to operate at unacceptable LOS (i.e., LOS E or F). For intersections currently operating at unacceptable LOS (LOS E or F), a deficiency will occur if the Project contributes 50 or more peak hour trips to pre-project traffic conditions.

2.6 PROJECT FAIR SHARE CALCULATION METHODOLOGY

In cases where this TA identifies that the Project would contribute additional traffic volumes to cumulative traffic deficiencies, Project fair share costs of improvements necessary to address deficiencies have been identified. The Project's fair share cost of improvements is determined based on the following equation, which is the ratio of Project traffic to total future traffic:

$$\text{Project Fair Share \%} = \text{Project Traffic} / (\text{Horizon Year 2040 Total Traffic} - \text{Existing Traffic})$$

The Project fair share contribution calculations are presented in Section 1.5.3 *Participation in off-site intersection improvements* of this TA.

3 AREA CONDITIONS

This section provides a summary of the existing circulation network, the City of Palm Desert General Plan Circulation Network, and a review of existing peak hour intersection operations and traffic signal warrant analyses.

3.1 EXISTING CIRCULATION NETWORK

Pursuant to the agreement with City of Palm Desert staff (Appendix 1.1), the study area includes 11 existing and future intersections as shown previously on Exhibit 1-2. Exhibit 3-1 illustrates the study area intersections located near the proposed Project and identifies the number of through traffic lanes for existing roadways and intersection traffic controls.

3.2 CITY OF PALM DESERT GENERAL PLAN CIRCULATION ELEMENT

The roadway classifications and planned (ultimate) roadway cross-sections of the major roadways within the study area, as identified on the City of Palm Desert General Plan Circulation Element, are described below. Exhibit 3-2 shows the City of Palm Desert General Plan Circulation Element and Exhibit 3-3 illustrates the City of Palm Desert General Plan roadway cross-sections. In addition, Exhibit 3-4 presents the University Neighborhood Specific Plan.

Gerald Ford Drive is a Balanced Arterial which currently provides four to six vehicle lanes (six lanes west of Cook Street and four lanes east of Cook Street) with a raised median along with bicycle, golf cart, and pedestrian facilities, striving for a balance between transportation modes. Bike/golf cart lanes currently exist, as do some sidewalks.

Cook Street is a Vehicular Oriented Arterial which prioritizes the movement of automobiles. Six vehicle lanes are provided for Vehicular Oriented Arterials with median landscaping and turn lanes. Cook Street currently exists in the study area with six travel lanes.

College Drive is a Collector Street which provides two shared vehicle/bicycle lanes and is intended to funnel traffic to larger facilities. College Drive exists as a two-lane road with bike/golf cart lanes, raised median, and sidewalks.

University Park Drive is shown as a local roadway within the City's General Plan. However, the University Park Neighborhood Specific Plan shows University Park Drive as a Collector Street and exists as a two-lane road with bike/golf cart lanes, raised median, and sidewalks.

Pacific Avenue is a Collector Street which provides two shared vehicle/bicycle lanes. Pacific Avenue currently exists as a four lane roadway with TWLTL, bike lanes, and sidewalks.

Technology Drive is a Collector Street which provides two shared vehicle/bicycle lanes. Technology Drive currently exists as a two-lane road with raised median south of Gerald Ford Drive, striped TWLTL median north of Gerald Ford Drive. Sidewalks exist on both sides of Technology Drive.

EXHIBIT 3-1: EXISTING NUMBER OF THROUGH LANES AND INTERSECTION CONTROLS

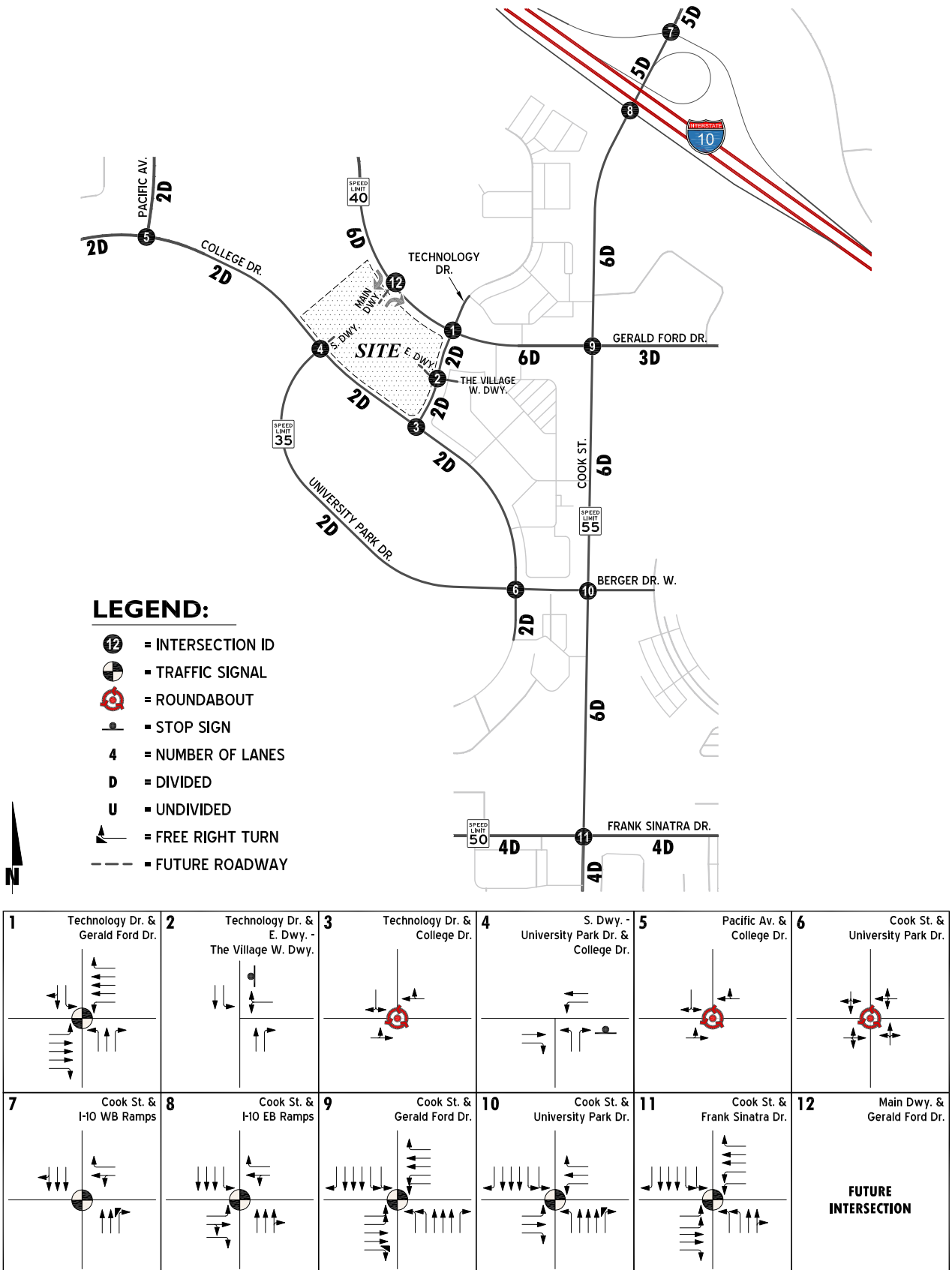


EXHIBIT 3-2: CITY OF PALM DESERT GENERAL PLAN CIRCULATION ELEMENT

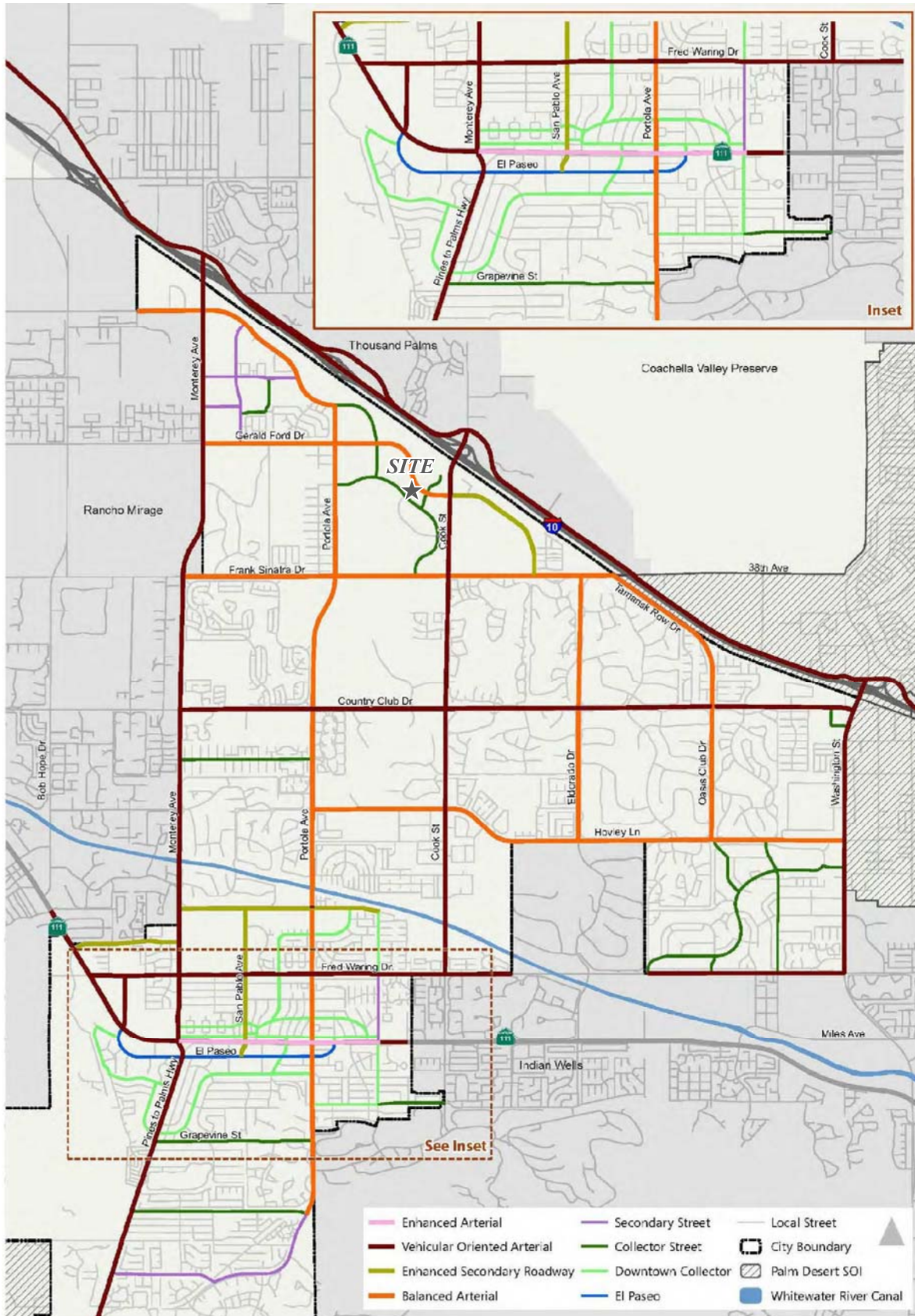
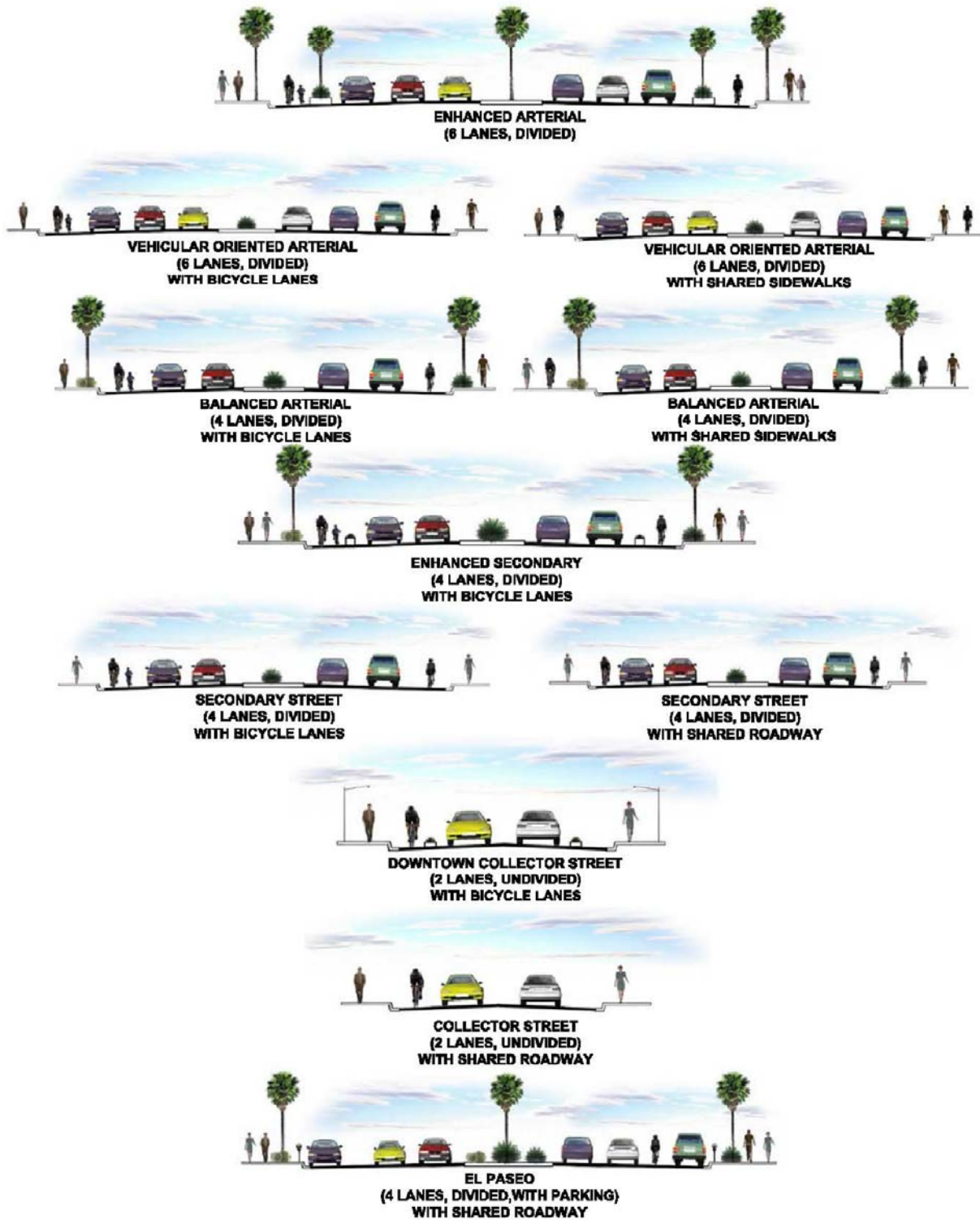
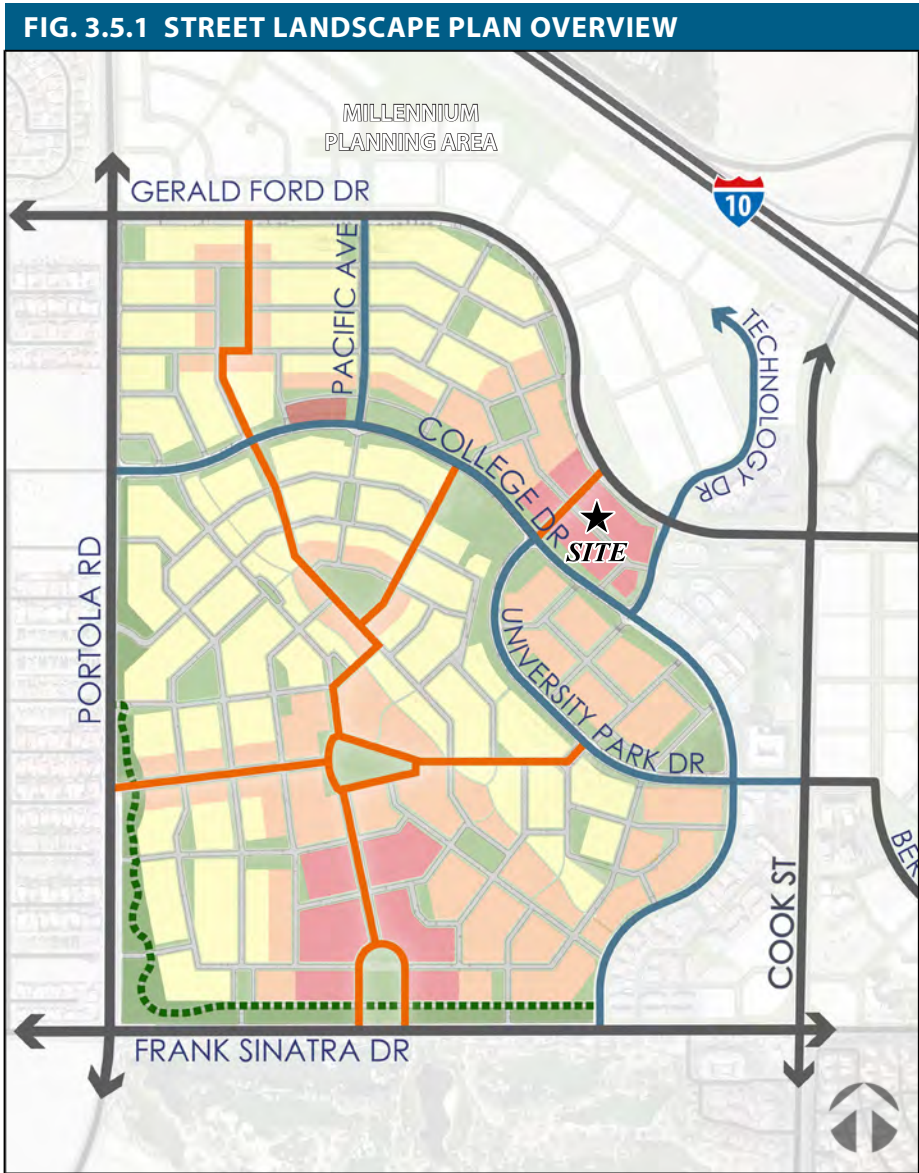


EXHIBIT 3-3: CITY OF PALM DESERT GENERAL PLAN ROADWAY CROSS-SECTIONS



SOURCE: CITY OF PALM DESERT

**EXHIBIT 3-4: UNIVERSITY NEIGHBORHOOD SPECIFIC PLAN
STREET CLASSIFICATIONS**



Street Classifications

- Existing Arterials
- Existing Collectors
- Framework Streets
- Neighborhood Streets
- Park Frontage Drive

UNSP Zones (See Section 4.1)

- Neighborhood Center (NC)
- Neighborhood Medium (NM)
- Neighborhood Low (NL)
- Open Space (OS)

SOURCE: UNIVERSITY NEIGHBORHOOD SPECIFIC PLAN (2017)

Frank Sinatra Drive is a Balanced Arterial which provides four vehicle lanes with either a median or two-way-left-turn-lane along with bicycle and pedestrian facilities, striving for a balance between transportation modes. Frank Sinatra Drive currently exists in the study area with four travel lanes, bike lanes and some sidewalks.

3.3 TRANSIT SERVICE

The study area is currently served by the Sunline with bus services along Cook Street via route 5 and route 10. Transit service is reviewed and updated by Sunline periodically to address ridership, budget and community demand needs. Changes in land use can affect these periodic adjustments which may lead to either enhanced or reduced service where appropriate. As such, it is recommended that the Project Applicant work in conjunction with STA to potentially accommodate bus service to the site.

3.4 PEDESTRIAN AND BICYCLE FACILITIES

Existing on-street bike lanes are located on both sides of the roadways along Frank Sinatra Drive (east of Cook Street), Gerald Ford Drive (west of Technology Drive), College Drive, and University Park Drive. Sidewalks generally exist throughout the study area, except for the east side of Cook Street (north of Gerald Ford Drive), north side of Gerald Ford Drive (between Pacific Avenue & Technology Drive), south side of Gerald Ford Drive (east of Cook Street), east and west side of Technology Drive, and north side of Frank Sinatra Drive (west of Cook Street). Exhibit 3-5 shows the existing pedestrian and bike facilities.

3.5 EXISTING (2022) TRAFFIC COUNTS

The intersection LOS analysis is based on the traffic volumes observed during the peak hour conditions using traffic count data collected in March, April, and October 2022. The following peak hours were selected for analysis:

- Weekday AM Peak Hour (peak hour between 7:00 AM and 9:00 AM)
- Weekday PM Peak Hour (peak hour between 4:00 PM and 6:00 PM)

The raw manual peak hour turning movement traffic count data sheets are included in Appendix 3.1.

The weekday AM and PM peak hour count data are representative of typical peak hour traffic conditions in the study area. There were no observations made in the field that would indicate atypical traffic conditions on the count dates, such as construction activity that would prevent or limit roadway access and detour routes. These raw turning volumes have been flow conserved between intersections with limited access, no access and where there are currently no uses generating traffic. Existing weekday peak hour intersection volumes are shown on Exhibits 3-5 and 3-6.

Existing weekday ADT volumes are shown on Exhibit 3-7. Where actual 24-hour tube count data was not available, Existing ADT volumes were based upon factored intersection peak hour counts collected by Urban Crossroads, Inc. using the following formula for each intersection leg:

$$\text{Weekday PM Peak Hour (Approach Volume + Exit Volume)} \times 12.987 = \text{Leg Volume}$$

EXHIBIT 3-5: EXISTING PEDESTRIAN AND BIKE FACILITIES

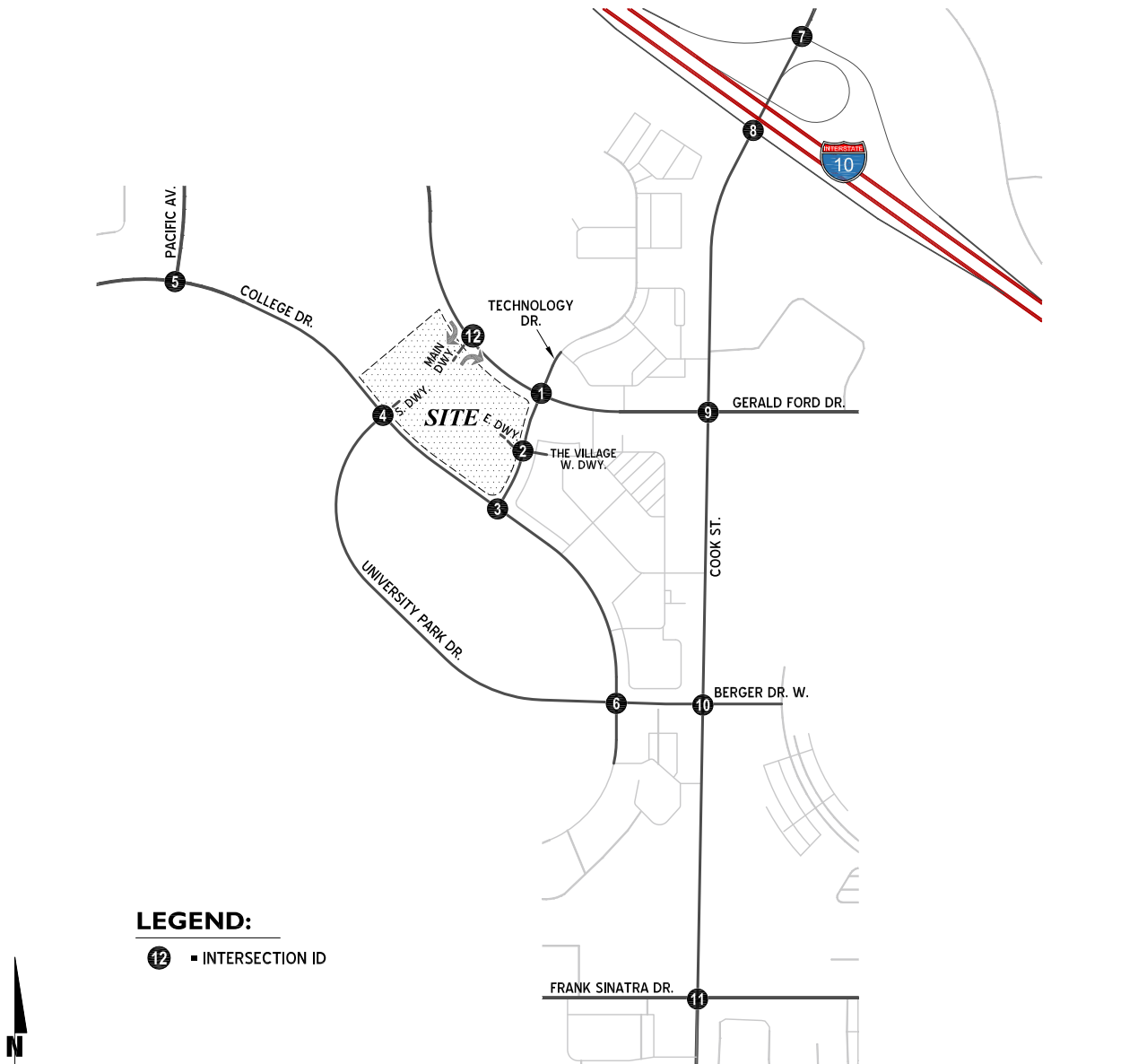


EXHIBIT 3-6: EXISTING (2022) AM PEAK HOUR INTERSECTION VOLUMES



| 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------------|--|------------------------------|---|------------------------------|---|
| Technology Dr. & Gerald Ford Dr. | Technology Dr. & E. Dwy. - The Village W. Dwy. | Technology Dr. & College Dr. | S. Dwy. - University Park Dr. & College Dr. | Pacific Av. & College Dr. | Cook St. & University Park Dr. |
| | | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 |
| Cook St. & I-10 WB Ramps | Cook St. & I-10 EB Ramps | Cook St. & Gerald Ford Dr. | Cook St. & University Park Dr. | Cook St. & Frank Sinatra Dr. | Main Dwy. & Gerald Ford Dr. |
| | | | | | <p style="text-align: center;">FUTURE INTERSECTION</p> |

EXHIBIT 3-7: EXISTING (2022) PM PEAK HOUR INTERSECTION VOLUMES



| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|------------------------------|---|------------------------------|--------------------------------|----|----|--|-----|-----|----|----|---|-----|----|--|--|----|-----|-----|-----|--|-----|-----|-----|----|--|-----|-----|-----|-----|----|-----|-----|-----|----|---|-----|---|----|-----|----|----|---|----|----|----|----|---|----|------|----|---|---|----|--|-----|-----|----|-----|----|----|----|----|-----|-----|-----|-----|-----|-----|----|----|---------------------|
| Technology Dr. & Gerald Ford Dr. | Technology Dr. & E. Dwy. - The Village W. Dwy. | Technology Dr. & College Dr. | S. Dwy. - University Park Dr. & College Dr. | Pacific Av. & College Dr. | Cook St. & University Park Dr. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr><td>46</td><td>69</td><td>37</td><td>405</td></tr> <tr><td>15</td><td>10</td><td>10</td><td></td></tr> <tr><td>37</td><td>58</td><td>18</td><td>45</td></tr> <tr><td>510</td><td>15</td><td></td><td></td></tr> </table> | 46 | 69 | 37 | 405 | 15 | 10 | 10 | | 37 | 58 | 18 | 45 | 510 | 15 | | | <table border="1"> <tr><td>26</td><td>14</td><td>52</td></tr> <tr><td></td><td></td><td>10</td></tr> <tr><td>69</td><td>10</td><td></td></tr> </table> | 26 | 14 | 52 | | | 10 | 69 | 10 | | <table border="1"> <tr><td>15</td><td>16</td><td>50</td></tr> <tr><td></td><td></td><td>90</td></tr> <tr><td>29</td><td>23</td><td></td></tr> </table> | 15 | 16 | 50 | | | 90 | 29 | 23 | | <table border="1"> <tr><td>20</td><td>4</td></tr> <tr><td>46</td><td>7</td></tr> <tr><td>5</td><td>6</td></tr> </table> | 20 | 4 | 46 | 7 | 5 | 6 | <table border="1"> <tr><td>9</td><td>9</td><td>5</td><td>20</td></tr> <tr><td>4</td><td>44</td><td></td><td></td></tr> </table> | 9 | 9 | 5 | 20 | 4 | 44 | | | <table border="1"> <tr><td>2</td><td>21</td><td>55</td></tr> <tr><td>12</td><td>12</td><td>21</td></tr> <tr><td>4</td><td>6</td><td>18</td></tr> <tr><td>1</td><td>6</td><td>6</td></tr> </table> | 2 | 21 | 55 | 12 | 12 | 21 | 4 | 6 | 18 | 1 | 6 | 6 | | | | | | | | |
| 46 | 69 | 37 | 405 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 10 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | 58 | 18 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 510 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | 14 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 69 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 16 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 46 | 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 9 | 5 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 21 | 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 12 | 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 6 | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 6 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cook St. & I-10 WB Ramps | Cook St. & I-10 EB Ramps | Cook St. & Gerald Ford Dr. | Cook St. & University Park Dr. | Cook St. & Frank Sinatra Dr. | Main Dwy. & Gerald Ford Dr. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr><td>68</td><td>242</td><td>68</td><td>408</td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td>342</td><td>599</td><td></td><td></td></tr> </table> | 68 | 242 | 68 | 408 | | | | | 342 | 599 | | | <table border="1"> <tr><td>576</td><td>74</td></tr> <tr><td></td><td></td></tr> <tr><td>75</td><td>866</td></tr> <tr><td>448</td><td>844</td></tr> </table> | 576 | 74 | | | 75 | 866 | 448 | 844 | <table border="1"> <tr><td>160</td><td>633</td><td>150</td><td>58</td></tr> <tr><td>212</td><td>154</td><td>156</td><td>150</td></tr> <tr><td>392</td><td>98</td><td>156</td><td>215</td></tr> <tr><td>212</td><td>98</td><td>156</td><td>215</td></tr> </table> | 160 | 633 | 150 | 58 | 212 | 154 | 156 | 150 | 392 | 98 | 156 | 215 | 212 | 98 | 156 | 215 | <table border="1"> <tr><td>41</td><td>967</td><td>56</td><td>56</td></tr> <tr><td>44</td><td>44</td><td>16</td><td>16</td></tr> <tr><td>47</td><td>4</td><td>41</td><td>1181</td></tr> <tr><td>30</td><td>30</td><td>9</td><td>9</td></tr> </table> | 41 | 967 | 56 | 56 | 44 | 44 | 16 | 16 | 47 | 4 | 41 | 1181 | 30 | 30 | 9 | 9 | <table border="1"> <tr><td>183</td><td>747</td><td>39</td><td>163</td></tr> <tr><td>75</td><td>42</td><td>42</td><td>42</td></tr> <tr><td>332</td><td>257</td><td>119</td><td>882</td></tr> <tr><td>136</td><td>136</td><td>74</td><td>74</td></tr> </table> | 183 | 747 | 39 | 163 | 75 | 42 | 42 | 42 | 332 | 257 | 119 | 882 | 136 | 136 | 74 | 74 | FUTURE INTERSECTION |
| 68 | 242 | 68 | 408 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 342 | 599 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 576 | 74 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 75 | 866 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 448 | 844 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 160 | 633 | 150 | 58 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 212 | 154 | 156 | 150 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 392 | 98 | 156 | 215 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 212 | 98 | 156 | 215 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | 967 | 56 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44 | 44 | 16 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 47 | 4 | 41 | 1181 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 30 | 9 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 183 | 747 | 39 | 163 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | 42 | 42 | 42 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 332 | 257 | 119 | 882 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 136 | 136 | 74 | 74 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

EXHIBIT 3-8: EXISTING (2022) AVERAGE DAILY TRAFFIC (ADT) VOLUMES



TABLE 3-1: INTERSECTION ANALYSIS FOR EXISTING (2022) CONDITIONS

| # Intersection | Traffic Control ¹ | Intersection Approach Lanes ² | | | | | | | | | | | | Delay ³ | | Level of Service | |
|---|------------------------------|--|----|-----|------------|----|---|-----------|-----|-----|-----------|-----|---|--------------------|------|------------------|----|
| | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | AM | PM | AM | PM |
| | | L | T | R | L | T | R | L | T | R | L | T | R | | | | |
| 1 Technology Dr. / Gerald Ford Dr. | TS | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 3 | 1 | 1 | 3 | 1 | 11.0 | 12.6 | B | B |
| 2 Technology Dr. / E. Dwy. - The Village W. Dwy. | CSS | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1! | 0 | 8.7 | 8.9 | A | A |
| 3 Technology Dr. / College Dr. | RDB | 0 | 0 | 0 | 0 | 1! | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3.0 | 3.1 | A | A |
| 4 S. Dwy. - University Park Dr. / College Dr. | CSS | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 9.0 | 8.9 | A | A |
| 5 Pacific Av. / College Dr. | RDB | 0 | 0 | 0 | 0 | 1! | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 2.9 | 2.9 | A | A |
| 6 Cook St. / University Park Dr. | RDB | 0 | 1! | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 3.1 | 3.3 | A | A |
| 7 Cook St. / I-10 WB Ramps | TS | 0 | 2 | 1>> | 0 | 3 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 1 | 57.0 | 11.3 | E | B |
| 8 Cook St. / I-10 EB Ramps | TS | 0 | 3 | 0 | 1 | 3 | 0 | 1 | 0.5 | 1.5 | 0 | 0 | 0 | 16.2 | 22.9 | B | C |
| 9 Cook St. / Gerald Ford Dr. | TS | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 2 | 1>> | 2 | 2 | 1 | 27.7 | 32.6 | C | C |
| 10 Cook St. / University Park Dr. - Berger Dr. W. | TS | 1 | 3 | 1>> | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 5.5 | 5.8 | A | A |
| 11 Cook St. / Frank Sinatra Dr. | TS | 2 | 2 | 0 | 2 | 3 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 12.1 | 25.9 | B | C |
| 12 Main Dwy. / Gerald Ford Dr. | | Future Intersection | | | | | | | | | | | | | | | |

¹ TS = Traffic Signal; CSS = Cross-street Stop; RDB = Roundabout

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; 0.5 = Shared Lane; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane

³ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal, roundabout, or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

A comparison of the PM peak hour and daily traffic volumes of various roadway segments within the study area indicated that the peak-to-daily relationship is approximately 7.7 percent. As such, the above equation utilizing a factor of 12.987 estimates the ADT volumes on the study area roadway segments assuming a peak-to-daily relationship of approximately 7.7 percent (i.e., $1/0.077 = 12.987$) and was assumed to sufficiently estimate average daily traffic (ADT) volumes for planning-level analyses.

3.6 INTERSECTION OPERATIONS ANALYSIS

Existing peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2.2 *Intersection Capacity Analysis* of this report. The intersection operations analysis results are summarized on Table 3-1, which indicates that the intersection of Cook Street/I-10 WB Ramps (#7) is operating at an unacceptable level of service (LOS "E" or worse) during the AM peak hour. The intersection operations analysis worksheets are included in Appendix 3.2 of this TA.

3.7 TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for Existing traffic conditions are based on existing peak hour intersection turning volumes. The study area unsignalized intersections do not currently warrant a traffic signal for Existing traffic conditions. Existing conditions traffic signal warrant analysis worksheets are provided in Appendix 3.3.

4 PROJECTED FUTURE TRAFFIC

This section presents the traffic volumes estimated to be generated by the Project, as well as the Project's trip assignment onto the study area roadway network.

The Project is proposed to consist of 94,700 square foot building with medical offices, an urgent care, and lab uses, as well as a 20,000 square foot outpatient surgery center building.

It is anticipated that the Project would be fully developed by year 2024. Project will have a right-in/right-out only access to Gerald Ford Drive, a full access on Technology Drive across the adjacent property's (The Village) westerly driveway, and a full access on College Drive at the existing University Park Drive/College Drive intersection.

4.1 PROJECT TRIP GENERATION

Trip generation represents the amount of traffic which is both attracted to and produced by a development. Determining traffic generation for a specific project is therefore based upon forecasting the amount of traffic that is expected to be both attracted to and produced by the specific land uses being proposed for a given development.

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the [ITE Trip Generation](#) (11th Edition, 2021) manual for the proposed land use (ITE Land Use Code: 720 – Medical/Dental Office) is used. (4) Per ITE Trip Generation Manual, a medical-dental office building (ITE 720) is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility. Therefore, ITE rates for a medical-dental office land use has also been utilized for the outpatient surgery center portion of the Project.

Table 4-1 presents the trip generation rates and the resulting trip generation summary for the proposed Project. As shown in Table 4-1, the Project is anticipated to generate a total of 4,129 trip-ends per day with 356 AM peak hour trips and 451 PM peak hour trips.

4.2 PROJECT TRIP DISTRIBUTION

The Project trip distribution and assignment process represents the directional orientation of traffic to and from the Project site. The trip distribution has been developed based on past work experience in the vicinity of the Project site and refined to reflect the roadway network and the surrounding uses in the vicinity of the proposed Project as they exist today. The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. Exhibits 4-1 and 4-2 depicts the trip distribution patterns for the Project.

TABLE 4-1: PROJECT TRIP GENERATION SUMMARY

| Trip Generation Rates ¹ | | | | | | | | | |
|------------------------------------|-------------|-----------------------|--------------|------|-------|--------------|------|-------|-------|
| Land Use | ITE LU Code | Quantity ² | AM Peak Hour | | | PM Peak Hour | | | Daily |
| | | | In | Out | Total | In | Out | Total | |
| Medical-Dental Office | 720 | 114.7 TSF | 2.45 | 0.65 | 3.10 | 1.18 | 2.75 | 3.93 | 36.00 |

| Trip Generation Results | | | | | | | | | |
|--|-------------|-----------------------|--------------|-----------|------------|--------------|------------|------------|--------------|
| Land Use | ITE LU Code | Quantity ² | AM Peak Hour | | | PM Peak Hour | | | Daily |
| | | | In | Out | Total | In | Out | Total | |
| Medical-Dental Office | 720 | 94.7 TSF | 232 | 62 | 294 | 112 | 260 | 372 | 3,409 |
| Outpatient Surgery Center ³ | 720 | 20 TSF | 49 | 13 | 62 | 24 | 55 | 79 | 720 |
| TOTAL | | | 281 | 75 | 356 | 136 | 315 | 451 | 4,129 |

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).

² TSF = Thousand Square Feet

³ For analysis purposes, ITE 720 rates are utilized for outpatient surgery center land use.

EXHIBIT 4-1: PROJECT TRIP DISTRIBUTION (OUTBOUND)



LEGEND:

- 10 ■ PERCENT TO/FROM PROJECT
- = FUTURE ROADWAY
- ↻ = RIGHT-IN/RIGHT-OUT ONLY



EXHIBIT 4-2: PROJECT TRIP DISTRIBUTION (INBOUND)



LEGEND:

- 10 ■ PERCENT TO/FROM PROJECT
- = FUTURE ROADWAY
- ↔ = RIGHT-IN/RIGHT-OUT ONLY



4.3 MODAL SPLIT

The potential for Project trips (non-truck) to be reduced by the use of public transit, walking or bicycling have not been included as part of the Project's estimated trip generation. Essentially, the Project's traffic projections are "conservative" in that these alternative travel modes would reduce the forecasted traffic volumes.

4.4 PROJECT TRIP ASSIGNMENT

The assignment of traffic from the Project area to the adjoining roadway system is based upon the Project trip generation, trip distribution, and the arterial highway and local street system improvements that would be in place by the time of initial occupancy of the Project. Based on the identified Project traffic generation and trip distribution patterns, Project weekday ADT and weekday peak hour intersection turning movement volumes are shown on Exhibits 4-3 to 4-5.

4.5 CUMULATIVE GROWTH TRAFFIC

4.5.1 AMBIENT GROWTH RATE

Future year traffic forecasts have been based upon background (ambient) growth at 4.04 percent (2 percent per year over 2 years) for EAP and EAPC traffic conditions. The ambient growth factor is intended to approximate regional traffic growth. This ambient growth rate is added to existing traffic volumes to account for area-wide growth not reflected by cumulative development projects. Ambient growth has been added to daily and peak hour traffic volumes on surrounding roadways, in addition to traffic generated by the development of future projects that have been approved but not yet built and/or for which development applications are actively underway.

4.5.2 CUMULATIVE DEVELOPMENT TRAFFIC

A cumulative project list was developed for the purposes of this analysis through consultation with planning and engineering staff from the City of Palm Desert. Exhibit 4-6 illustrates the cumulative development location map.

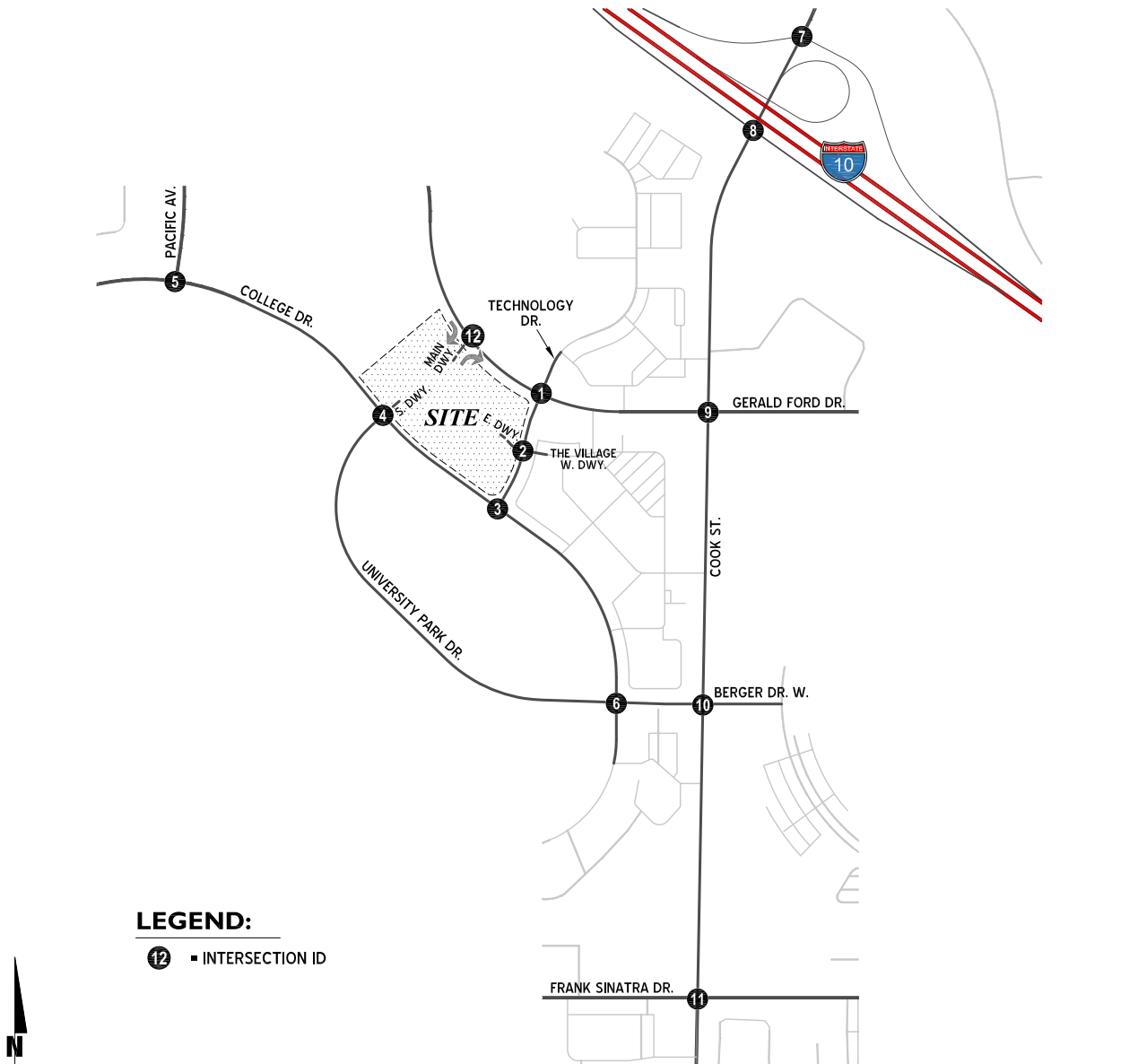
A summary of cumulative development projects and their proposed land uses are shown on Table 4-2. If applicable, the traffic generated by individual cumulative projects was manually added to the Opening Year Cumulative forecasts to ensure that traffic generated by the listed cumulative development projects in Table 4-2 are reflected as part of the background traffic.

4.5.3 NEAR-TERM TRAFFIC FORECASTS

The near-term traffic analysis includes the following traffic conditions, with the various traffic components:

- EAP (2024)
 - Existing 2022 volumes
 - Ambient growth traffic (4.04%)
 - Project Traffic
- EAPC (2024)
 - Existing 2022 volumes
 - Ambient growth traffic (4.04%)
 - Cumulative Development traffic
 - Project Traffic

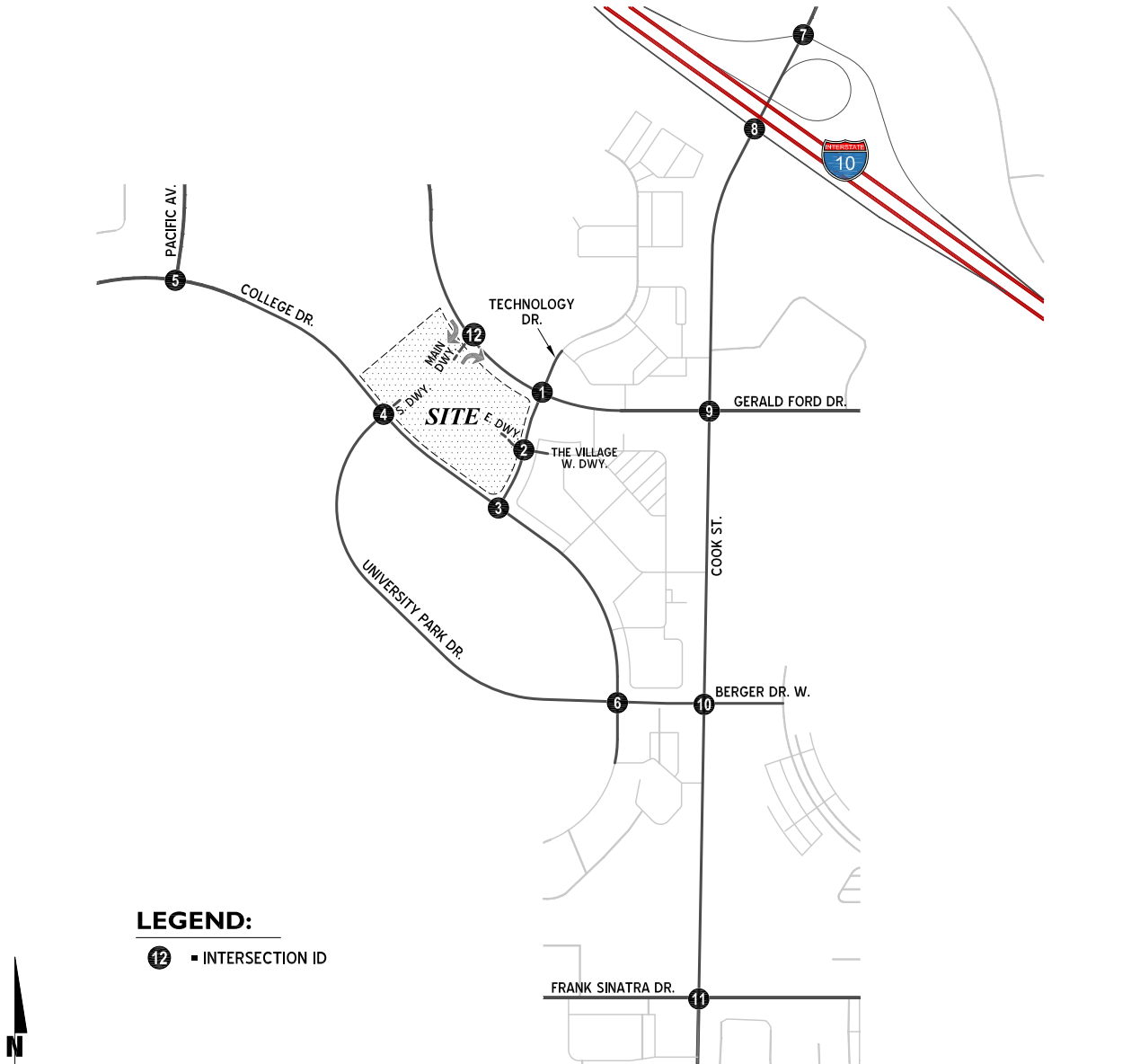
EXHIBIT 4-3: PROJECT ONLY AM PEAK HOUR INTERSECTION VOLUMES



LEGEND:
 12 ■ INTERSECTION ID

| | | | | | |
|--|--|--|---|---|--|
| <p>1 Technology Dr. & Gerald Ford Dr.</p> | <p>2 Technology Dr. & E. Dwy. - The Village W. Dwy.</p> | <p>3 Technology Dr. & College Dr.</p> | <p>4 S. Dwy. - University Park Dr. & College Dr.</p> | <p>5 Pacific Av. & College Dr.</p> | <p>6 Cook St. & University Park Dr.</p> |
| <p>7 Cook St. & I-10 WB Ramps</p> | <p>8 Cook St. & I-10 EB Ramps</p> | <p>9 Cook St. & Gerald Ford Dr.</p> | <p>10 Cook St. & University Park Dr.</p> | <p>11 Cook St. & Frank Sinatra Dr.</p> | <p>12 Main Dwy. & Gerald Ford Dr.</p> |

EXHIBIT 4-4: PROJECT ONLY PM PEAK HOUR INTERSECTION VOLUMES



LEGEND:
 12 ■ INTERSECTION ID

| | | | | | |
|--|--|--|---|---|--|
| <p>1 Technology Dr. & Gerald Ford Dr.</p> | <p>2 Technology Dr. & E. Dwy. - The Village W. Dwy.</p> | <p>3 Technology Dr. & College Dr.</p> | <p>4 S. Dwy. - University Park Dr. & College Dr.</p> | <p>5 Pacific Av. & College Dr.</p> | <p>6 Cook St. & University Park Dr.</p> |
| <p>7 Cook St. & I-10 WB Ramps</p> | <p>8 Cook St. & I-10 EB Ramps</p> | <p>9 Cook St. & Gerald Ford Dr.</p> | <p>10 Cook St. & University Park Dr.</p> | <p>11 Cook St. & Frank Sinatra Dr.</p> | <p>12 Main Dwy. & Gerald Ford Dr.</p> |

EXHIBIT 4-5: PROJECT ONLY AVERAGE DAILY TRAFFIC (ADT) VOLUMES

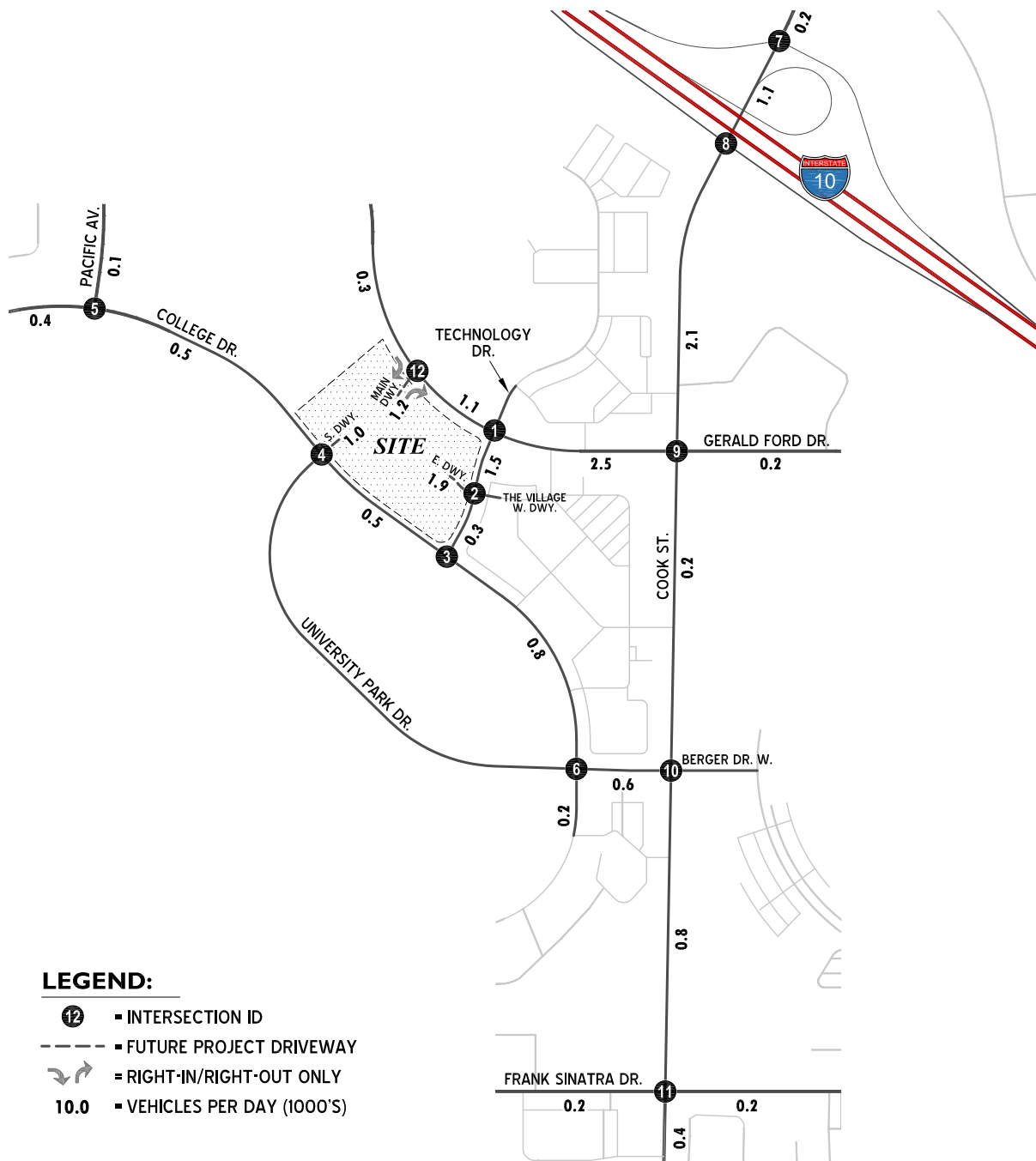


TABLE 4-2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

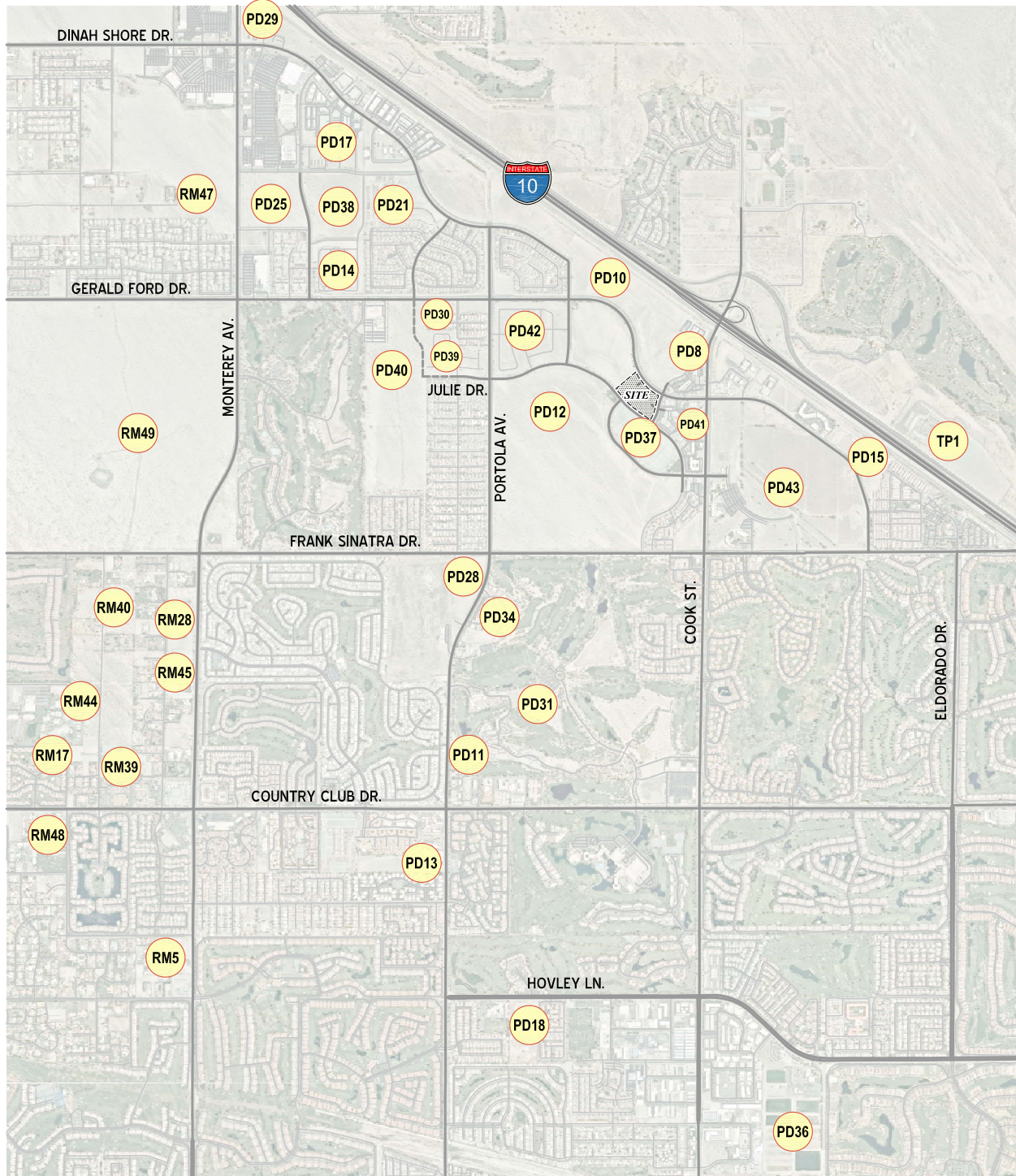
| TAZ | Project Name | Land Use ¹ | Quantity | Units ² |
|-----------------------|---|--|----------|--------------------|
| City of Palm Desert | | | | |
| PD8 | Fairfield Inn & Suites Marriott Hotel | Hotel | 108 | RM |
| PD10 | Millennium Palm Desert | SFDR | 166 | DU |
| | | Multi-Family | 612 | DU |
| | | Commercial | 551 | TSF |
| | | Hotel | 250 | RM |
| PD11 | Scotelle Office Building | Commercial | 10,732 | TSF |
| PD12 | University Park | SFDR | 764 | DU |
| | | Multi-Family | 336 | DU |
| PD13 | Villa Portofino | Congregate Care | 161 | DU |
| | | Assisted Living | 150 | DU |
| | | SFDR | 288 | DU |
| | | Multi-Family | 182 | DU |
| PD14 | Dolce | SFDR | 159 | DU |
| PD15 | Spanish Walk | Multi-Family (affordable housing) | 150 | DU |
| PD17 | Falling Waters | SFDR | 159 | DU |
| PD18 | The Sands Apartments | Apartments (with 20% affordable housing) | 388 | DU |
| PD21 | Ponderosa II | SFDR | 111 | DU |
| | | Multi-Family | 114 | DU |
| PD25 | Monterey Specific Plan | Multi-Family | 384 | DU |
| | | Commercial | 120 | TSF |
| PD28 | Portola Av./Frank Sinatra Dr. Residential | Multi-Family | 402 | DU |
| PD29 | Monterey Crossings | Commercial | 120 | TSF |
| PD30 | Santa Barbara Apartment | Multi-Family | 48 | DU |
| PD31 | Desert Surf | Resort Hotel | 350 | RM |
| | | Surf Lagoon | 1350 | Guests |
| | | Shopping Center | 4 | TSF |
| | | High-Turnover (Sit-Down) Restaurant | 11.25 | TSF |
| PD34 | The Retreat at Desert Willow | Condominiums | 112 | DU |
| PD36 | Laboratory/Office Space Building | Laboratory/Office Space | 20.5 | TSF |
| PD37 | University Park 196 (Lennar) | Single Family - Attached Residential | 196 | DU |
| PD38 | Urban Crossings (UHC) | Multi-Family | 176 | DU |
| PD39 | TTM 37993 | SFDR | 176 | DU |
| | | SFDR | 248 | DU |
| PD40 | Vitalia/Refuge | Multi-Family | 571 | DU |
| | | Single-Family Attached | 150 | DU |
| | | Sit-Down Restaurant | 9 | TSF |
| PD41 | University Village Pad 3 | Sit-Down Restaurant | 9 | TSF |
| PD42 | University Park - Phase 1 | SFDR | 240 | DU |
| PD43 | CSUSB Campus Master Plan | University/ College | 8000 | STU |
| Thousand Palms | | | | |
| TP1 | Acrisure Arena (Northstar Specific Plan) | Concert Sellout | 11000 | Seats |
| | | Concert Average | 7500 | Seats |
| City of Rancho Mirage | | | | |
| RM5 | PDP 13003/FDP 13004 | SFDR | 32 | DU |
| RM17 | TTM 36623/PDP 14003 | SFDR | 17 | DU |
| RM28 | TTM 32308 (Los Ranchos) | SFDR | 7 | DU |
| RM39 | TPM 34233 | SFDR | 4 | DU |
| RM40 | TPM 34741 | SFDR | 4 | DU |
| RM44 | TPM 36683 | SFDR | 1 | DU |
| RM45 | TPM 36849 | SFDR | 3 | DU |
| RM47 | Monterey Medical Center | Medical Office | 75,164 | TSF |
| RM48 | Pulte Homes / Del Webb | Assisted Living | 84 | Beds |
| | | Hotel | 400 | RM |
| RM49 | Section 31 Specific Plan | Retail | 175.0 | TSF |
| | | Multi-Family (Mid Rise) | 832 | DU |
| | | Single Family | 1100 | DU |
| | | Hotel | 400 | RM |

¹ SFDR = Single Family Detached Residential

² DU = Dwelling Units; TSF = Thousand Square Feet; RM = Room; STU = Students

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EXHIBIT 4-6: CUMULATIVE DEVELOPMENT LOCATION MAP



LEGEND:

= CUMULATIVE DEVELOPMENT ID



4.6 HORIZON YEAR (2040) VOLUME DEVELOPMENT

Future horizon year 2040 traffic projections from the Draft Section 31 Specific Plan Traffic Impact Study, March 2019, prepared by Fehr & Peers is utilized. For intersections without 2040 data, traffic flow conservation has been maintained between intersections and full buildout volumes of known cumulative projects in the area are accounted for.

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5 EAP (2024) TRAFFIC CONDITIONS

This section discusses the methods used to develop Existing plus Ambient Growth plus Project (EAP) (2024) traffic conditions and the resulting peak hour intersection operations and traffic signal warrant analyses.

5.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAP conditions are consistent with existing conditions shown previously on Exhibit 3-1. In addition, Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAP conditions (e.g., intersection and roadway improvements at the Project's frontage and driveways), including the improvements listed below:

Technology Drive / E. Driveway – The Village W. Driveway (#2)

- Install a cross street stop for the eastbound (EB) approach, provide one 100 ft. shared left/through/right outbound lane, and modify existing raised median to provided one 90 ft. northbound (NB) left turn lane.

S. Driveway – University Park Drive / College Drive (#4)

- Install a cross street stop for the southbound (SB) approach, provide one 50ft shared left/through/right outbound lane, and modify existing raised median to provided one 125 ft. EB left turn lane.

Main Driveway / Gerald Ford Drive (#12)

- Construct Project Main Driveway as a right-in/right-out access only, to be located 500 feet (centerline-to-centerline) from the Technology Drive intersection. Install a cross street stop for the northbound approach.

5.2 EAP (2024) TRAFFIC VOLUME FORECASTS

To account for background traffic growth, an ambient growth from Existing conditions of 4.04% (2 percent per year over 2 years, compounded annually) is included for EAP traffic conditions. Cumulative development projects are not included as part of the EAP analysis. The weekday ADT and weekday peak hour intersection turning movement volumes which can be expected for EAP (2024) traffic conditions are shown on Exhibits 5-1 through 5-3.

5.3 EAP (2024) INTERSECTION OPERATIONS ANALYSIS

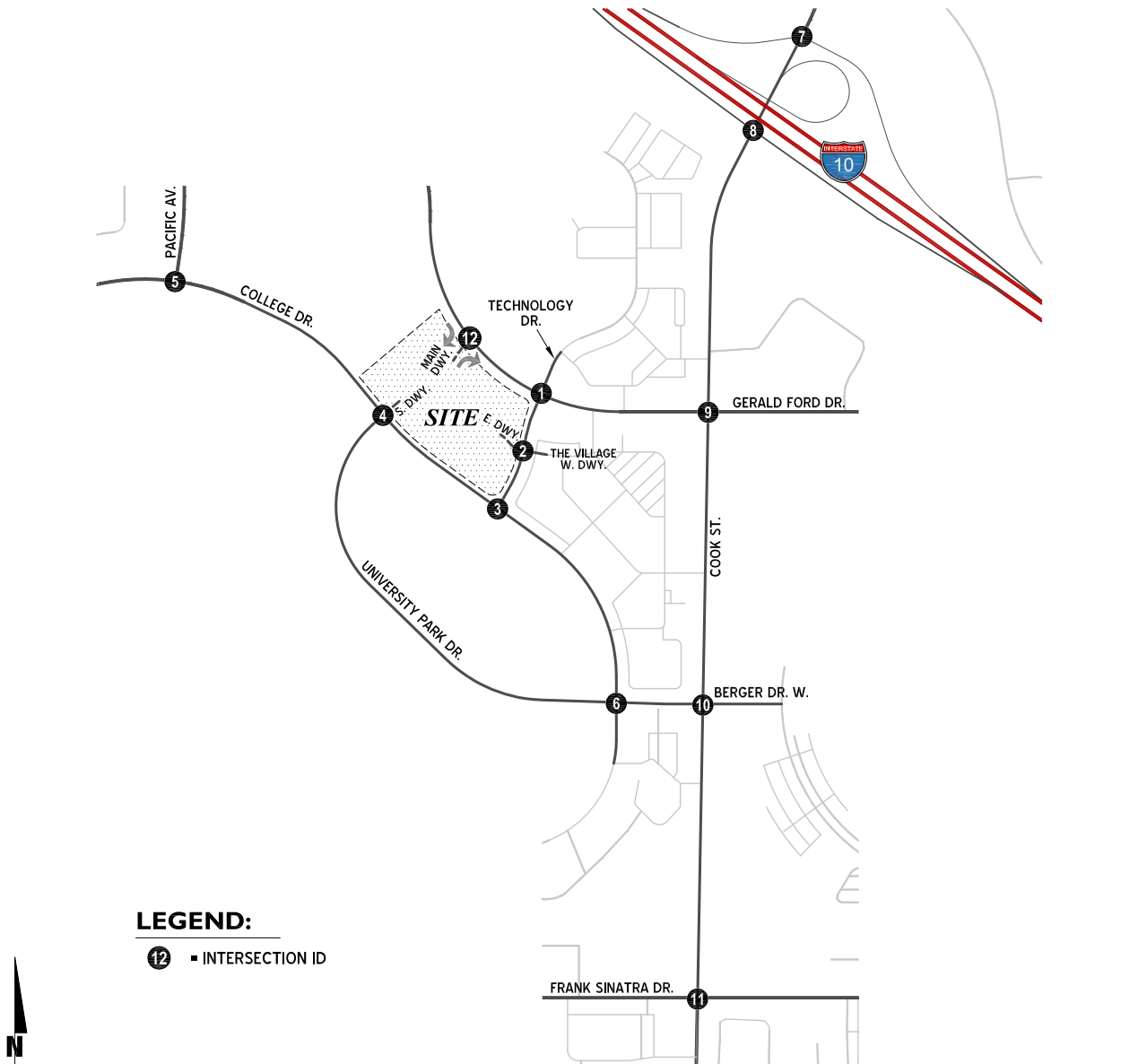
EAP peak hour traffic operations have been evaluated for the study area intersections based on the analysis methodologies presented in Section 2 *Methodologies* of this TA. The intersection analysis results are summarized in Table 5-1, which indicate that the intersection of Cook Street / I-10 WB Ramps (#7) is operating at an unacceptable LOS during morning peak hour conditions. This intersection also operates at an unacceptable LOS for existing conditions. The intersection operations analysis worksheets for EAP (2024) traffic conditions are included in Appendix 5.1 of this TA.

**EXHIBIT 5-1: EXISTING PLUS AMBIENT PLUS PROJECT (2024)
AM PEAK HOUR INTERSECTION VOLUMES**



| 1 | 2 | 3 | 4 | 5 | 6 |
|--------------------------------------|--|----------------------------------|---|----------------------------------|------------------------------------|
| Technology Dr. & Gerald Ford Dr. | Technology Dr. & E. Dwy. - The Village W. Dwy. | Technology Dr. & College Dr. | S. Dwy. - University Park Dr. & College Dr. | Pacific Av. & College Dr. | Cook St. & University Park Dr. |
| 7 | 8 | 9 | 10 | 11 | 12 |
| Cook St. & I-10 WB Ramps | Cook St. & I-10 EB Ramps | Cook St. & Gerald Ford Dr. | Cook St. & University Park Dr. | Cook St. & Frank Sinatra Dr. | Main Dwy. & Gerald Ford Dr. |

**EXHIBIT 5-2: EXISTING PLUS AMBIENT PLUS PROJECT (2024)
PM PEAK HOUR INTERSECTION VOLUMES**



| 1 | 2 | 3 | 4 | 5 | 6 |
|----------------------------------|--|------------------------------|---|------------------------------|--------------------------------|
| Technology Dr. & Gerald Ford Dr. | Technology Dr. & E. Dwy. - The Village W. Dwy. | Technology Dr. & College Dr. | S. Dwy. - University Park Dr. & College Dr. | Pacific Av. & College Dr. | Cook St. & University Park Dr. |
| | | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 |
| Cook St. & I-10 WB Ramps | Cook St. & I-10 EB Ramps | Cook St. & Gerald Ford Dr. | Cook St. & University Park Dr. | Cook St. & Frank Sinatra Dr. | Main Dwy. & Gerald Ford Dr. |
| | | | | | |

**EXHIBIT 5-3: EXISTING PLUS AMBIENT PLUS PROJECT (2024)
AVERAGE DAILY TRAFFIC (ADT) VOLUMES**

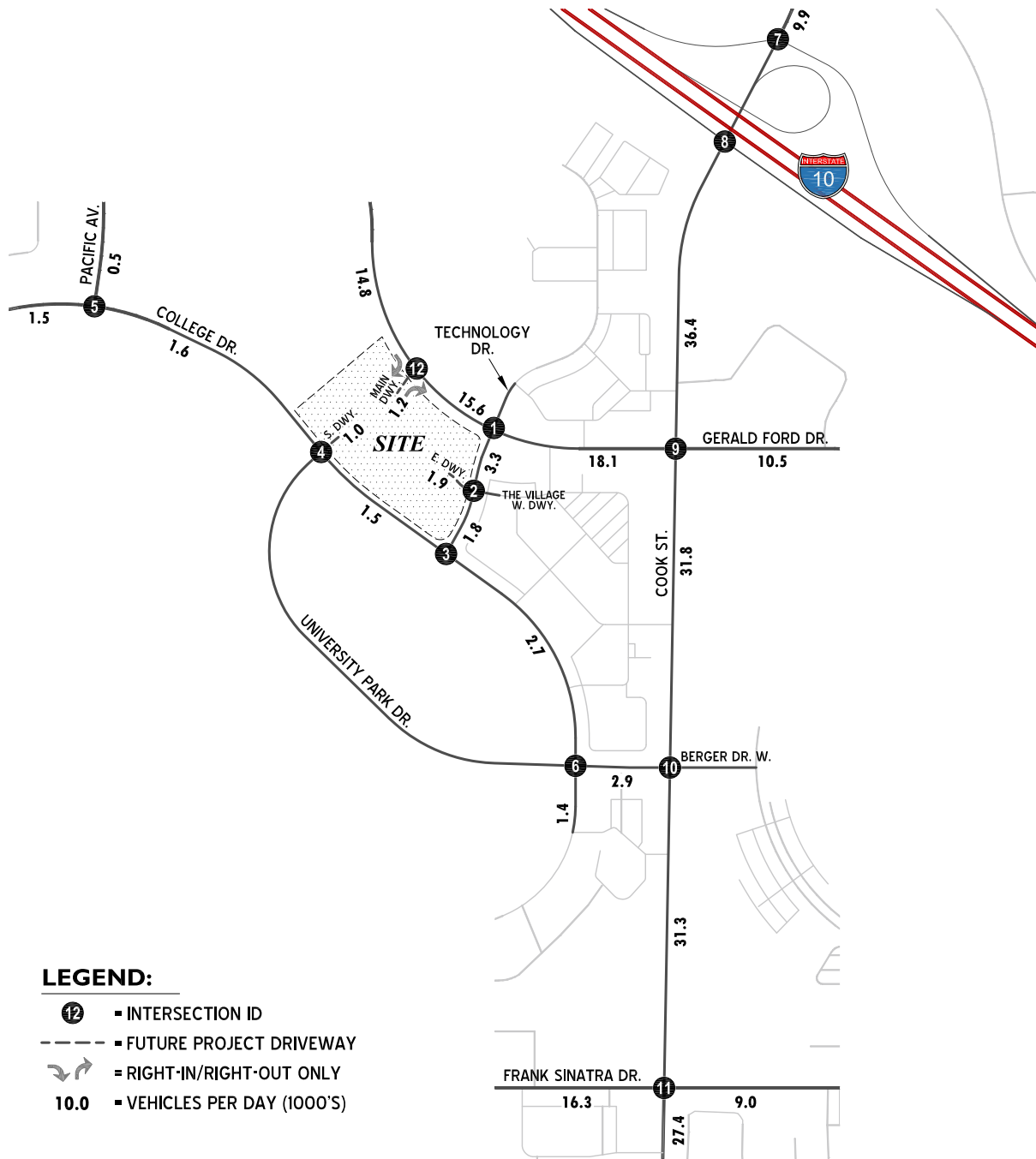


TABLE 5-1: INTERSECTION ANALYSIS FOR EAP (2024) CONDITIONS

| # Intersection | Traffic Control ¹ | Intersection Approach Lanes ² | | | | | | | | | | | | Delay ³ (secs.) | | Level of Service | |
|---|------------------------------|--|----|----------|------------|-----------|---|-----------|-----------|----------|-----------|-----------|---|-------------------------------|------|------------------|----|
| | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | AM | PM | AM | PM |
| | | L | T | R | L | T | R | L | T | R | L | T | R | | | | |
| 1 Technology Dr. / Gerald Ford Dr. | TS | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 3 | 1 | 1 | 3 | 1 | 14.6 | 14.8 | B | B |
| 2 Technology Dr. / E. Dwy. - The Village W. Dwy. | CSS | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 11.0 | 10.8 | B | B |
| 3 Technology Dr. / College Dr. | RDB | 0 | 0 | 0 | 0 | 1! | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3.5 | 3.3 | A | A |
| 4 S. Dwy. - University Park Dr. / College Dr. | CSS | 1 | 1 | 0 | 0 | 1! | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 10.0 | 9.7 | B | A |
| 5 Pacific Av. / College Dr. | RDB | 0 | 0 | 0 | 0 | 1! | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3.0 | 3.1 | A | A |
| 6 Cook St. / University Park Dr. | RDB | 0 | 1! | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 3.5 | 3.6 | A | A |
| 7 Cook St. / I-10 WB Ramps | | | | | | | | | | | | | | | | | |
| - Without Improvements | TS | 0 | 2 | 1>> | 0 | 3 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 1 | 75.8 | 11.9 | E | B |
| - With Improvements | TS | 0 | 2 | 1>> | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 1! | 0 | 25.3 | 11.2 | C | B |
| 8 Cook St. / I-10 EB Ramps | TS | 0 | 3 | 0 | 1 | 3 | 0 | 1 | 0.5 | 1.5 | 0 | 0 | 0 | 18.5 | 30.4 | B | C |
| 9 Cook St. / Gerald Ford Dr. | TS | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 2 | 1>> | 2 | 2 | 1 | 29.9 | 33.8 | C | C |
| 10 Cook St. / University Park Dr. - Berger Dr. W. | TS | 1 | 3 | 1>> | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 7.5 | 6.8 | A | A |
| 11 Cook St. / Frank Sinatra Dr. | TS | 2 | 2 | 0 | 2 | 3 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 12.8 | 29.2 | B | C |
| 12 Main Dwy. / Gerald Ford Dr. | CSS | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 3 | 0 | 10.6 | 13.8 | B | B |

¹ TS = Traffic Signal; CSS = Cross-street Stop; RDB = Roundabout

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; 0.5 = Shared Lane; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; **1** = Improvement

³ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal, roundabout, or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

5.4 EAP (2024) CONDITIONS TRAFFIC SIGNAL WARRANTS ANALYSIS

Traffic signal warrants for EAP (2024) traffic conditions are based on EAP peak hour intersection turning volumes and ADT volumes. For EAP (2024) traffic conditions, there are no unsignalized study area intersections that currently warrant a traffic signal based on peak hour traffic flows and ADT volumes (see Appendix 3.3).

6 EAPC (2024) TRAFFIC CONDITIONS

This section discusses the methods used to develop Existing plus Ambient Growth plus Project plus Cumulative (EAPC) (2024) traffic forecasts, and the resulting intersection operations and traffic signal warrant analyses.

6.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for EAPC conditions are consistent with those shown previously on Exhibit 3-1, with the exception of the following:

- Project driveways and those facilities assumed to be constructed by the Project to provide site access are also assumed to be in place for EAPC conditions only (e.g., intersection and roadway improvements at the Project's frontage and driveways).
- Driveways and those facilities assumed to be constructed by cumulative developments to provide site access are also assumed to be in place for EAPC conditions only (e.g., intersection and roadway improvements along the cumulative development's frontages and driveways).

6.2 EAPC (2024) TRAFFIC VOLUME FORECASTS

This scenario includes Existing traffic volumes plus an ambient growth factor of 4.04% plus traffic from pending and approved but not yet constructed known development projects in the area. The weekday ADT and weekday peak hour volumes which can be expected for EAPC (2024) traffic conditions are shown on Exhibits 6-1 through 6-3.

6.3 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under EAPC (2024) traffic conditions with roadway and intersection geometrics consistent with Section 6.1 *Roadway Improvements*. As shown on Table 6-1, the following study area intersections are anticipated operate at an unacceptable LOS during the peak hours:

- Cook Street / I-10 WB Ramps (#7)
- Cook Street / I-10 EB Ramps (#8)

The intersection operations analysis worksheets for EAPC (2024) traffic conditions are included in Appendix 6.1 of this TA.

6.4 TRAFFIC SIGNAL WARRANTS ANALYSIS

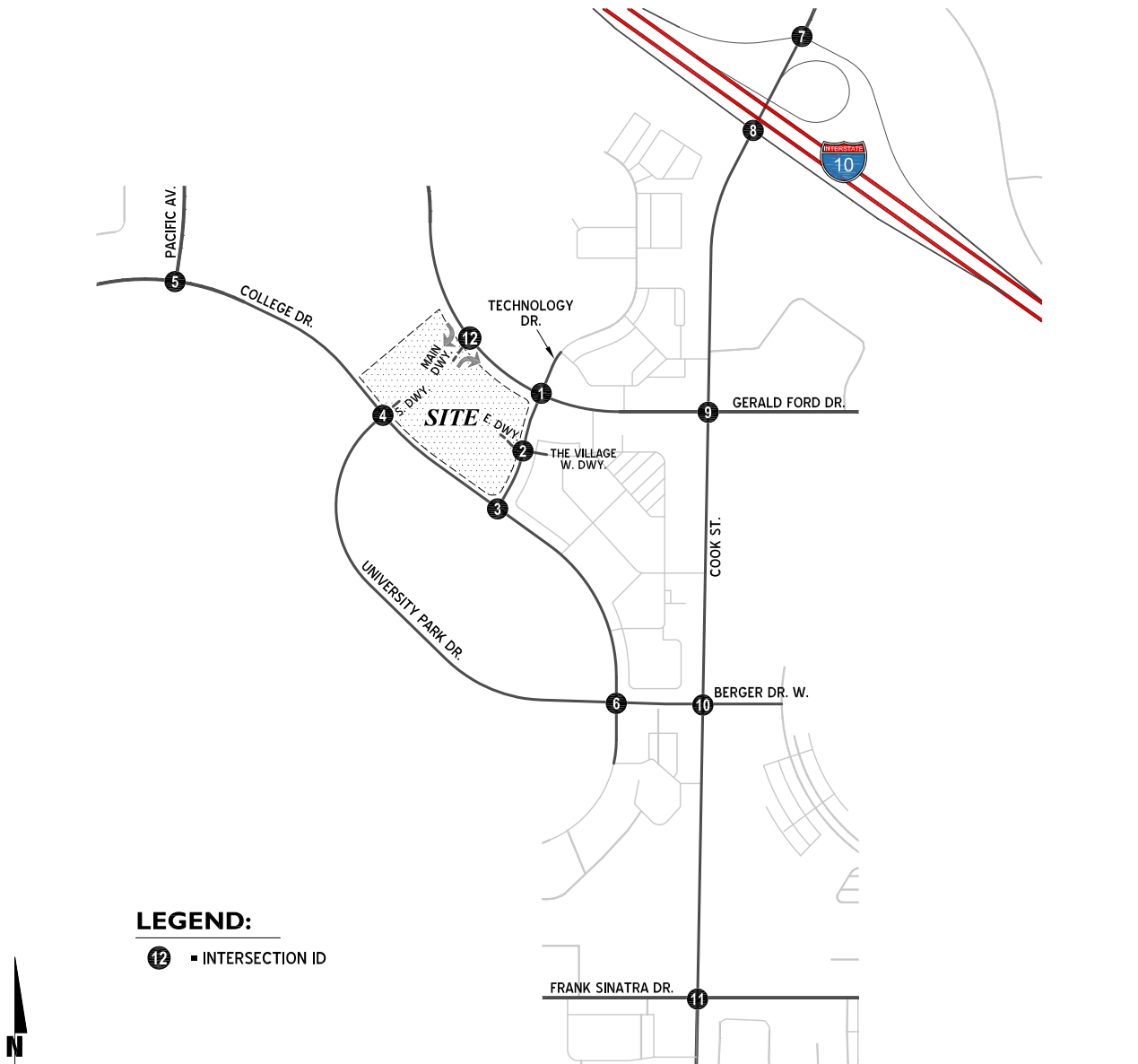
The traffic signal warrant analysis for EAPC (2024) traffic conditions provided in Appendix 3.3. The unsignalized intersections are not anticipated to meet peak hour volume-based warrants and daily volume-based warrants with the addition of Project traffic (see Appendix 3.3).

**EXHIBIT 6-1: EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE (2024)
AM PEAK HOUR INTERSECTION VOLUMES**



| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Technology Dr. & Gerald Ford Dr. | Technology Dr. & E. Dwy. - The Village W. Dwy. | Technology Dr. & College Dr. | S. Dwy. - University Park Dr. & College Dr. | Pacific Av. & College Dr. | Cook St. & University Park Dr. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr><td>55</td><td>34</td><td>89</td></tr> <tr><td>110</td><td>776</td><td>185</td></tr> <tr><td>57</td><td>41</td><td>45</td></tr> <tr><td>586</td><td>45</td><td>74</td></tr> <tr><td>49</td><td></td><td></td></tr> </table> | 55 | 34 | 89 | 110 | 776 | 185 | 57 | 41 | 45 | 586 | 45 | 74 | 49 | | | <table border="1"> <tr><td>155</td><td>90</td><td>32</td></tr> <tr><td>23</td><td>6</td><td></td></tr> <tr><td>15</td><td>28</td><td>4</td></tr> <tr><td>4</td><td>112</td><td>4</td></tr> <tr><td></td><td></td><td></td></tr> </table> | 155 | 90 | 32 | 23 | 6 | | 15 | 28 | 4 | 4 | 112 | 4 | | | | <table border="1"> <tr><td>854</td><td>74</td></tr> <tr><td>123</td><td></td></tr> <tr><td>71</td><td></td></tr> <tr><td>137</td><td></td></tr> <tr><td></td><td></td></tr> </table> | 854 | 74 | 123 | | 71 | | 137 | | | | <table border="1"> <tr><td>42</td><td>8</td></tr> <tr><td>116</td><td>10</td></tr> <tr><td>28</td><td></td></tr> <tr><td>182</td><td>50</td></tr> <tr><td>32</td><td>18</td></tr> <tr><td></td><td></td></tr> </table> | 42 | 8 | 116 | 10 | 28 | | 182 | 50 | 32 | 18 | | | <table border="1"> <tr><td>31</td><td>68</td><td>53</td></tr> <tr><td>147</td><td></td><td></td></tr> <tr><td>13</td><td></td><td></td></tr> <tr><td>148</td><td></td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table> | 31 | 68 | 53 | 147 | | | 13 | | | 148 | | | | | | <table border="1"> <tr><td>251</td><td>89</td><td>113</td></tr> <tr><td>36</td><td></td><td>14</td></tr> <tr><td>4</td><td></td><td></td></tr> <tr><td>45</td><td>5</td><td>70</td></tr> <tr><td>13</td><td></td><td>30</td></tr> <tr><td></td><td></td><td></td></tr> </table> | 251 | 89 | 113 | 36 | | 14 | 4 | | | 45 | 5 | 70 | 13 | | 30 | | | |
| 55 | 34 | 89 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 | 776 | 185 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 57 | 41 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 586 | 45 | 74 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 155 | 90 | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 28 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 112 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 854 | 74 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 123 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 71 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 137 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 42 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 116 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 182 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 31 | 68 | 53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 147 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 148 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 251 | 89 | 113 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 45 | 5 | 70 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 7 | 8 | 9 | 10 | 11 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cook St. & I-10 WB Ramps | Cook St. & I-10 EB Ramps | Cook St. & Gerald Ford Dr. | Cook St. & University Park Dr. | Cook St. & Frank Sinatra Dr. | Main Dwy. & Gerald Ford Dr. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr><td>61</td><td>451</td><td>136</td></tr> <tr><td>1369</td><td></td><td></td></tr> <tr><td>391</td><td>499</td><td></td></tr> <tr><td></td><td></td><td></td></tr> </table> | 61 | 451 | 136 | 1369 | | | 391 | 499 | | | | | <table border="1"> <tr><td>1732</td><td>88</td></tr> <tr><td>117</td><td></td></tr> <tr><td>1038</td><td>774</td></tr> <tr><td></td><td>459</td></tr> <tr><td></td><td></td></tr> </table> | 1732 | 88 | 117 | | 1038 | 774 | | 459 | | | <table border="1"> <tr><td>607</td><td>133</td></tr> <tr><td>1586</td><td>296</td></tr> <tr><td>178</td><td>35</td></tr> <tr><td>465</td><td>165</td></tr> <tr><td>179</td><td>622</td></tr> <tr><td>172</td><td>29</td></tr> <tr><td></td><td></td></tr> </table> | 607 | 133 | 1586 | 296 | 178 | 35 | 465 | 165 | 179 | 622 | 172 | 29 | | | <table border="1"> <tr><td>36</td><td>330</td></tr> <tr><td>1619</td><td>45</td></tr> <tr><td>228</td><td>24</td></tr> <tr><td>57</td><td>82</td></tr> <tr><td>75</td><td>841</td></tr> <tr><td>57</td><td>69</td></tr> <tr><td></td><td></td></tr> </table> | 36 | 330 | 1619 | 45 | 228 | 24 | 57 | 82 | 75 | 841 | 57 | 69 | | | <table border="1"> <tr><td>458</td><td>77</td></tr> <tr><td>1164</td><td>269</td></tr> <tr><td>68</td><td>64</td></tr> <tr><td>250</td><td>171</td></tr> <tr><td>123</td><td>104</td></tr> <tr><td></td><td>710</td></tr> <tr><td></td><td>53</td></tr> <tr><td></td><td></td></tr> </table> | 458 | 77 | 1164 | 269 | 68 | 64 | 250 | 171 | 123 | 104 | | 710 | | 53 | | | <table border="1"> <tr><td>872</td></tr> <tr><td>654</td><td>28</td></tr> <tr><td></td><td>38</td></tr> <tr><td></td><td></td></tr> </table> | 872 | 654 | 28 | | 38 | | | | | | | | | | | | | | |
| 61 | 451 | 136 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1369 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 391 | 499 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1732 | 88 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 117 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1038 | 774 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 459 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 607 | 133 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1586 | 296 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 178 | 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 465 | 165 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 179 | 622 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 172 | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 36 | 330 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1619 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 228 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 57 | 82 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | 841 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 57 | 69 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 458 | 77 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1164 | 269 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 68 | 64 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 250 | 171 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 123 | 104 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 710 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 872 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 654 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 38 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**EXHIBIT 6-2: EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE (2024)
PM PEAK HOUR INTERSECTION VOLUMES**



| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|------------------------------|---|------------------------------|--------------------------------|-----|--|-----|------|-----|------|-----|---|---|-----|-----|-----|-----|-----|----|-----|-----|-----|------|----|--|---|-----|-----|------|-----|-----|----|----|-----|----|------|----|--|--|-----|----|-----|-----|-----|----|-----|-----|-----|-----|-----|--|--|------|------|-----|-----|-----|---|---|-----|-----|----|----|----|---|----|----|----|---|---|
| Technology Dr. & Gerald Ford Dr. | Technology Dr. & E. Dwy. - The Village W. Dwy. | Technology Dr. & College Dr. | S. Dwy. - University Park Dr. & College Dr. | Pacific Av. & College Dr. | Cook St. & University Park Dr. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr><td>107</td><td>155</td></tr> <tr><td>36</td><td>784</td></tr> <tr><td>189</td><td>131</td></tr> <tr><td>95</td><td>121</td></tr> <tr><td>1031</td><td>54</td></tr> <tr><td>49</td><td>123</td></tr> </table> | 107 | 155 | 36 | 784 | 189 | 131 | 95 | 121 | 1031 | 54 | 49 | 123 | <table border="1"> <tr><td>75</td><td>62</td></tr> <tr><td>143</td><td>9</td></tr> <tr><td>18</td><td>172</td></tr> <tr><td>63</td><td>14</td></tr> <tr><td>16</td><td>172</td></tr> <tr><td>10</td><td>10</td></tr> </table> | 75 | 62 | 143 | 9 | 18 | 172 | 63 | 14 | 16 | 172 | 10 | 10 | <table border="1"> <tr><td>77</td><td>130</td></tr> <tr><td>91</td><td>172</td></tr> <tr><td>66</td><td>181</td></tr> <tr><td>19</td><td>45</td></tr> <tr><td>14</td><td>39</td></tr> <tr><td>45</td><td>17</td></tr> </table> | 77 | 130 | 91 | 172 | 66 | 181 | 19 | 45 | 14 | 39 | 45 | 17 | <table border="1"> <tr><td>47</td><td>32</td></tr> <tr><td>1</td><td>20</td></tr> <tr><td>19</td><td>19</td></tr> <tr><td>14</td><td>20</td></tr> <tr><td>45</td><td>17</td></tr> <tr><td>39</td><td>17</td></tr> </table> | 47 | 32 | 1 | 20 | 19 | 19 | 14 | 20 | 45 | 17 | 39 | 17 | <table border="1"> <tr><td>14</td><td>88</td></tr> <tr><td>112</td><td>166</td></tr> <tr><td>13</td><td>184</td></tr> </table> | 14 | 88 | 112 | 166 | 13 | 184 | <table border="1"> <tr><td>5</td><td>158</td><td>203</td></tr> <tr><td>10</td><td>34</td><td>31</td></tr> <tr><td>6</td><td>82</td><td>22</td></tr> <tr><td>36</td><td>9</td><td>9</td></tr> </table> | 5 | 158 | 203 | 10 | 34 | 31 | 6 | 82 | 22 | 36 | 9 | 9 |
| 107 | 155 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | 784 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 189 | 131 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 95 | 121 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1031 | 54 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 49 | 123 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | 62 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 143 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 172 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 63 | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 172 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 77 | 130 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 91 | 172 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 66 | 181 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 39 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 47 | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 88 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 112 | 166 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 184 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 158 | 203 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 34 | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 82 | 22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | 9 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cook St. & I-10 WB Ramps | Cook St. & I-10 EB Ramps | Cook St. & Gerald Ford Dr. | Cook St. & University Park Dr. | Cook St. & Frank Sinatra Dr. | Main Dwy. & Gerald Ford Dr. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr><td>88</td><td>300</td></tr> <tr><td>623</td><td>623</td></tr> <tr><td>763</td><td>988</td></tr> </table> | 88 | 300 | 623 | 623 | 763 | 988 | <table border="1"> <tr><td>846</td><td>78</td></tr> <tr><td>338</td><td>1413</td></tr> <tr><td>798</td><td>1096</td></tr> </table> | 846 | 78 | 338 | 1413 | 798 | 1096 | <table border="1"> <tr><td>522</td><td>265</td></tr> <tr><td>867</td><td>296</td></tr> <tr><td>174</td><td>65</td></tr> <tr><td>841</td><td>283</td></tr> <tr><td>244</td><td>1272</td></tr> <tr><td>45</td><td>26</td></tr> </table> | 522 | 265 | 867 | 296 | 174 | 65 | 841 | 283 | 244 | 1272 | 45 | 26 | <table border="1"> <tr><td>68</td><td>201</td></tr> <tr><td>1220</td><td>114</td></tr> <tr><td>141</td><td>74</td></tr> <tr><td>66</td><td>105</td></tr> <tr><td>89</td><td>1481</td></tr> <tr><td>50</td><td>50</td></tr> </table> | 68 | 201 | 1220 | 114 | 141 | 74 | 66 | 105 | 89 | 1481 | 50 | 50 | <table border="1"> <tr><td>302</td><td>90</td></tr> <tr><td>944</td><td>228</td></tr> <tr><td>128</td><td>47</td></tr> <tr><td>442</td><td>124</td></tr> <tr><td>311</td><td>128</td></tr> <tr><td>141</td><td>82</td></tr> </table> | 302 | 90 | 944 | 228 | 128 | 47 | 442 | 124 | 311 | 128 | 141 | 82 | <table border="1"> <tr><td>1011</td></tr> <tr><td>1017</td></tr> <tr><td>14</td></tr> <tr><td>158</td></tr> </table> | 1011 | 1017 | 14 | 158 | | | | | | | | | | | | | | |
| 88 | 300 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 623 | 623 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 763 | 988 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 846 | 78 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 338 | 1413 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 798 | 1096 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 522 | 265 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 867 | 296 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 174 | 65 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 841 | 283 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 244 | 1272 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | 26 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 68 | 201 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1220 | 114 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 141 | 74 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 66 | 105 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 89 | 1481 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 302 | 90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 944 | 228 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 128 | 47 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 442 | 124 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 311 | 128 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 141 | 82 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1011 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1017 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 158 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**EXHIBIT 6-3: EXISTING PLUS AMBIENT PLUS PROJECT PLUS CUMULATIVE (2024)
AVERAGE DAILY TRAFFIC (ADT) VOLUMES**

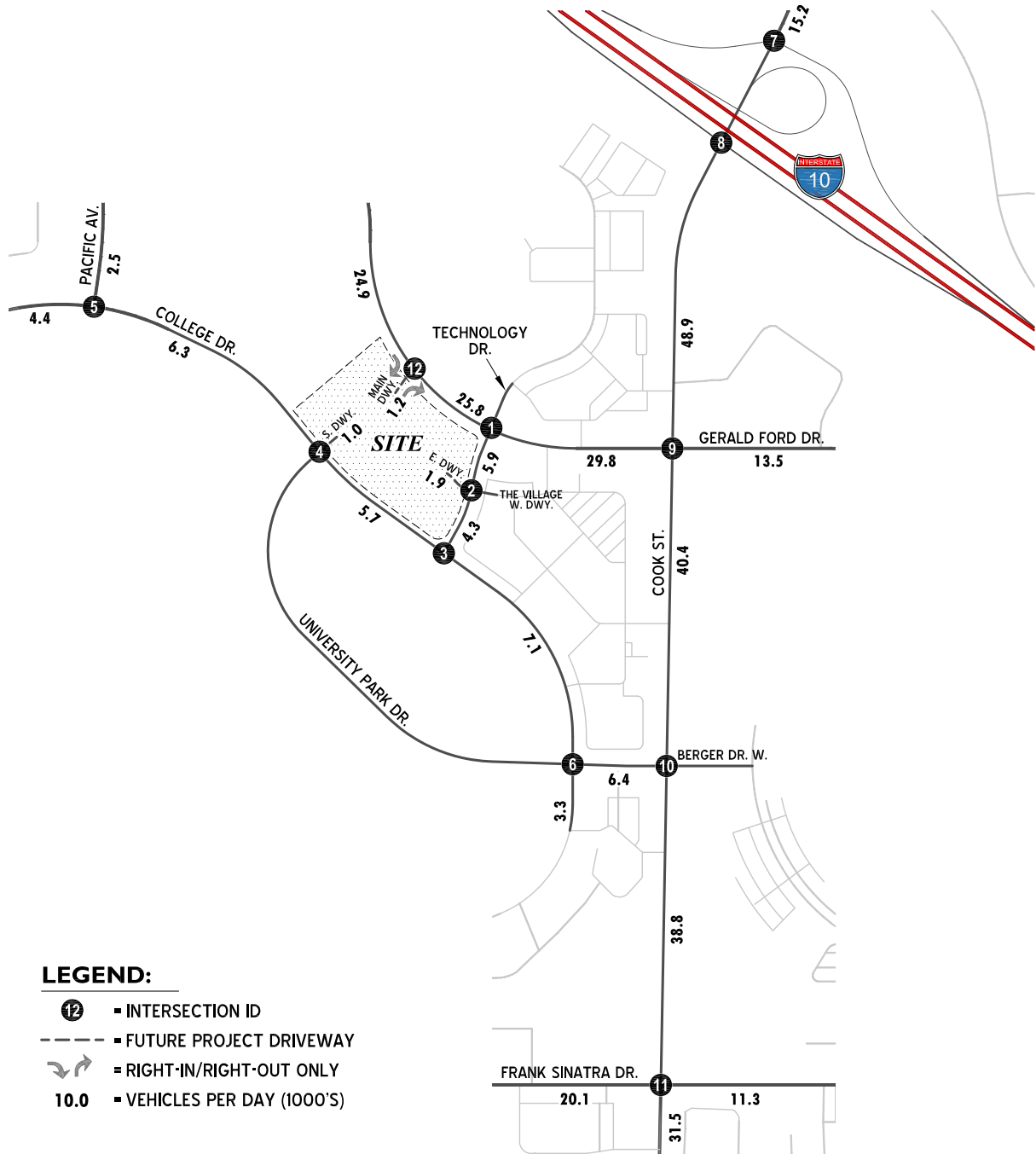


TABLE 6-1: INTERSECTION ANALYSIS FOR EAPC (2024) CONDITIONS

| # Intersection | Traffic Control ¹ | Intersection Approach Lanes ² | | | | | | | | | | | | Delay ³ (secs.) | | Level of Service | |
|---|------------------------------|--|----|----------|------------|-----------|---|-----------|-----------|----------|-----------|-----------|---|-------------------------------|------|------------------|----|
| | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | AM | PM | AM | PM |
| | | L | T | R | L | T | R | L | T | R | L | T | R | | | | |
| 1 Technology Dr. / Gerald Ford Dr. | TS | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 3 | 1 | 1 | 3 | 1 | 15.7 | 17.6 | B | B |
| 2 Technology Dr. / E. Dwy. - The Village W. Dwy. | CSS | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 12.8 | 13.8 | B | B |
| 3 Technology Dr. / College Dr. | RDB | 0 | 0 | 0 | 0 | 1! | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 4.7 | 5.0 | A | A |
| 4 S. Dwy. - University Park Dr. / College Dr. | CSS | 1 | 1 | 0 | 0 | 1! | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 14.6 | 14.7 | B | B |
| 5 Pacific Av. / College Dr. | RDB | 0 | 0 | 0 | 0 | 1! | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 4.0 | 4.5 | A | A |
| 6 Cook St. / University Park Dr. | RDB | 0 | 1! | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 4.6 | 5.4 | A | A |
| 7 Cook St. / I-10 WB Ramps | | | | | | | | | | | | | | | | | |
| - Without Improvements | TS | 0 | 2 | 1>> | 0 | 3 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 1 | >100 | 15.1 | F | B |
| - With Improvements | TS | 0 | 2 | 1>> | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 1! | 0 | 26.7 | 12.5 | C | B |
| 8 Cook St. / I-10 EB Ramps | | | | | | | | | | | | | | | | | |
| - Without Improvements | TS | 0 | 3 | 0 | 1 | 3 | 0 | 1 | 0.5 | 1.5 | 0 | 0 | 0 | 34.9 | 57.4 | C | E |
| - With Improvements | TS | 0 | 3 | 1 | 1 | 3 | 0 | 1 | 0.5 | 1.5 | 0 | 0 | 0 | 31.8 | 54.7 | C | D |
| 9 Cook St. / Gerald Ford Dr. | TS | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 2 | 1>> | 2 | 2 | 1 | 40.3 | 46.5 | D | D |
| 10 Cook St. / University Park Dr. - Berger Dr. W. | TS | 1 | 3 | 1>> | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 13.0 | 11.7 | B | B |
| 11 Cook St. / Frank Sinatra Dr. | TS | 2 | 2 | 0 | 2 | 3 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 16.6 | 46.8 | B | D |
| 12 Main Dwy. / Gerald Ford Dr. | CSS | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 3 | 0 | 12.1 | 20.1 | B | C |

¹ TS = Traffic Signal; CSS = Cross-street Stop; RDB = Roundabout

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; 0.5 = Shared Lane; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; **1** = Improvement

³ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal, roundabout, or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

6.5 RECOMMENDED CUMULATIVE IMPROVEMENTS

The effectiveness of cumulative improvements is presented in Table 6-1 for EAPC (2024) traffic conditions. Recommended improvements to provide acceptable operations for EAPC (2024) include the following:

Cook Street & I-10 WB Ramps (#7)

- Provide a 2nd 200 ft. WB left turn lane.

Cook Street & I-10 EB Ramps (#8)

- Restripe existing NB travel lanes to achieve a 12ft. wide NB 200 ft. long right turn lane, with remaining through travel lanes at 11ft. widths.

The intersection operations analysis worksheets for EAPC (2024) traffic conditions, with improvements, are included in Appendix 6.1 of this TA.

7 HORIZON YEAR (2040) TRAFFIC CONDITIONS

This section discusses the methods used to develop Horizon Year (2040) traffic forecasts, and the resulting intersection operations and roadway segment operations analyses.

7.1 ROADWAY IMPROVEMENTS

The lane configurations and traffic controls assumed to be in place for HY (2040) traffic conditions are consistent with those shown on Exhibit 3-1, in conjunction with other long-range City roadway facilities that would be likely be in place by HY (2040) traffic conditions.

7.2 HORIZON YEAR (2040) VOLUME FORECASTS WITHOUT AND WITH PROJECT

Future horizon year 2040 traffic projections were obtained from the Draft Section 31 Specific Plan Traffic Impact Study, March 2019, prepared by Fehr & Peers. For intersections without 2040 data, traffic flow conservation has been maintained between intersections and full buildout volumes of known cumulative projects in the area are accounted for. HY (2040) Without Project traffic conditions are shown on Exhibits 7-1 through 7-3.

The ADT and AM and PM peak hour traffic volumes which can be expected for HY (2040) With Project traffic conditions are shown on Exhibits 7-4 through 7-6.

7.3 INTERSECTION OPERATIONS ANALYSIS

LOS calculations were conducted for the study intersections to evaluate their operations under HY (2040) traffic conditions with roadway and intersection geometrics consistent with Section 7.1 *Roadway Improvements*. The intersection analysis results are summarized in Tables 7-1 and 7-2. As shown in Tables 7-1 & 7-2, the following study area intersections are anticipated operate at an unacceptable LOS during the peak hours:

- Cook Street / I-10 WB Ramps (#7)
- Cook Street / I-10 EB Ramps (#8)

The intersection operations analysis worksheets for HY (2040) Without Project and HY (2040) With Project traffic conditions are included in Appendices 7.1 and 7.2 of this TA, respectively.

**EXHIBIT 7-1: HORIZON YEAR (2040) WITHOUT PROJECT
AM PEAK HOUR INTERSECTION VOLUMES**



| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|--|---|---|
| Technology Dr. & Gerald Ford Dr. | Technology Dr. & E. Dwy. - The Village W. Dwy. | Technology Dr. & College Dr. | S. Dwy. - University Park Dr. & College Dr. | Pacific Av. & College Dr. | Cook St. & University Park Dr. |
| 7 | 8 | 9 | 10 | 11 | 12 |
| Cook St. & I-10 WB Ramps | Cook St. & I-10 EB Ramps | Cook St. & Gerald Ford Dr. | Cook St. & University Park Dr. | Cook St. & Frank Sinatra Dr. | Main Dwy. & Gerald Ford Dr. <p style="text-align: center;">FUTURE INTERSECTION</p> |

**EXHIBIT 7-2: HORIZON YEAR (2040) WITHOUT PROJECT
PM PEAK HOUR INTERSECTION VOLUMES**



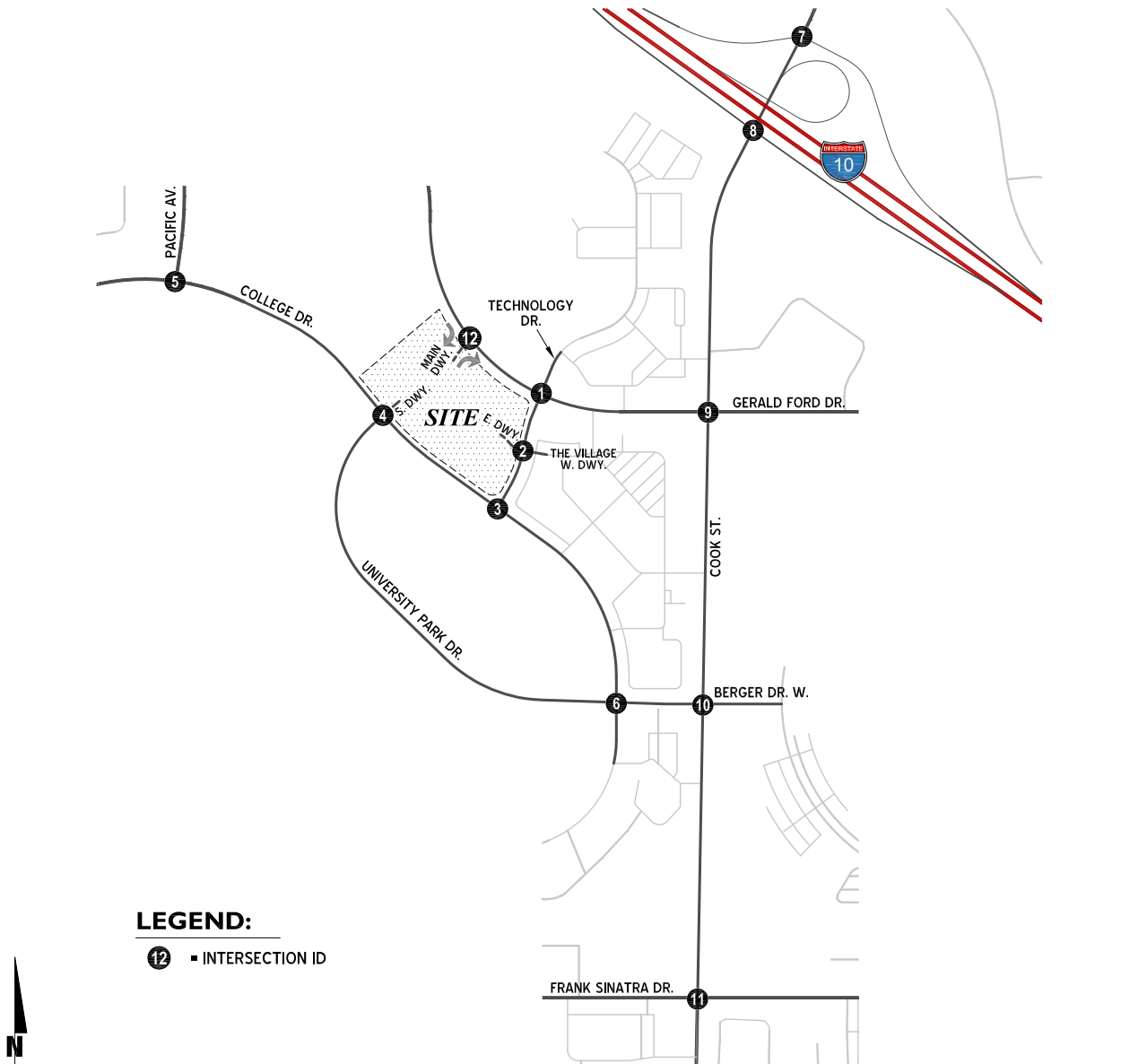
LEGEND:
12 ■ INTERSECTION ID

| | | | | | |
|--|--|--|---|---|--|
| <p>1 Technology Dr. & Gerald Ford Dr.</p> | <p>2 Technology Dr. & E. Dwy. - The Village W. Dwy.</p> | <p>3 Technology Dr. & College Dr.</p> | <p>4 S. Dwy. - University Park Dr. & College Dr.</p> | <p>5 Pacific Av. & College Dr.</p> | <p>6 Cook St. & University Park Dr.</p> |
| <p>7 Cook St. & I-10 WB Ramps</p> | <p>8 Cook St. & I-10 EB Ramps</p> | <p>9 Cook St. & Gerald Ford Dr.</p> | <p>10 Cook St. & University Park Dr.</p> | <p>11 Cook St. & Frank Sinatra Dr.</p> | <p>12 Main Dwy. & Gerald Ford Dr.</p> <p style="text-align: center;">FUTURE INTERSECTION</p> |

**EXHIBIT 7-3: HORIZON YEAR (2040) WITHOUT PROJECT
AVERAGE DAILY TRAFFIC (ADT) VOLUMES**

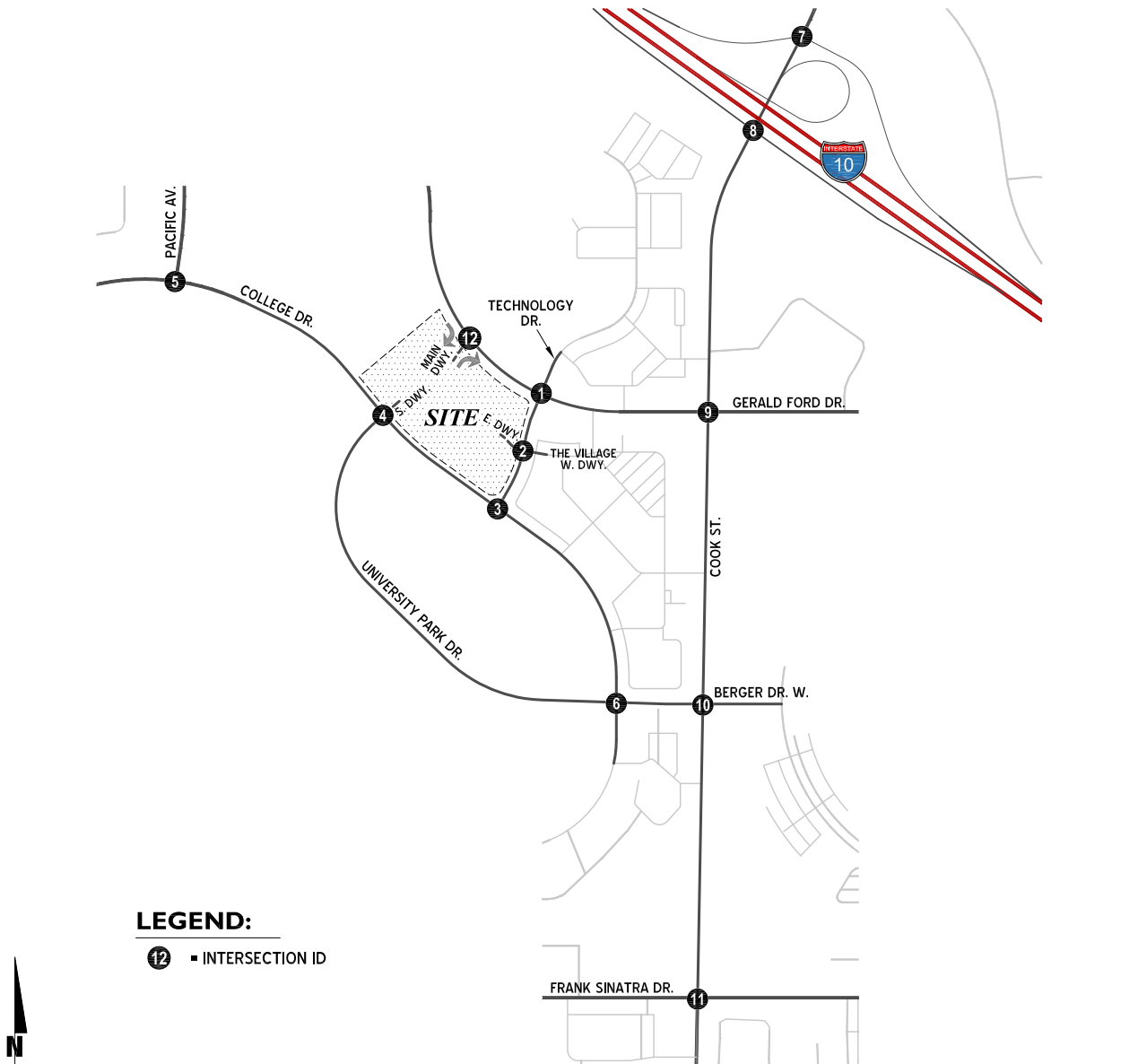


**EXHIBIT 7-4: HORIZON YEAR (2040) WITH PROJECT
AM PEAK HOUR INTERSECTION VOLUMES**



| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|--|---|---|
| <p>Technology Dr. & Gerald Ford Dr.</p> | <p>Technology Dr. & E. Dwy. - The Village W. Dwy.</p> | <p>Technology Dr. & College Dr.</p> | <p>S. Dwy. - University Park Dr. & College Dr.</p> | <p>Pacific Av. & College Dr.</p> | <p>Cook St. & University Park Dr.</p> |
| 7 | 8 | 9 | 10 | 11 | 12 |
| <p>Cook St. & I-10 WB Ramps</p> | <p>Cook St. & I-10 EB Ramps</p> | <p>Cook St. & Gerald Ford Dr.</p> | <p>Cook St. & University Park Dr.</p> | <p>Cook St. & Frank Sinatra Dr.</p> | <p>Main Dwy. & Gerald Ford Dr.</p> |

**EXHIBIT 7-5: HORIZON YEAR (2040) WITH PROJECT
PM PEAK HOUR INTERSECTION VOLUMES**



| 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|------------------------------|---|------------------------------|--------------------------------|--------|---|-------|-------|-------|-------|--------|---|--|-------|-------|-------|--------|-------|------|-------|-------|-------|--------|------|---|--|-------|--------|-------|-------|-------|---|-------|------|-------|--------|--------|------|--|-------|--------|-------|--|-------|-------|-------|-------|-------|-------|--|------|--|--------|--------|------|-------|------|------|------|-------|------|------|
| Technology Dr. & Gerald Ford Dr. | Technology Dr. & E. Dwy. - The Village W. Dwy. | Technology Dr. & College Dr. | S. Dwy. - University Park Dr. & College Dr. | Pacific Av. & College Dr. | Cook St. & University Park Dr. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="0"> <tr><td>↑ 143</td><td>↑ 156</td></tr> <tr><td>↓ 16</td><td>↓ 997</td></tr> <tr><td>← 189</td><td>← 141</td></tr> <tr><td>→ 131</td><td>→ 126</td></tr> <tr><td>↑ 118</td><td>↑ 145</td></tr> <tr><td>↓ 71</td><td>↓ 126</td></tr> </table> | ↑ 143 | ↑ 156 | ↓ 16 | ↓ 997 | ← 189 | ← 141 | → 131 | → 126 | ↑ 118 | ↑ 145 | ↓ 71 | ↓ 126 | <table border="0"> <tr><td>↑ 75</td><td>↑ 63</td></tr> <tr><td>↓ 196</td><td>↓ 9</td></tr> <tr><td>← 18</td><td>← 22</td></tr> <tr><td>→ 63</td><td>→ 11</td></tr> <tr><td>↑ 16</td><td>↑ 14</td></tr> <tr><td>↓ 22</td><td>↓ 11</td></tr> </table> | ↑ 75 | ↑ 63 | ↓ 196 | ↓ 9 | ← 18 | ← 22 | → 63 | → 11 | ↑ 16 | ↑ 14 | ↓ 22 | ↓ 11 | <table border="0"> <tr><td>↑ 90</td><td>↑ 130</td></tr> <tr><td>↓ 172</td><td>↓ 190</td></tr> <tr><td>← 73</td><td>← 196</td></tr> </table> | ↑ 90 | ↑ 130 | ↓ 172 | ↓ 190 | ← 73 | ← 196 | <table border="0"> <tr><td>↑ 47</td><td>↑ 32</td></tr> <tr><td>↓ 20</td><td>↓ 239</td></tr> <tr><td>← 14</td><td>← 21</td></tr> <tr><td>→ 220</td><td>→ 55</td></tr> <tr><td>↑ 51</td><td>↑ 18</td></tr> </table> | ↑ 47 | ↑ 32 | ↓ 20 | ↓ 239 | ← 14 | ← 21 | → 220 | → 55 | ↑ 51 | ↑ 18 | <table border="0"> <tr><td>↑ 14</td><td>↑ 88</td></tr> <tr><td>↓ 112</td><td>↓ 205</td></tr> <tr><td>← 13</td><td>← 221</td></tr> </table> | ↑ 14 | ↑ 88 | ↓ 112 | ↓ 205 | ← 13 | ← 221 | <table border="0"> <tr><td>↑ 5</td><td>↑ 140</td><td>↑ 229</td></tr> <tr><td>↓ 181</td><td>↓ 36</td><td>↓ 34</td></tr> <tr><td>← 46</td><td>← 17</td><td>← 24</td></tr> <tr><td>→ 119</td><td>→ 24</td><td>→ 24</td></tr> </table> | ↑ 5 | ↑ 140 | ↑ 229 | ↓ 181 | ↓ 36 | ↓ 34 | ← 46 | ← 17 | ← 24 | → 119 | → 24 | → 24 |
| ↑ 143 | ↑ 156 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 16 | ↓ 997 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 189 | ← 141 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| → 131 | → 126 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 118 | ↑ 145 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 71 | ↓ 126 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 75 | ↑ 63 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 196 | ↓ 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 18 | ← 22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| → 63 | → 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 16 | ↑ 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 22 | ↓ 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 90 | ↑ 130 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 172 | ↓ 190 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 73 | ← 196 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 47 | ↑ 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 20 | ↓ 239 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 14 | ← 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| → 220 | → 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 51 | ↑ 18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 14 | ↑ 88 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 112 | ↓ 205 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 13 | ← 221 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 5 | ↑ 140 | ↑ 229 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 181 | ↓ 36 | ↓ 34 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 46 | ← 17 | ← 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| → 119 | → 24 | → 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 8 | 9 | 10 | 11 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cook St. & I-10 WB Ramps | Cook St. & I-10 EB Ramps | Cook St. & Gerald Ford Dr. | Cook St. & University Park Dr. | Cook St. & Frank Sinatra Dr. | Main Dwy. & Gerald Ford Dr. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="0"> <tr><td>↑ 88</td><td>↑ 439</td></tr> <tr><td>↓ 0</td><td>↓ 906</td></tr> <tr><td>← 766</td><td>← 1063</td></tr> </table> | ↑ 88 | ↑ 439 | ↓ 0 | ↓ 906 | ← 766 | ← 1063 | <table border="0"> <tr><td>↑ 125</td><td>↑ 220</td></tr> <tr><td>↓ 339</td><td>↓ 823</td></tr> <tr><td>← 1490</td><td>← 1343</td></tr> </table> | ↑ 125 | ↑ 220 | ↓ 339 | ↓ 823 | ← 1490 | ← 1343 | <table border="0"> <tr><td>↑ 593</td><td>↑ 303</td><td>↑ 337</td></tr> <tr><td>↓ 1013</td><td>↓ 265</td><td>↓ 90</td></tr> <tr><td>← 859</td><td>← 325</td><td>← 405</td></tr> <tr><td>→ 1386</td><td>→ 30</td><td>→ 30</td></tr> </table> | ↑ 593 | ↑ 303 | ↑ 337 | ↓ 1013 | ↓ 265 | ↓ 90 | ← 859 | ← 325 | ← 405 | → 1386 | → 30 | → 30 | <table border="0"> <tr><td>↑ 71</td><td>↑ 1272</td><td>↑ 33</td></tr> <tr><td>↓ 267</td><td>↓ 154</td><td>↓ 118</td></tr> <tr><td>← 127</td><td>← 90</td><td>← 107</td></tr> <tr><td>→ 1267</td><td>→ 1504</td><td>→ 80</td></tr> </table> | ↑ 71 | ↑ 1272 | ↑ 33 | ↓ 267 | ↓ 154 | ↓ 118 | ← 127 | ← 90 | ← 107 | → 1267 | → 1504 | → 80 | <table border="0"> <tr><td>↑ 322</td><td>↑ 1022</td><td>↑ 670</td></tr> <tr><td>↓ 142</td><td>↓ 170</td><td>↓ 170</td></tr> <tr><td>← 453</td><td>← 654</td><td>← 291</td></tr> <tr><td>→ 348</td><td>→ 1164</td><td>→ 83</td></tr> </table> | ↑ 322 | ↑ 1022 | ↑ 670 | ↓ 142 | ↓ 170 | ↓ 170 | ← 453 | ← 654 | ← 291 | → 348 | → 1164 | → 83 | <table border="0"> <tr><td>↑ 1285</td></tr> <tr><td>← 1228</td></tr> <tr><td>→ 14</td></tr> <tr><td>← 158</td></tr> </table> | ↑ 1285 | ← 1228 | → 14 | ← 158 | | | | | | |
| ↑ 88 | ↑ 439 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 0 | ↓ 906 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 766 | ← 1063 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 125 | ↑ 220 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 339 | ↓ 823 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 1490 | ← 1343 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 593 | ↑ 303 | ↑ 337 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 1013 | ↓ 265 | ↓ 90 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 859 | ← 325 | ← 405 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| → 1386 | → 30 | → 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 71 | ↑ 1272 | ↑ 33 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 267 | ↓ 154 | ↓ 118 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 127 | ← 90 | ← 107 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| → 1267 | → 1504 | → 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 322 | ↑ 1022 | ↑ 670 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↓ 142 | ↓ 170 | ↓ 170 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 453 | ← 654 | ← 291 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| → 348 | → 1164 | → 83 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ↑ 1285 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 1228 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| → 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ← 158 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**EXHIBIT 7-6: HORIZON YEAR (2040) WITH PROJECT
AVERAGE DAILY TRAFFIC (ADT) VOLUMES**



TABLE 7-1: INTERSECTION ANALYSIS FOR HORIZON YEAR (2040) WITHOUT PROJECT CONDITIONS

| # Intersection | Traffic Control ¹ | Intersection Approach Lanes ² | | | | | | | | | | | | Delay ³ (secs.) | | Level of Service | |
|---|------------------------------|--|----|------------------|------------|----|---|-----------|-----|-----|-----------|-----------|---|-------------------------------|------|------------------|----|
| | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | AM | PM | AM | PM |
| | | L | T | R | L | T | R | L | T | R | L | T | R | | | | |
| 1 Technology Dr. / Gerald Ford Dr. | TS | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 3 | 1 | 1 | 3 | 1 | 13.3 | 17.9 | B | B |
| 2 Technology Dr. / E. Dwy. - The Village W. Dwy. | CSS | 0 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1! | 0 | 9.7 | 10.3 | A | B |
| 3 Technology Dr. / College Dr. | RDB | 0 | 0 | 0 | 0 | 1! | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 4.7 | 5.3 | A | A |
| 4 S. Dwy. - University Park Dr. / College Dr. | CSS | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 12.3 | 12.5 | B | B |
| 5 Pacific Av. / College Dr. | RDB | 0 | 0 | 0 | 0 | 1! | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 4.1 | 4.6 | A | A |
| 6 Cook St. / University Park Dr. | RDB | 0 | 1! | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 4.7 | 5.7 | A | A |
| 7 Cook St. / I-10 WB Ramps | | | | | | | | | | | | | | | | | |
| - Without Improvements | TS | 0 | 2 | 1>> | 0 | 3 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 1 | >100 | 36.3 | F | D |
| - With Improvements | TS | 0 | 2 | 1>> | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 1! | 0 | 31.4 | 20.4 | C | C |
| 8 Cook St. / I-10 EB Ramps | | | | | | | | | | | | | | | | | |
| - Without Improvements | TS | 0 | 3 | 0 | 1 | 3 | 0 | 1 | 0.5 | 1.5 | 0 | 0 | 0 | 59.0 | >100 | E | F |
| - With Improvements | TS | 0 | 3 | 1>> | 1 | 3 | 0 | 1 | 0.5 | 1.5 | 0 | 0 | 0 | 17.7 | 27.7 | B | C |
| 9 Cook St. / Gerald Ford Dr. | TS | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 2 | 1>> | 2 | 2 | 1 | 45.9 | 53.9 | D | D |
| 10 Cook St. / University Park Dr. - Berger Dr. W. | TS | 1 | 3 | 1>> | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 16.5 | 19.5 | B | B |
| 11 Cook St. / Frank Sinatra Dr. | TS | 2 | 2 | 0 | 2 | 3 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 33.8 | 47.0 | C | D |
| 12 Main Dwy. / Gerald Ford Dr. | | | | | | | | | | | | | | | | | |

Future Intersection

¹ TS = Traffic Signal; CSS = Cross-street Stop; RDB = Roundabout

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; 0.5 = Shared Lane; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; **1** = Improvement

³ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal, roundabout, or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

TABLE 7-2: INTERSECTION ANALYSIS FOR HORIZON YEAR (2040) WITH PROJECT CONDITIONS

| # Intersection | Traffic Control ¹ | Intersection Approach Lanes ² | | | | | | | | | | | | Delay ³ (secs.) | | Level of Service | |
|---|------------------------------|--|----|------------------|------------|-----------|---|-----------|-----------|----------|-----------|-----------|---|-------------------------------|------|------------------|----|
| | | Northbound | | | Southbound | | | Eastbound | | | Westbound | | | AM | PM | AM | PM |
| | | L | T | R | L | T | R | L | T | R | L | T | R | | | | |
| 1 Technology Dr. / Gerald Ford Dr. | TS | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 3 | 1 | 1 | 3 | 1 | 17.7 | 19.6 | B | B |
| 2 Technology Dr. / E. Dwy. - The Village W. Dwy. | CSS | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 13.6 | 15.8 | B | C |
| 3 Technology Dr. / College Dr. | RDB | 0 | 0 | 0 | 0 | 1! | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 5.1 | 5.6 | A | A |
| 4 S. Dwy. - University Park Dr. / College Dr. | CSS | 1 | 1 | 0 | 0 | 1! | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 15.8 | 16.1 | C | C |
| 5 Pacific Av. / College Dr. | RDB | 0 | 0 | 0 | 0 | 1! | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 4.2 | 4.8 | A | A |
| 6 Cook St. / University Park Dr. | RDB | 0 | 1! | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 0 | 1! | 0 | 5.0 | 6.2 | A | A |
| 7 Cook St. / I-10 WB Ramps | | | | | | | | | | | | | | | | | |
| - Without Improvements | TS | 0 | 2 | 1>> | 0 | 3 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 1 | >100 | 38.0 | F | D |
| - With Improvements | TS | 0 | 2 | 1>> | 0 | 3 | 0 | 0 | 0 | 0 | 1 | 1! | 0 | 37.1 | 24.9 | D | C |
| 8 Cook St. / I-10 EB Ramps | | | | | | | | | | | | | | | | | |
| - Without Improvements | TS | 0 | 3 | 0 | 1 | 3 | 0 | 1 | 0.5 | 1.5 | 0 | 0 | 0 | 67.3 | >100 | E | F |
| - With Improvements | TS | 0 | 3 | 1>> | 1 | 3 | 0 | 1 | 0.5 | 1.5 | 0 | 0 | 0 | 32.6 | 28.7 | C | C |
| 9 Cook St. / Gerald Ford Dr. | TS | 2 | 3 | 1 | 2 | 3 | 1 | 2 | 2 | 1>> | 2 | 2 | 1 | 53.9 | 54.8 | D | D |
| 10 Cook St. / University Park Dr. - Berger Dr. W. | TS | 1 | 3 | 1>> | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 18.5 | 26.4 | B | C |
| 11 Cook St. / Frank Sinatra Dr. | TS | 2 | 2 | 0 | 2 | 3 | 1 | 2 | 2 | 1 | 2 | 2 | 1 | 35.2 | 47.1 | D | D |
| 12 Main Dwy. / Gerald Ford Dr. | CSS | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 3 | 0 | 13.1 | 25.5 | B | D |

¹ TS = Traffic Signal; CSS = Cross-street Stop; RDB = Roundabout

² When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; d = Defacto Right Turn Lane; 0.5 = Shared Lane; > = Right-Turn Overlap Phasing; >> = Free-Right Turn Lane; **1** = Improvement

³ Per the Highway Capacity Manual (6th Edition), overall average intersection delay and level of service are shown for intersections with a traffic signal, roundabout, or all way stop control. For intersections with cross street stop control, the delay and level of service for the worst individual movement (or movements sharing a single lane) are shown.

7.4 HY (2040) TRAFFIC SIGNAL WARRANTS ANALYSIS

The traffic signal warrant analysis for HY (2040) without and with Project traffic conditions are provided in Appendix 3.3. The unsignalized intersections are not anticipated to meet peak hour volume-based warrants and daily volume-based warrants with the addition of Project traffic (see Appendix 3.3).

7.5 QUEUEING ANALYSIS AT PROJECT ACCESS POINTS

A queuing analysis was performed for HY (2040) With Project Conditions to assess the adequacy of turn bay lengths to accommodate vehicle queues at the Project entries. Queuing analysis findings are presented in Table 7-3 for HY (2040) With Project traffic conditions. Queueing analysis worksheets are provided in Appendix 7.2.

The proposed Project turn bay lengths provide adequate storage to accommodate the anticipated 95th percentile queues. As shown in Table 7-3, the calculated 95th percentile queue length slightly exceeds outbound driveway length approaching intersection #12. However, review of SimTraffic simulation results indicate that the outbound right turn queue is anticipated to clear in a timely manner at this location.

7.6 RECOMMENDED IMPROVEMENTS

7.6.1 RECOMMENDED IMPROVEMENTS TO ADDRESS DEFICIENCIES AT INTERSECTIONS

The effectiveness of cumulative improvements is presented in Tables 7-1 and 7-2 for HY (2040) without and with Project traffic conditions. Recommended improvements to provide acceptable operations for HY (2040) conditions include the following:

Cook Street & I-10 WB Ramps (#7)

- Provide a 2nd 200 ft. WB left turn lane.

Cook Street & I-10 EB Ramps (#8)

- Restripe existing NB travel lanes to achieve a 12ft. wide NB 200 ft. long right turn lane, with remaining through travel lanes at 11ft. widths. Ultimately include NB free-right turn channelization.

The intersection operations analysis worksheets for HY (2040) Without Project and HY (2040) With Project traffic conditions, with improvements, are included in Appendices 7.1 and 7.2 of this TA, respectively.

TABLE 7-3: PROJECT ACCESS QUEUEING ANALYSIS FOR HY (2040) WITH PROJECT CONDITIONS

| ID | Intersection | Movement | # of Lanes | EAPC (2024) | | | | Storage Length ² (ft.) | 95th Percentile Queue Length (ft.) ¹ | |
|----|--|----------|------------|-------------|-----|------|--------|-----------------------------------|---|------------------|
| | | | | AM | PM | Peak | Volume | | AM | PM |
| 2 | Technology Dr. / E. Dwy. - The Village W. Dwy. | NBL | 1 | 28 | 14 | AM | 28 | 90 | 33 | 19 |
| | | NBR | 1 | 4 | 10 | PM | 10 | 160 | NOM ³ | NOM ³ |
| | | SBL | 1 | 23 | 18 | AM | 23 | 55 | 33 | 23 |
| | | EBL/T/R | 1 | 20 | 80 | PM | 80 | 100 | 38 | 55 |
| 4 | S. Dwy. - University Park Dr. / College Dr. | NBL | 1 | 55 | 51 | AM | 55 | 100 | 54 | 44 |
| | | SBL/T/R | 1 | 20 | 80 | PM | 80 | 50 | 40 | 64 |
| | | EBL | 1 | 28 | 14 | AM | 28 | 125 | 15 | 15 |
| | | WBL | 1 | 10 | 19 | PM | 19 | 125 | 17 | 22 |
| 12 | Main Dwy. / Gerald Ford Dr. | NBR | 1 | 38 | 158 | PM | 158 | 150 | 56 | 211 ⁴ |
| | | EBR | 1 | 28 | 14 | AM | 28 | 150 | 11 | NOM |

¹ Queue length calculated using SimTraffic.

² 100 = Existing length of storage; **100** = Proposed length of storage

³ NOM = Nominal, less than 5 feet.

⁴ Review of SimTraffic simulation results indicate that the turn lane queue is anticipated to clear in a timely manner and that the provided pocket length is adequate to accommodate the 95th percentile queue.

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8 REFERENCES

1. **Riverside County Transportation Department.** *Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled.* County of Riverside : s.n., December 2020.
2. **Transportation Research Board.** *Highway Capacity Manual (HCM), 6th Edition.* s.l. : National Academy of Sciences, 2016.
3. **California Department of Transportation.** California Manual on Uniform Traffic Control Devices (CA MUTCD). [book auth.] California Department of Transportation. *California Manual on Uniform Traffic Control Devices (CA MUTCD).* 2014, Updated March 30, 2021 (Revision 6).
4. **Institute of Transportation Engineers.** Trip Generation Manual. 11th Edition, 2021.

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APPENDIX 1.1: APPROVED TRAFFIC STUDY SCOPING AGREEMENT

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October 3, 2022

Mr. Randy Bowman
City of Palm Desert
73510 Fred Waring Drive
Palm Desert, CA 92260

UNIVERSITY PARK MEDICAL CENTER LEVEL OF SERVICE (LOS) AND VEHICLE MILES TRAVELED (VMT) SCOPING AGREEMENT

Dear Mr. Randy Bowman:

Urban Crossroads, Inc. is pleased to submit this scoping letter to City of Palm Desert regarding the Level of Service (LOS) and Vehicle Miles Traveled (VMT) for the proposed University Park Medical Center development ("Project"), which is located south of Gerald Ford Drive, north of College Drive, and west of Technology Drive in the City of Palm Desert. It is our understanding that the Project includes an 90,000 square foot building with medical offices, an urgent care, and lab uses, as well as a 23,400 square foot outpatient surgery center building.

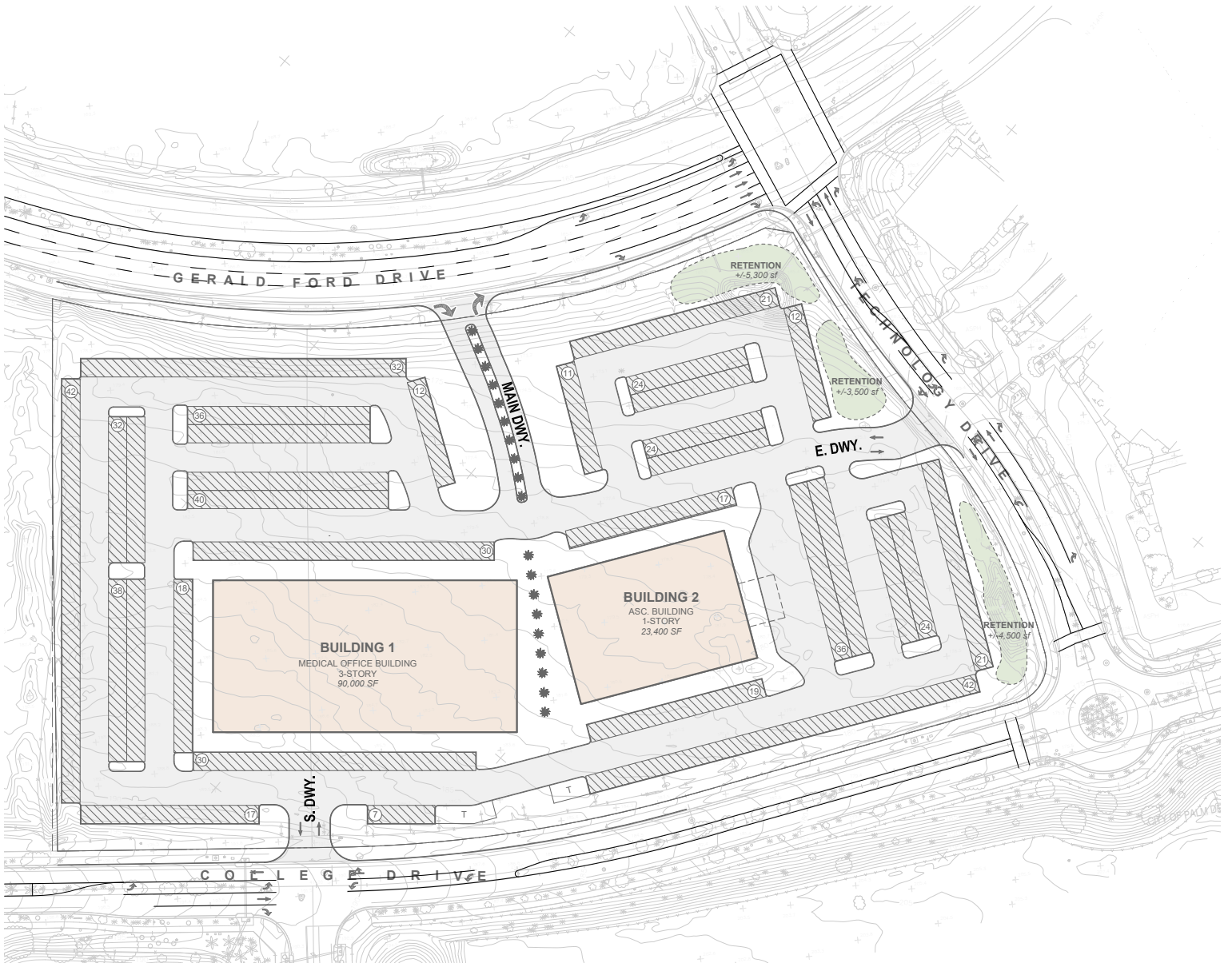
The remainder of this letter describes the proposed analysis methodology, Project trip generation, trip distribution, and Project traffic assignment/project trips on the surrounding roadway network. The following scoping assumptions have been prepared in accordance with the County of Riverside's Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled (December 2020) as the City of Palm Desert utilizes the County guidelines.

A preliminary site plan the proposed Project is shown on Exhibit 1. Exhibit 2 depicts the location of the proposed project in relation to the existing roadway network. It is anticipated that the Project would be fully developed by year 2024. Project will have a right-in/right-out only access to Gerald Ford Drive, a full access across the adjacent property's (The Village) westerly driveway along Technology Drive, and a full access across University Park Drive along College Drive.

TRIP GENERATION

In order to develop the traffic characteristics of the proposed project, trip-generation statistics published in the Institute of Transportation Engineers (ITE) *Trip Generation* (11th Edition, 2021) manual for the proposed land use (ITE Land Use Code: 720 – Medical/Dental Office) is used. Per ITE Trip Generation Manual, a medical-dental office building (ITE 720) is a facility that provides diagnoses and outpatient care on a routine basis but is unable to provide prolonged in-house medical and surgical care. One or more private physicians or dentists generally operate this type of facility. Therefore, ITE rates for a medical-dental office land use has also been utilized for the outpatient surgery center portion of the Project. Table 1 presents the trip generation rates and the resulting trip generation summary for the proposed Project. As shown in Table 1, the Project is anticipated to generate a net total of 4,082 trip-ends per day with 352 AM peak hour trips and 446 PM peak hour trips.

EXHIBIT 1: SITE PLAN



LEGEND:

 = RIGHT-IN/RIGHT-OUT ONLY ACCESS

EXHIBIT 2: TRAFFIC ANALYSIS STUDY AREA



LEGEND:

- ⑪ = EXISTING ANALYSIS LOCATION
- ① = FUTURE ANALYSIS LOCATION
- = FUTURE PROJECT DRIVEWAY
- ↔ = RIGHT-IN/RIGHT-OUT ONLY



TABLE 1: PROJECT TRIP GENERATION SUMMARY

Trip Generation Rates¹

| Land Use | ITE LU Code | Quantity ² | AM Peak Hour | | | PM Peak Hour | | | Daily |
|-----------------------|-------------|-----------------------|--------------|------|-------|--------------|------|-------|-------|
| | | | In | Out | Total | In | Out | Total | |
| Medical-Dental Office | 720 | 113.40 TSF | 2.45 | 0.65 | 3.10 | 1.18 | 2.75 | 3.93 | 36.00 |

Trip Generation Results

| Land Use | ITE LU Code | Quantity ² | AM Peak Hour | | | PM Peak Hour | | | Daily |
|--|-------------|-----------------------|--------------|-----------|------------|--------------|------------|------------|--------------|
| | | | In | Out | Total | In | Out | Total | |
| Medical-Dental Office | 720 | 90 TSF | 221 | 59 | 280 | 106 | 248 | 354 | 3,240 |
| Outpatient Surgery Center ³ | 720 | 23.4 TSF | 57 | 15 | 72 | 28 | 64 | 92 | 842 |
| TOTAL | | | 278 | 74 | 352 | 134 | 312 | 446 | 4,082 |

¹ Trip Generation Source: Institute of Transportation Engineers (ITE), Trip Generation Manual, 11th Edition (2021).

² TSF = Thousand Square Feet

³ For analysis purposes, ITE 720 rates are utilized for outpatient surgery center land use.

TRIP DISTRIBUTION AND TRIP ASSIGNMENT

The trip distribution pattern is heavily influenced by the geographical location of the site, the location of surrounding uses, and the proximity to the regional freeway system. Exhibits 3 and 4 presents the Project distribution patterns. Based on the identified Project traffic generation and trip distribution patterns, Project ADT and peak hour intersection turning movement volumes are shown on Exhibits 5 through 7, respectively.

ANALYSIS SCENARIOS

Consistent with the County's LOS guidelines, intersection analysis will be provided for the following analysis scenarios:

- Existing (2022) Conditions
- Existing plus Ambient plus Project (EAP) (2024)
- Existing plus Ambient plus Project plus Cumulative (EAPC) (2024)
- Horizon Year 2040 Without Project Conditions
- Horizon Year 2040 With Project Conditions

EAP traffic conditions will be utilized to determine direct Project traffic impacts, while the Interim Year (2024) With Project analysis will be utilized to determine the Project's cumulatively considerable impacts.

Horizon Year Analysis will be utilized to determine if the Specific Plan Amendment for the project has impacts to the General Plan roadway system and if additional improvements are necessary. If additional improvements are necessary, a Project fair share analysis will be provided.

EXHIBIT 3: PROJECT TRIP DISTRIBUTION (OUTBOUND)



LEGEND:

- 10 ■ PERCENT TO/FROM PROJECT
- = FUTURE ROADWAY
- ↪ ↻ = RIGHT-IN/RIGHT-OUT ONLY



EXHIBIT 4: PROJECT TRIP DISTRIBUTION (INBOUND)



LEGEND:

- 10 = PERCENT TO/FROM PROJECT
- - - = FUTURE ROADWAY
- ↔ = RIGHT-IN/RIGHT-OUT ONLY



EXHIBIT 5: PROJECT ONLY AVERAGE DAILY TRAFFIC (ADT) VOLUMES

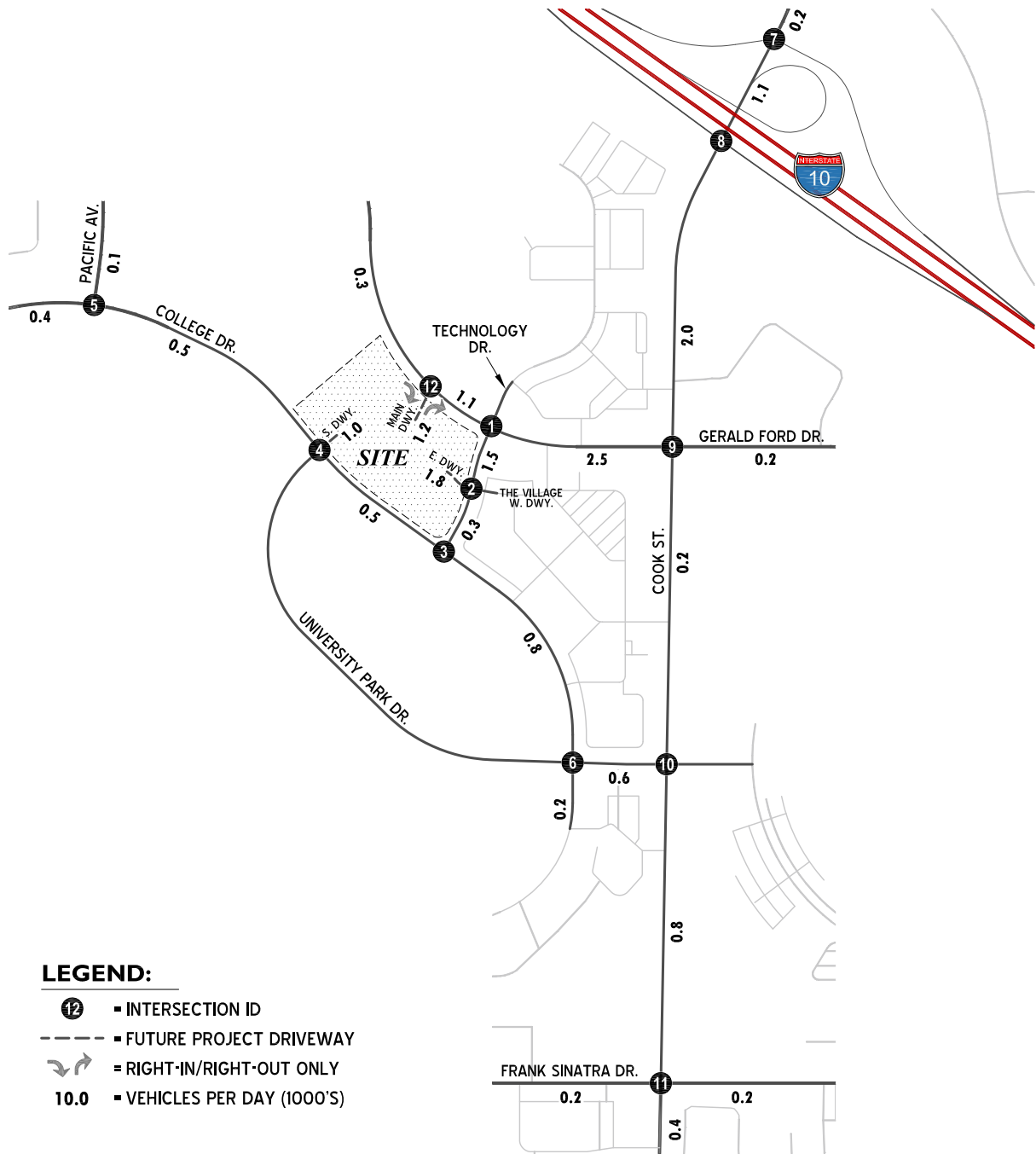
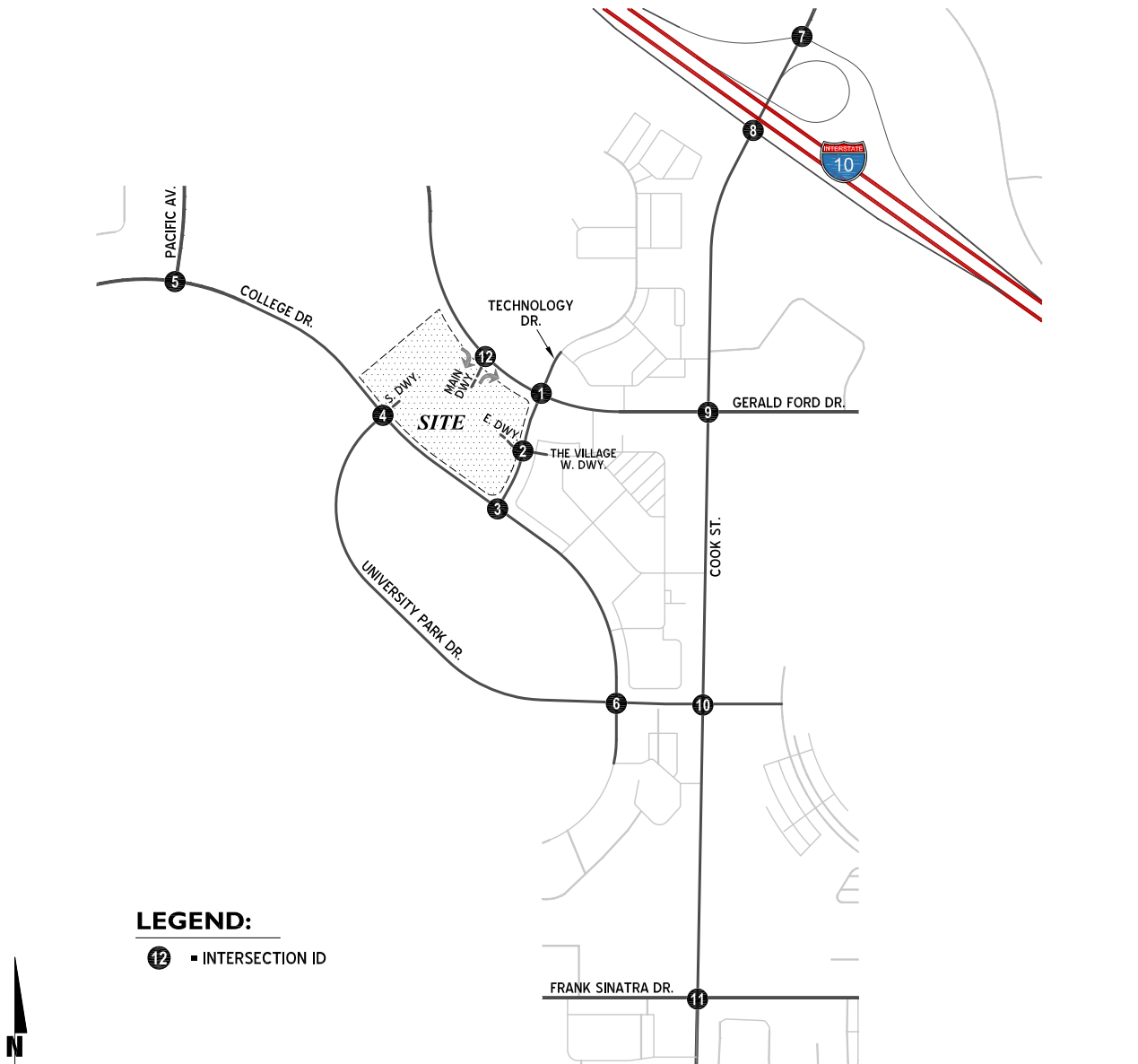
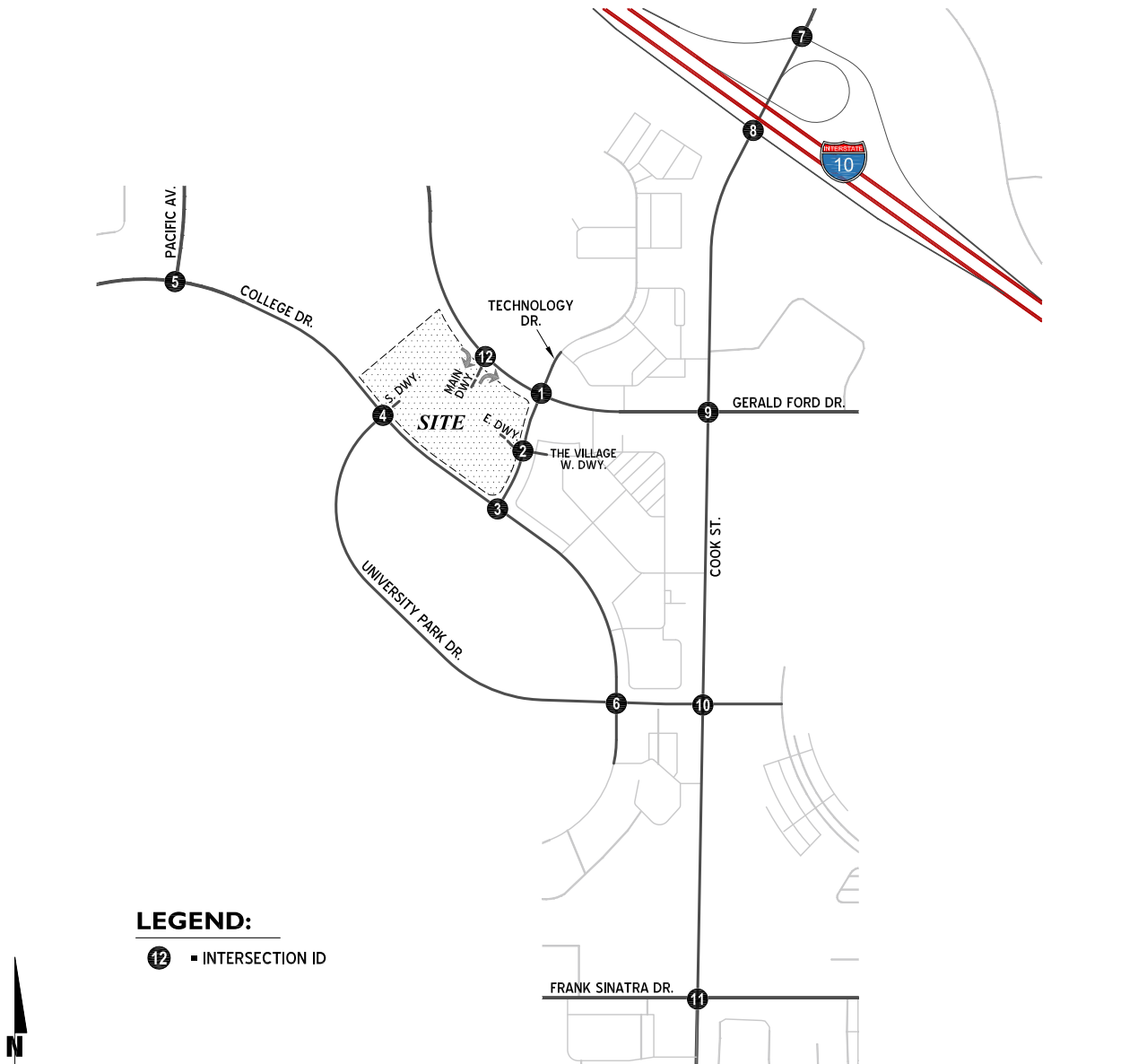


EXHIBIT 6: PROJECT ONLY AM PEAK HOUR INTERSECTION VOLUMES



| | | | | | |
|--|--|--|---|---|--|
| <p>1 Technology Dr. & Gerald Ford Dr.</p> | <p>2 Technology Dr. & E. Dwy. - The Village W. Dwy.</p> | <p>3 Technology Dr. & College Dr.</p> | <p>4 Pacific Av. & College Dr.</p> | <p>5 S. Dwy. - University Park Dr. & College Dr.</p> | <p>6 Cook St. & University Park Dr.</p> |
| <p>7 Cook St. & I-10 NB Ramps</p> | <p>8 Cook St. & I-10 SB Ramps</p> | <p>9 Cook St. & Gerald Ford Dr.</p> | <p>10 Cook St. & University Park Dr.</p> | <p>11 Cook St. & Frank Sinatra Dr.</p> | <p>12 Main Dwy. & Gerald Ford Dr.</p> |

EXHIBIT 7: PROJECT ONLY PM PEAK HOUR INTERSECTION VOLUMES



| | | | | | |
|--|--|--|---|---|--|
| <p>1 Technology Dr. & Gerald Ford Dr.</p> | <p>2 Technology Dr. & E. Dwy. - The Village W. Dwy.</p> | <p>3 Technology Dr. & College Dr.</p> | <p>4 Pacific Av. & College Dr.</p> | <p>5 S. Dwy. - University Park Dr. & College Dr.</p> | <p>6 Cook St. & University Park Dr.</p> |
| <p>7 Cook St. & I-10 NB Ramps</p> | <p>8 Cook St. & I-10 SB Ramps</p> | <p>9 Cook St. & Gerald Ford Dr.</p> | <p>10 Cook St. & University Park Dr.</p> | <p>11 Cook St. & Frank Sinatra Dr.</p> | <p>12 Main Dwy. & Gerald Ford Dr.</p> |

The City of Palm Desert General Plan Circulation Element is depicted on Exhibit 8, while the accompanying roadway cross-sections are presented on Exhibit 9. In addition, the University Neighborhood Specific Plan roadway designations are shown on Exhibit 10.

STUDY AREA

The traffic impact study area was defined in conformance with the requirements of County of Riverside's Transportation Analysis Guidelines for Level of Service & Vehicle Miles Traveled. Consistent with the County's LOS guidelines, study area intersections have been identified for the Project based on the contribution of 50 or more peak hour trips. Based on this criterion, anticipated trip generation and trip distribution, the following intersections will be evaluated:

| # | Intersection | # | Intersection |
|---|--|----|--------------------------------|
| 1 | Technology Dr. / Gerald Ford Dr. | 7 | Cook St. / I-10 NB Ramps |
| 2 | Technology Dr. / E. Dwy. - The Village W. Dwy. | 8 | Cook St. / I-10 SB Ramps |
| 3 | Technology Dr. / College Dr. | 9 | Cook St. / Gerald Ford Dr. |
| 4 | Pacific Av. / College Dr. | 10 | Cook St. / University Park Dr. |
| 5 | S. Dwy. - University Park Dr. / College Dr. | 11 | Cook St. / Frank Sinatra Dr. |
| 6 | Cook St. / University Park Dr. | 12 | Main Dwy. / Gerald Ford Dr. |

Exhibit 2 identifies the proposed study area intersection analysis locations.

LEVEL OF SERVICE (LOS) CRITERIA

Per the City of Palm Desert's General Plan, LOS D as the threshold for acceptable traffic conditions on the circulation network.

PREFERRED ANALYSIS METHODOLOGY

For the purposes of this analysis, signalized intersection operations analysis will be based on the methodology described in the Highway Capacity Manual (6th Edition). Intersection LOS operations are based on an intersection's average control delay. Unsignalized intersections will be evaluated using the methodology described in the HCM 6th Edition. At two-way or side-street stop-controlled intersections, LOS is calculated for each controlled movement and for the left turn movement from the major street, as well as for the intersection as a whole. For approaches composed of a single lane, the delay is computed as the average of all movements in that lane.

EXISTING 2022 VOLUMES

For the existing study area intersections, new traffic counts will be collected in October 2022 during the following timeframes: 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM.

EXHIBIT 8: CITY OF PALM DESERT GENERAL PLAN CIRCULATION ELEMENT

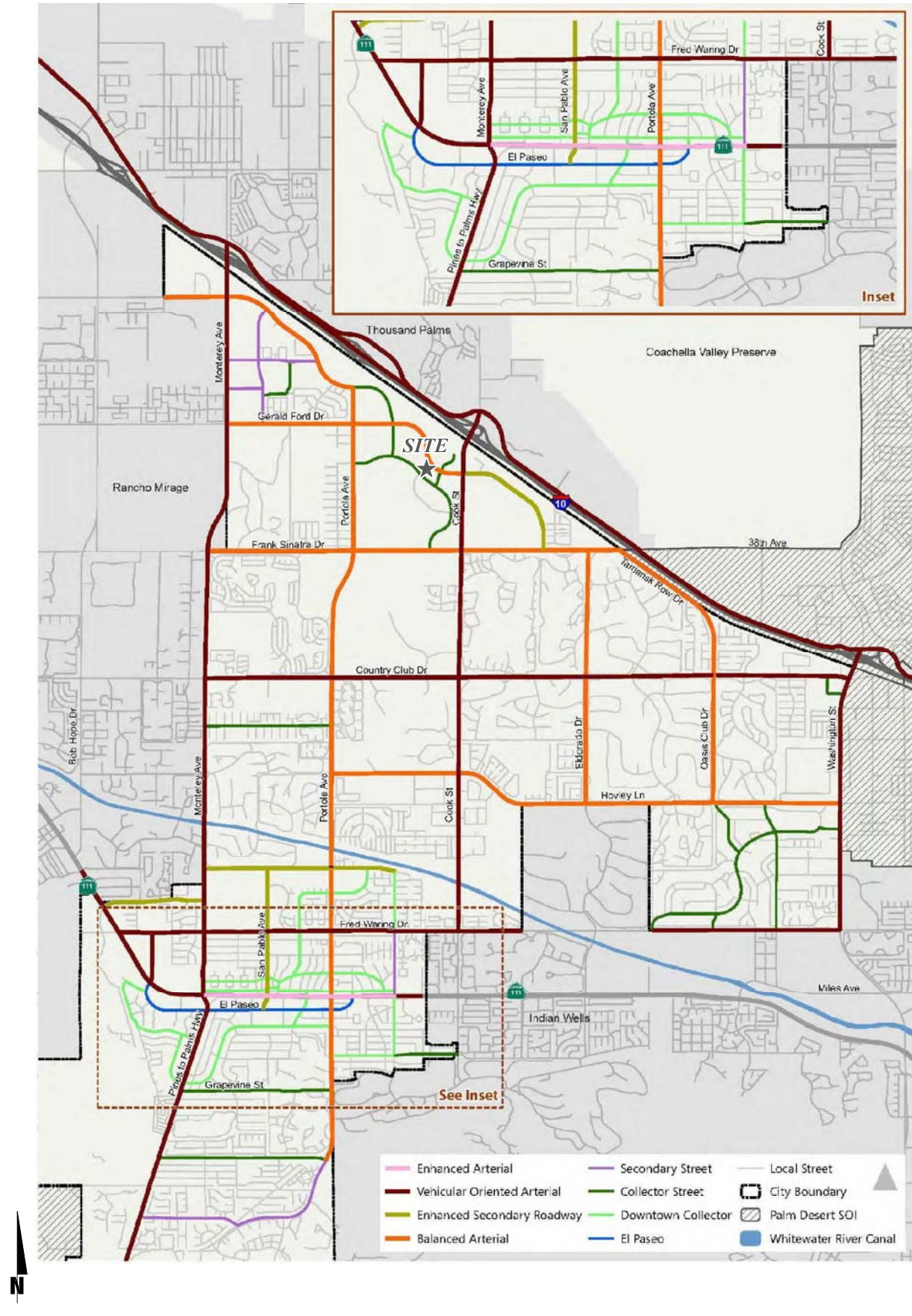
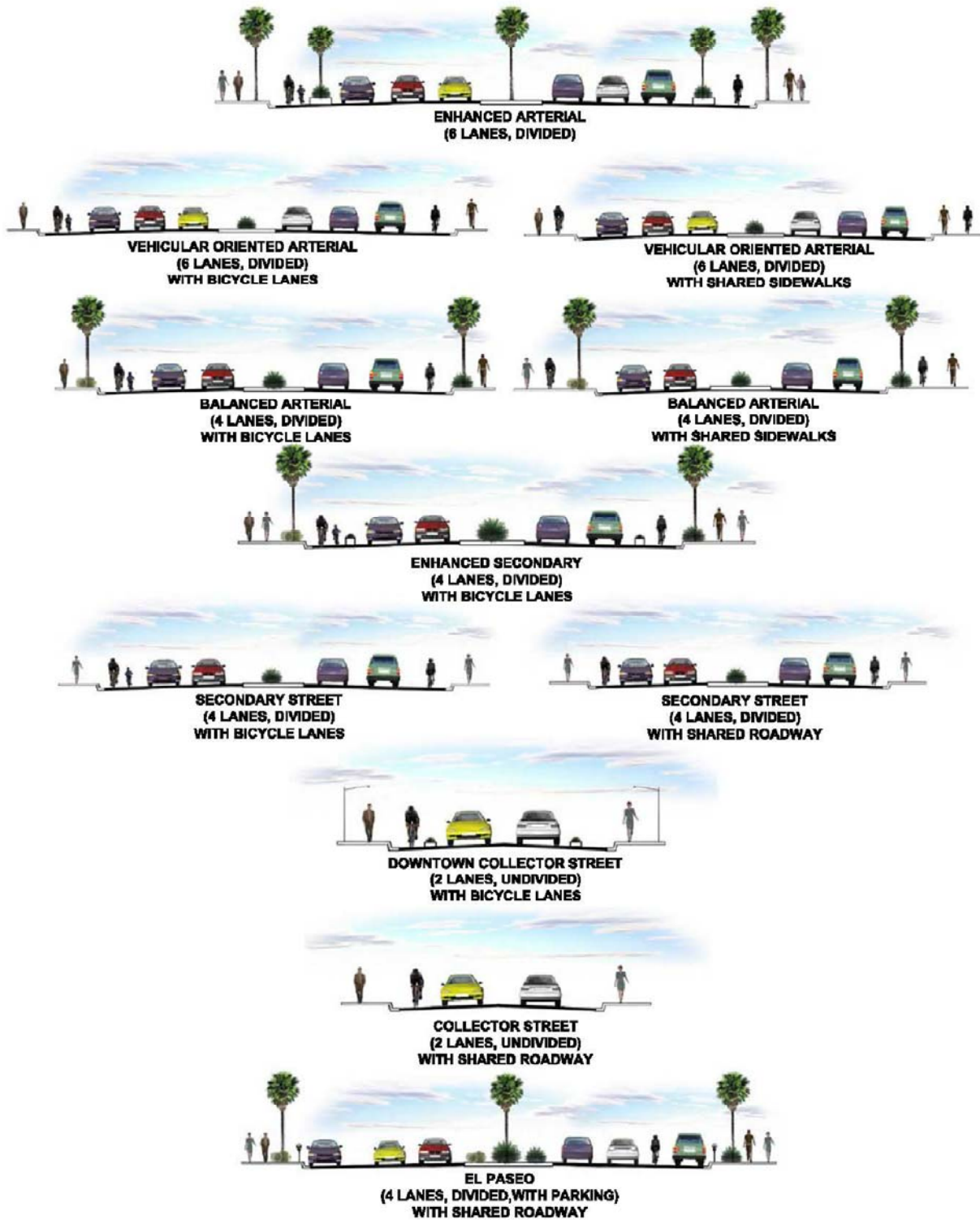
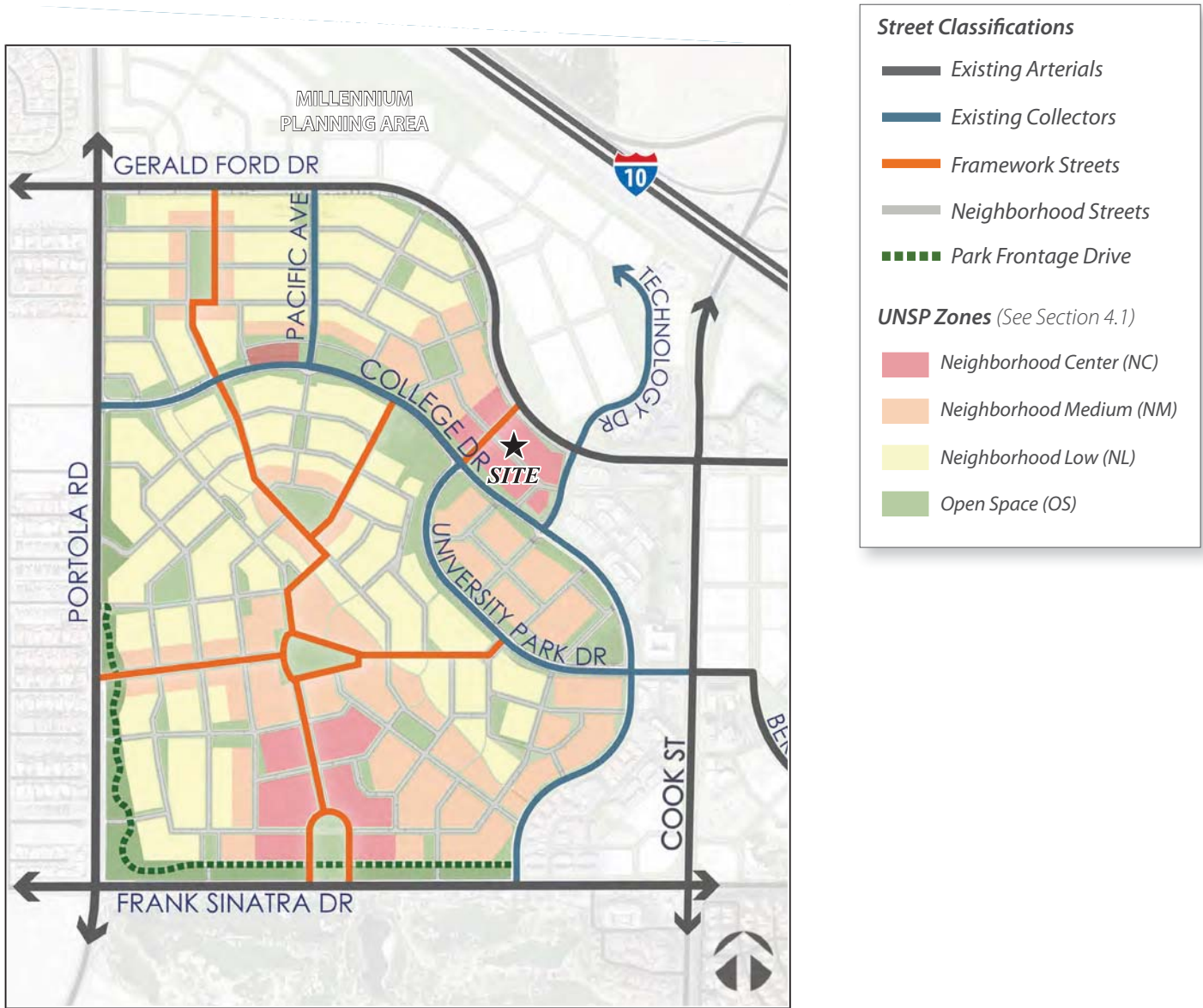


EXHIBIT 9: CITY OF PALM DESERT GENERAL PLAN ROADWAY CROSS-SECTIONS



SOURCE: CITY OF PALM DESERT

**EXHIBIT 10: UNIVERSITY NEIGHBORHOOD SPECIFIC PLAN
STREET CLASSIFICATIONS**



CUMULATIVE DEVELOPMENT TRAFFIC

It is requested that City staff review the list of cumulative development projects (shown on Exhibit 11 and listed on Table 2) for inclusion in the traffic study. Consistent with other studies performed in the area, an ambient growth rate of 2% per year will be utilized as a minimum if necessary. The rate will be compounded over a 2-year period (i.e., $1.02^{2\text{years}} = 1.0404$ or 4.04%) for Interim Year (2024) conditions. Where available, mitigation measures from the traffic studies prepared for nearby cumulative developments will be reviewed for consistency with the findings of this Project traffic analysis.

GENERAL PLAN BUILDOUT TRAFFIC

Future horizon year 2040 traffic projections will be derived from the Draft Section 31 Specific Plan Transportation Impact Study (March 2019), prepared by Fehr & Peers. General plan buildout traffic volumes from will be adjusted as necessary to ensure that the volume projections include reasonable growth over the 2022 traffic volumes.

SPECIAL ISSUES

The following issues will also be addressed as part of the TIA:

- Traffic Signal Warrant Analysis: Signal warrant analysis will be prepared for all unsignalized study area intersections that allow for full access (no traffic signal warrants to be performed for restricted access locations due to infeasibility of installing a signal at these types of locations).
- Improvements: Based on the traffic analysis results, the TA will indicate new improvement requirements and fair share contribution for the proposed Project.
- Vehicle Miles Traveled (VMT): VMT analysis will be conducted in accordance with City guidelines.

VEHICLE MILES TRAVELED (VMT) SCREENING

The VMT screening assessment will be prepared under separate cover. The California Environmental Quality Act (CEQA) procedures for determination of transportation impacts have recently changed to an evaluation of Vehicle Miles Traveled (VMT) rather than vehicle delay or level of service, due to Senate Bill 743 (SB 743). County of Riverside VMT screening guidelines will be applied to the project.

TABLE 2: CUMULATIVE DEVELOPMENT LAND USE SUMMARY

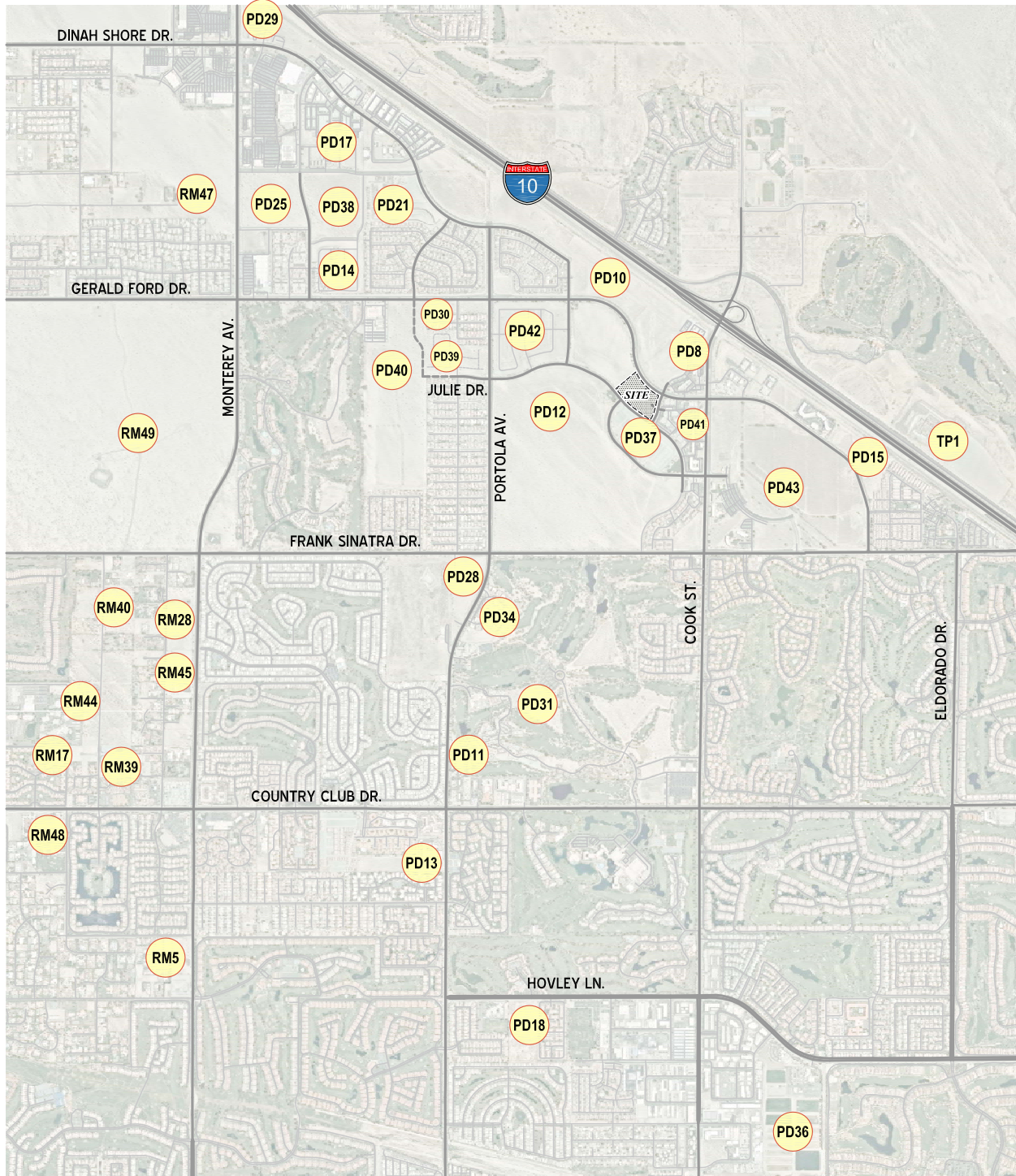
| TAZ | Project Name | Land Use ¹ | Quantity | Units ² |
|-----------------------|---|--|----------|--------------------|
| City of Palm Desert | | | | |
| PD8 | Fairfield Inn & Suites Marriott Hotel | Hotel | 108 | RM |
| PD10 | Millennium Palm Desert | SFDR | 166 | DU |
| | | Multi-Family | 612 | DU |
| | | Commercial | 551 | TSF |
| | | Hotel | 250 | RM |
| PD11 | Scotelle Office Building | Commercial | 10,732 | TSF |
| PD12 | University Park | SFDR | 764 | DU |
| | | Multi-Family | 336 | DU |
| PD13 | Villa Portofino | Congregate Care | 161 | DU |
| | | Assisted Living | 150 | DU |
| | | SFDR | 288 | DU |
| | | Multi-Family | 182 | DU |
| PD14 | Dolce | SFDR | 159 | DU |
| PD15 | Spanish Walk | Multi-Family (affordable housing) | 150 | DU |
| PD17 | Falling Waters | SFDR | 159 | DU |
| PD18 | The Sands Apartments | Apartments (with 20% affordable housing) | 388 | DU |
| PD21 | Ponderosa II | SFDR | 111 | DU |
| | | Multi-Family | 114 | DU |
| PD25 | Monterey Specific Plan | Multi-Family | 384 | DU |
| | | Commercial | 120 | TSF |
| PD28 | Portola Av./Frank Sinatra Dr. Residential | Multi-Family | 402 | DU |
| PD29 | Monterey Crossings | Commercial | 120 | TSF |
| PD30 | Santa Barbara Apartment | Multi-Family | 48 | DU |
| PD31 | Desert Surf | Resort Hotel | 350 | RM |
| | | Surf Lagoon | 1350 | Guests |
| | | Shopping Center | 4 | TSF |
| | | High-Turnover (Sit-Down) Restaurant | 11.25 | TSF |
| PD34 | The Retreat at Desert Willow | Condominiums | 112 | DU |
| PD36 | Laboratory/Office Space Building | Laboratory/Office Space | 20.5 | TSF |
| PD37 | University Park 196 (Lennar) | Single Family - Attached Residential | 196 | DU |
| PD38 | Urban Crossings (UHC) | Multi-Family | 176 | DU |
| PD39 | TTM 37993 | SFDR | 176 | DU |
| PD40 | Vitalia/Refuge | SFDR | 248 | DU |
| | | Multi-Family | 571 | DU |
| | | Single-Family Attached | 150 | DU |
| PD41 | University Village Pad 3 | Sit-Down Restaurant | 9 | TSF |
| PD42 | University Park - Phase 1 | SFDR | 240 | DU |
| PD43 | CSUSB Campus Master Plan | University/ College | 8000 | STU |
| Thousand Palms | | | | |
| TP1 | Acrisure Arena (Northstar Specific Plan) | Concert Sellout | 11000 | Seats |
| | | Concert Average | 7500 | Seats |
| City of Rancho Mirage | | | | |
| RM5 | PDP 13003/FDP 13004 | SFDR | 32 | DU |
| RM17 | TTM 36623/PDP 14003 | SFDR | 17 | DU |
| RM28 | TTM 32308 (Los Ranchos) | SFDR | 7 | DU |
| RM39 | TPM 34233 | SFDR | 4 | DU |
| RM40 | TPM 34741 | SFDR | 4 | DU |
| RM44 | TPM 36683 | SFDR | 1 | DU |
| RM45 | TPM 36849 | SFDR | 3 | DU |
| RM47 | Monterey Medical Center | Medical Office | 75,164 | TSF |
| RM48 | Pulte Homes / Del Webb | Assisted Living | 84 | Beds |
| RM49 | Section 31 Specific Plan | Hotel | 400 | RM |
| | | Retail | 175.0 | TSF |
| | | Multi-Family (Mid Rise) | 832 | DU |
| | | Single Family | 1100 | DU |

¹ SFDR = Single Family Detached Residential

² DU = Dwelling Units; TSF = Thousand Square Feet; RM = Room; STU = Students

F:\UXR\jobs\14600-15000\14855\Excel\14855 - Scope.xlsx\14855-C

EXHIBIT 11: CUMULATIVE DEVELOPMENT LOCATION MAP



LEGEND:

 = CUMULATIVE DEVELOPMENT ID



CONCLUSION

Urban Crossroads, Inc. is pleased to submit this letter documenting the Project trip generation, trip distribution and assignment, analysis scenarios and the recommended intersection analysis locations for the University Park Medical Center Level of Service (LOS) and Vehicle Miles Traveled (VMT).

Please review this scoping agreement let us know if it is acceptable, or if the City requests any changes to this proposed scope of work. If you have any questions, please contact John Kain at (949) 375-2435 or Marlie Whiteman at (714) 585-0574. Our schedule calls for the traffic counts to be conducted during October.

Respectfully submitted,

URBAN CROSSROADS, INC.



John Kain, AICP
Principal



Marlie Whiteman, PE
Senior Associate

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APPENDIX 3.1: TRAFFIC COUNTS – MARCH, APRIL, & OCTOBER 2022

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City of Palm Desert
 N/S: Technology Drive
 E/W: Gerald Ford Drive
 Weather: Clear

File Name : 06_PLD_Tech_Ger AM
 Site Code : 05122326
 Start Date : 4/27/2022
 Page No : 1

Groups Printed- Total Volume

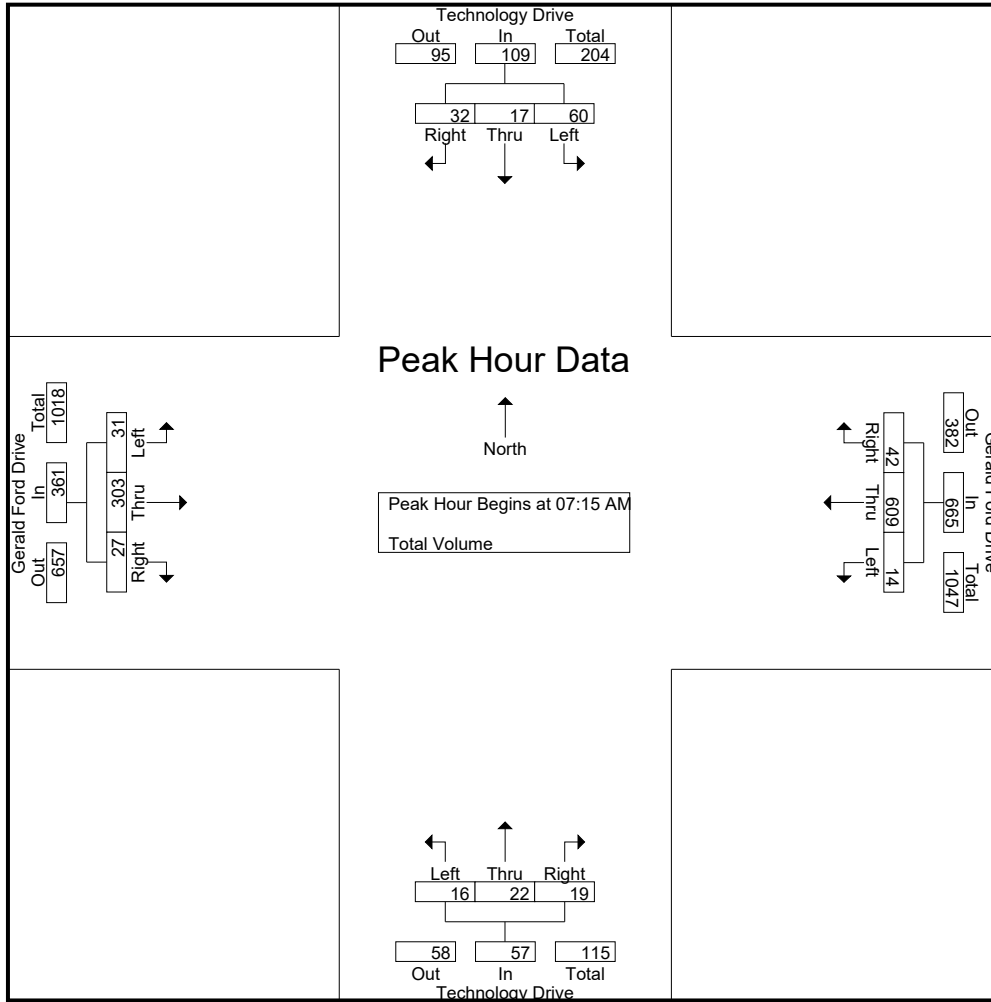
| Start Time | Technology Drive Southbound | | | | Gerald Ford Drive Westbound | | | | Technology Drive Northbound | | | | Gerald Ford Drive Eastbound | | | | Int. Total |
|-------------|-----------------------------|------|-------|------------|-----------------------------|------|-------|------------|-----------------------------|------|-------|------------|-----------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 15 | 2 | 6 | 23 | 2 | 123 | 7 | 132 | 3 | 6 | 6 | 15 | 3 | 52 | 6 | 61 | 231 |
| 07:15 AM | 11 | 2 | 9 | 22 | 2 | 140 | 7 | 149 | 6 | 3 | 3 | 12 | 2 | 62 | 7 | 71 | 254 |
| 07:30 AM | 12 | 2 | 7 | 21 | 2 | 164 | 8 | 174 | 1 | 8 | 7 | 16 | 9 | 67 | 4 | 80 | 291 |
| 07:45 AM | 17 | 4 | 8 | 29 | 6 | 174 | 13 | 193 | 5 | 6 | 4 | 15 | 7 | 106 | 10 | 123 | 360 |
| Total | 55 | 10 | 30 | 95 | 12 | 601 | 35 | 648 | 15 | 23 | 20 | 58 | 21 | 287 | 27 | 335 | 1136 |
| 08:00 AM | 20 | 9 | 8 | 37 | 4 | 131 | 14 | 149 | 4 | 5 | 5 | 14 | 13 | 68 | 6 | 87 | 287 |
| 08:15 AM | 12 | 0 | 8 | 20 | 3 | 108 | 7 | 118 | 2 | 4 | 6 | 12 | 5 | 53 | 5 | 63 | 213 |
| 08:30 AM | 11 | 3 | 6 | 20 | 0 | 122 | 11 | 133 | 4 | 9 | 4 | 17 | 4 | 87 | 3 | 94 | 264 |
| 08:45 AM | 14 | 2 | 4 | 20 | 7 | 110 | 14 | 131 | 3 | 4 | 10 | 17 | 13 | 82 | 6 | 101 | 269 |
| Total | 57 | 14 | 26 | 97 | 14 | 471 | 46 | 531 | 13 | 22 | 25 | 60 | 35 | 290 | 20 | 345 | 1033 |
| Grand Total | 112 | 24 | 56 | 192 | 26 | 1072 | 81 | 1179 | 28 | 45 | 45 | 118 | 56 | 577 | 47 | 680 | 2169 |
| Apprch % | 58.3 | 12.5 | 29.2 | | 2.2 | 90.9 | 6.9 | | 23.7 | 38.1 | 38.1 | | 8.2 | 84.9 | 6.9 | | |
| Total % | 5.2 | 1.1 | 2.6 | 8.9 | 1.2 | 49.4 | 3.7 | 54.4 | 1.3 | 2.1 | 2.1 | 5.4 | 2.6 | 26.6 | 2.2 | 31.4 | |

| Start Time | Technology Drive Southbound | | | | Gerald Ford Drive Westbound | | | | Technology Drive Northbound | | | | Gerald Ford Drive Eastbound | | | | Int. Total |
|--------------|-----------------------------|----------|----------|------------|-----------------------------|------------|-----------|------------|-----------------------------|----------|----------|------------|-----------------------------|------------|-----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:15 AM | 11 | 2 | 9 | 22 | 2 | 140 | 7 | 149 | 6 | 3 | 3 | 12 | 2 | 62 | 7 | 71 | 254 |
| 07:30 AM | 12 | 2 | 7 | 21 | 2 | 164 | 8 | 174 | 1 | 8 | 7 | 16 | 9 | 67 | 4 | 80 | 291 |
| 07:45 AM | 17 | 4 | 8 | 29 | 6 | 174 | 13 | 193 | 5 | 6 | 4 | 15 | 7 | 106 | 10 | 123 | 360 |
| 08:00 AM | 20 | 9 | 8 | 37 | 4 | 131 | 14 | 149 | 4 | 5 | 5 | 14 | 13 | 68 | 6 | 87 | 287 |
| Total Volume | 60 | 17 | 32 | 109 | 14 | 609 | 42 | 665 | 16 | 22 | 19 | 57 | 31 | 303 | 27 | 361 | 1192 |
| % App. Total | 55 | 15.6 | 29.4 | | 2.1 | 91.6 | 6.3 | | 28.1 | 38.6 | 33.3 | | 8.6 | 83.9 | 7.5 | | |
| PHF | .750 | .472 | .889 | .736 | .583 | .875 | .750 | .861 | .667 | .688 | .679 | .891 | .596 | .715 | .675 | .734 | .828 |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

City of Palm Desert
 N/S: Technology Drive
 E/W: Gerald Ford Drive
 Weather: Clear

File Name : 06_PLD_Tech_Ger AM
 Site Code : 05122326
 Start Date : 4/27/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:15 AM | | | | 07:15 AM | | | | 08:00 AM | | | | 07:45 AM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 11 | 2 | 9 | 22 | 2 | 140 | 7 | 149 | 4 | 5 | 5 | 14 | 7 | 106 | 10 | 123 |
| +15 mins. | 12 | 2 | 7 | 21 | 2 | 164 | 8 | 174 | 2 | 4 | 6 | 12 | 13 | 68 | 6 | 87 |
| +30 mins. | 17 | 4 | 8 | 29 | 6 | 174 | 13 | 193 | 4 | 9 | 4 | 17 | 5 | 53 | 5 | 63 |
| +45 mins. | 20 | 9 | 8 | 37 | 4 | 131 | 14 | 149 | 3 | 4 | 10 | 17 | 4 | 87 | 3 | 94 |
| Total Volume | 60 | 17 | 32 | 109 | 14 | 609 | 42 | 665 | 13 | 22 | 25 | 60 | 29 | 314 | 24 | 367 |
| % App. Total | 55 | 15.6 | 29.4 | | 2.1 | 91.6 | 6.3 | | 21.7 | 36.7 | 41.7 | | 7.9 | 85.6 | 6.5 | |
| PHF | .750 | .472 | .889 | .736 | .583 | .875 | .750 | .861 | .813 | .611 | .625 | .882 | .558 | .741 | .600 | .746 |

City of Palm Desert
 N/S: Technology Drive
 E/W: Gerald Ford Drive
 Weather: Clear

File Name : 06_PLD_Tech_Ger PM
 Site Code : 05122326
 Start Date : 4/27/2022
 Page No : 1

Groups Printed- Total Volume

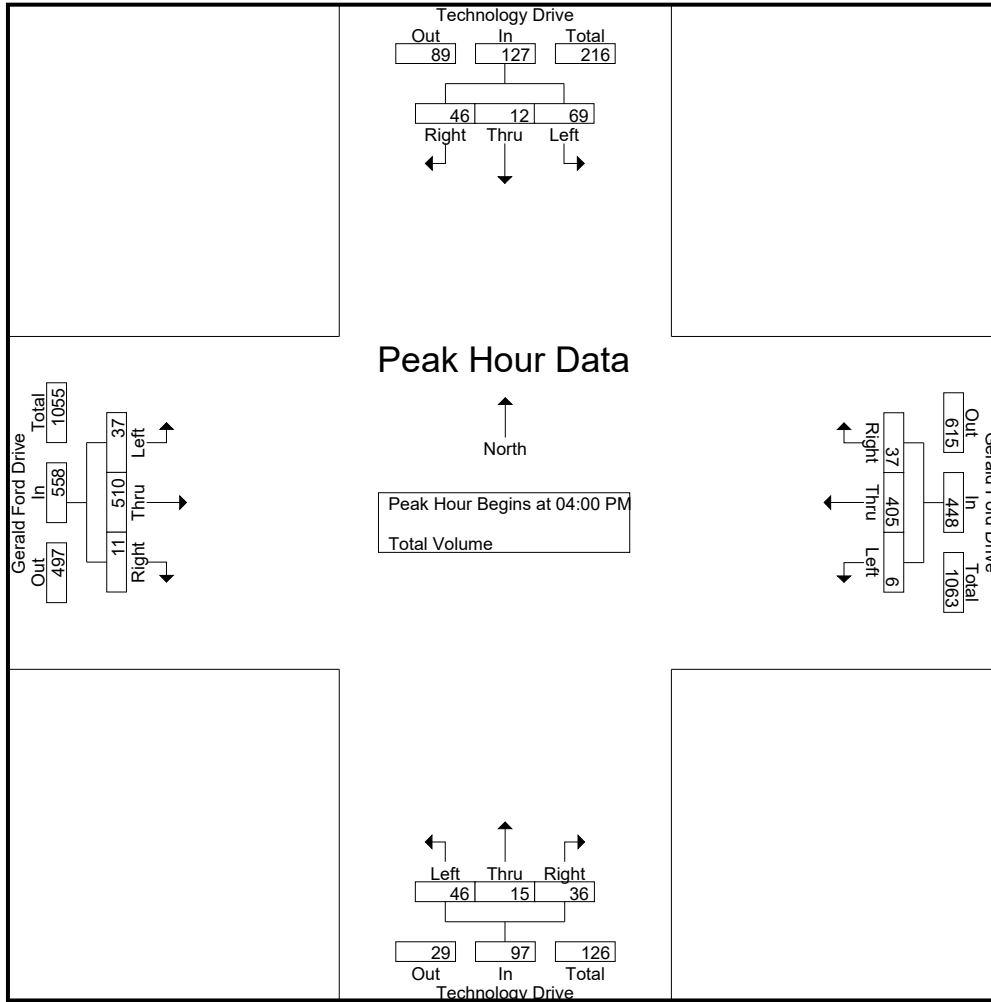
| Start Time | Technology Drive Southbound | | | | Gerald Ford Drive Westbound | | | | Technology Drive Northbound | | | | Gerald Ford Drive Eastbound | | | | Int. Total |
|-------------|-----------------------------|------|-------|------------|-----------------------------|------|-------|------------|-----------------------------|------|-------|------------|-----------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 9 | 5 | 12 | 26 | 1 | 104 | 14 | 119 | 15 | 5 | 1 | 21 | 11 | 157 | 3 | 171 | 337 |
| 04:15 PM | 18 | 4 | 9 | 31 | 2 | 103 | 14 | 119 | 6 | 3 | 7 | 16 | 14 | 112 | 3 | 129 | 295 |
| 04:30 PM | 24 | 3 | 11 | 38 | 1 | 105 | 7 | 113 | 8 | 3 | 15 | 26 | 9 | 140 | 4 | 153 | 330 |
| 04:45 PM | 18 | 0 | 14 | 32 | 2 | 93 | 2 | 97 | 17 | 4 | 13 | 34 | 3 | 101 | 1 | 105 | 268 |
| Total | 69 | 12 | 46 | 127 | 6 | 405 | 37 | 448 | 46 | 15 | 36 | 97 | 37 | 510 | 11 | 558 | 1230 |
| 05:00 PM | 20 | 3 | 8 | 31 | 4 | 73 | 4 | 81 | 14 | 0 | 13 | 27 | 3 | 157 | 4 | 164 | 303 |
| 05:15 PM | 10 | 4 | 2 | 16 | 1 | 103 | 16 | 120 | 10 | 4 | 9 | 23 | 10 | 131 | 4 | 145 | 304 |
| 05:30 PM | 12 | 0 | 5 | 17 | 0 | 87 | 15 | 102 | 10 | 3 | 4 | 17 | 6 | 132 | 3 | 141 | 277 |
| 05:45 PM | 5 | 2 | 3 | 10 | 1 | 77 | 16 | 94 | 10 | 4 | 1 | 15 | 12 | 109 | 3 | 124 | 243 |
| Total | 47 | 9 | 18 | 74 | 6 | 340 | 51 | 397 | 44 | 11 | 27 | 82 | 31 | 529 | 14 | 574 | 1127 |
| Grand Total | 116 | 21 | 64 | 201 | 12 | 745 | 88 | 845 | 90 | 26 | 63 | 179 | 68 | 1039 | 25 | 1132 | 2357 |
| Apprch % | 57.7 | 10.4 | 31.8 | | 1.4 | 88.2 | 10.4 | | 50.3 | 14.5 | 35.2 | | 6 | 91.8 | 2.2 | | |
| Total % | 4.9 | 0.9 | 2.7 | 8.5 | 0.5 | 31.6 | 3.7 | 35.9 | 3.8 | 1.1 | 2.7 | 7.6 | 2.9 | 44.1 | 1.1 | 48 | |

| Start Time | Technology Drive Southbound | | | | Gerald Ford Drive Westbound | | | | Technology Drive Northbound | | | | Gerald Ford Drive Eastbound | | | | Int. Total |
|--------------|-----------------------------|------|-----------|------------|-----------------------------|------------|-----------|------------|-----------------------------|------|-----------|------------|-----------------------------|------------|----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 9 | 5 | 12 | 26 | 1 | 104 | 14 | 119 | 15 | 5 | 1 | 21 | 11 | 157 | 3 | 171 | 337 |
| 04:15 PM | 18 | 4 | 9 | 31 | 2 | 103 | 14 | 119 | 6 | 3 | 7 | 16 | 14 | 112 | 3 | 129 | 295 |
| 04:30 PM | 24 | 3 | 11 | 38 | 1 | 105 | 7 | 113 | 8 | 3 | 15 | 26 | 9 | 140 | 4 | 153 | 330 |
| 04:45 PM | 18 | 0 | 14 | 32 | 2 | 93 | 2 | 97 | 17 | 4 | 13 | 34 | 3 | 101 | 1 | 105 | 268 |
| Total Volume | 69 | 12 | 46 | 127 | 6 | 405 | 37 | 448 | 46 | 15 | 36 | 97 | 37 | 510 | 11 | 558 | 1230 |
| % App. Total | 54.3 | 9.4 | 36.2 | | 1.3 | 90.4 | 8.3 | | 47.4 | 15.5 | 37.1 | | 6.6 | 91.4 | 2 | | |
| PHF | .719 | .600 | .821 | .836 | .750 | .964 | .661 | .941 | .676 | .750 | .600 | .713 | .661 | .812 | .688 | .816 | .912 |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:00 PM

City of Palm Desert
 N/S: Technology Drive
 E/W: Gerald Ford Drive
 Weather: Clear

File Name : 06_PLD_Tech_Ger PM
 Site Code : 05122326
 Start Date : 4/27/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:15 PM | | | | 04:00 PM | | | | 04:30 PM | | | | 05:00 PM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 18 | 4 | 9 | 31 | 1 | 104 | 14 | 119 | 8 | 3 | 15 | 26 | 3 | 157 | 4 | 164 |
| +15 mins. | 24 | 3 | 11 | 38 | 2 | 103 | 14 | 119 | 17 | 4 | 13 | 34 | 10 | 131 | 4 | 145 |
| +30 mins. | 18 | 0 | 14 | 32 | 1 | 105 | 7 | 113 | 14 | 0 | 13 | 27 | 6 | 132 | 3 | 141 |
| +45 mins. | 20 | 3 | 8 | 31 | 2 | 93 | 2 | 97 | 10 | 4 | 9 | 23 | 12 | 109 | 3 | 124 |
| Total Volume | 80 | 10 | 42 | 132 | 6 | 405 | 37 | 448 | 49 | 11 | 50 | 110 | 31 | 529 | 14 | 574 |
| % App. Total | 60.6 | 7.6 | 31.8 | | 1.3 | 90.4 | 8.3 | | 44.5 | 10 | 45.5 | | 5.4 | 92.2 | 2.4 | |
| PHF | .833 | .625 | .750 | .868 | .750 | .964 | .661 | .941 | .721 | .688 | .833 | .809 | .646 | .842 | .875 | .875 |

City of Palm Desert
 N/S: Technology Drive
 E/W: East Driveway/The Village West DW
 Weather: Clear

File Name : 02_PLD_Tech_East DW AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

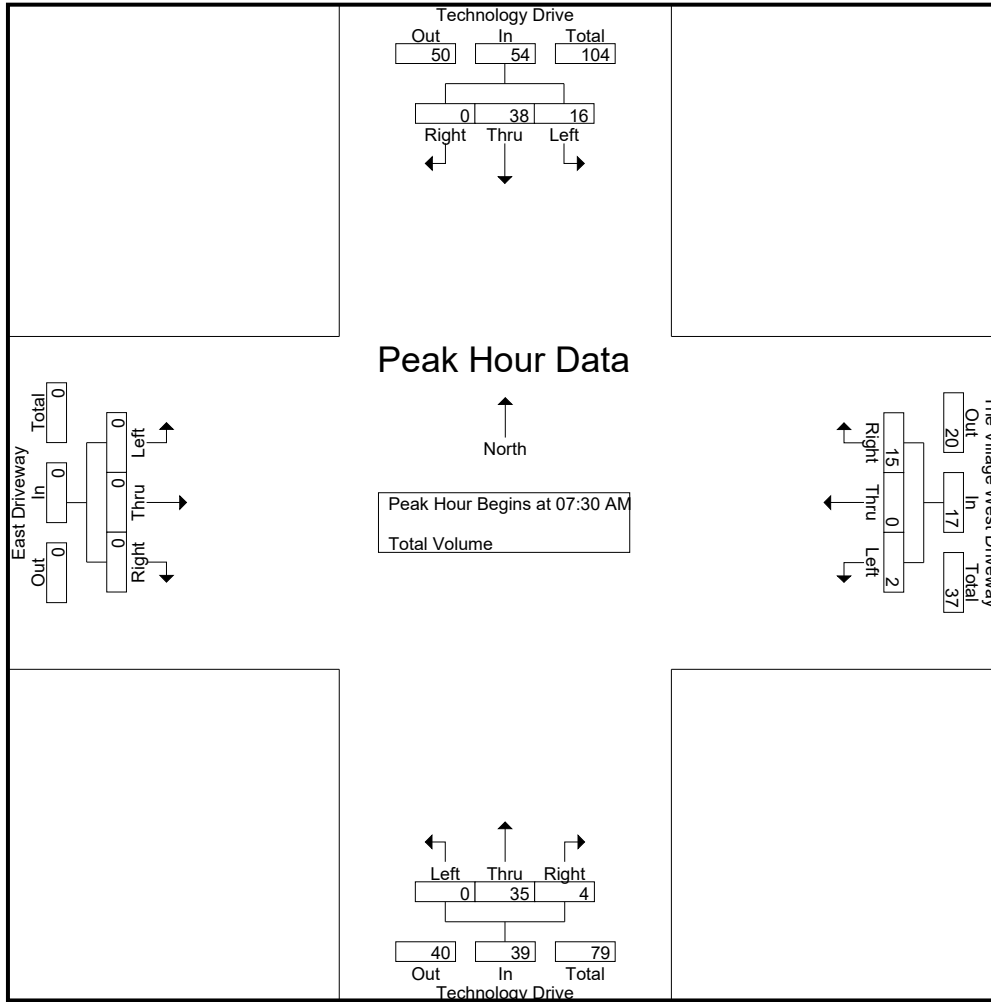
Groups Printed- Total Volume

| Start Time | Technology Drive Southbound | | | | The Village West Driveway Westbound | | | | Technology Drive Northbound | | | | East Driveway Eastbound | | | | Int. Total |
|-------------|-----------------------------|------|-------|------------|-------------------------------------|------|-------|------------|-----------------------------|------|-------|------------|-------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 0 | 7 | 0 | 7 | 0 | 0 | 3 | 3 | 0 | 6 | 2 | 8 | 0 | 0 | 0 | 0 | 18 |
| 07:15 AM | 4 | 2 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 4 | 0 | 0 | 0 | 0 | 10 |
| 07:30 AM | 2 | 6 | 0 | 8 | 1 | 0 | 2 | 3 | 0 | 9 | 0 | 9 | 0 | 0 | 0 | 0 | 20 |
| 07:45 AM | 5 | 15 | 0 | 20 | 1 | 0 | 3 | 4 | 0 | 10 | 1 | 11 | 0 | 0 | 0 | 0 | 35 |
| Total | 11 | 30 | 0 | 41 | 2 | 0 | 8 | 10 | 0 | 29 | 3 | 32 | 0 | 0 | 0 | 0 | 83 |
| 08:00 AM | 4 | 12 | 0 | 16 | 0 | 0 | 5 | 5 | 0 | 9 | 0 | 9 | 0 | 0 | 0 | 0 | 30 |
| 08:15 AM | 5 | 5 | 0 | 10 | 0 | 0 | 5 | 5 | 0 | 7 | 3 | 10 | 0 | 0 | 0 | 0 | 25 |
| 08:30 AM | 3 | 5 | 0 | 8 | 1 | 0 | 1 | 2 | 0 | 7 | 3 | 10 | 0 | 0 | 0 | 0 | 20 |
| 08:45 AM | 5 | 6 | 0 | 11 | 1 | 0 | 7 | 8 | 0 | 8 | 5 | 13 | 0 | 0 | 0 | 0 | 32 |
| Total | 17 | 28 | 0 | 45 | 2 | 0 | 18 | 20 | 0 | 31 | 11 | 42 | 0 | 0 | 0 | 0 | 107 |
| Grand Total | 28 | 58 | 0 | 86 | 4 | 0 | 26 | 30 | 0 | 60 | 14 | 74 | 0 | 0 | 0 | 0 | 190 |
| Apprch % | 32.6 | 67.4 | 0 | | 13.3 | 0 | 86.7 | | 0 | 81.1 | 18.9 | | 0 | 0 | 0 | | |
| Total % | 14.7 | 30.5 | 0 | 45.3 | 2.1 | 0 | 13.7 | 15.8 | 0 | 31.6 | 7.4 | 38.9 | 0 | 0 | 0 | 0 | |

| Start Time | Technology Drive Southbound | | | | The Village West Driveway Westbound | | | | Technology Drive Northbound | | | | East Driveway Eastbound | | | | Int. Total |
|--|-----------------------------|------|-------|------------|-------------------------------------|------|-------|------------|-----------------------------|------|-------|------------|-------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:30 AM | | | | | | | | | | | | | | | | | |
| 07:30 AM | 2 | 6 | 0 | 8 | 1 | 0 | 2 | 3 | 0 | 9 | 0 | 9 | 0 | 0 | 0 | 0 | 20 |
| 07:45 AM | 5 | 15 | 0 | 20 | 1 | 0 | 3 | 4 | 0 | 10 | 1 | 11 | 0 | 0 | 0 | 0 | 35 |
| 08:00 AM | 4 | 12 | 0 | 16 | 0 | 0 | 5 | 5 | 0 | 9 | 0 | 9 | 0 | 0 | 0 | 0 | 30 |
| 08:15 AM | 5 | 5 | 0 | 10 | 0 | 0 | 5 | 5 | 0 | 7 | 3 | 10 | 0 | 0 | 0 | 0 | 25 |
| Total Volume | 16 | 38 | 0 | 54 | 2 | 0 | 15 | 17 | 0 | 35 | 4 | 39 | 0 | 0 | 0 | 0 | 110 |
| % App. Total | 29.6 | 70.4 | 0 | | 11.8 | 0 | 88.2 | | 0 | 89.7 | 10.3 | | 0 | 0 | 0 | | |
| PHF | .800 | .633 | .000 | .675 | .500 | .000 | .750 | .850 | .000 | .875 | .333 | .886 | .000 | .000 | .000 | .000 | .786 |

City of Palm Desert
 N/S: Technology Drive
 E/W: East Driveway/The Village West DW
 Weather: Clear

File Name : 02_PLD_Tech_East DW AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:30 AM | | | | 08:00 AM | | | | 08:00 AM | | | | 07:00 AM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 2 | 6 | 0 | 8 | 0 | 0 | 5 | 5 | 0 | 9 | 0 | 9 | 0 | 0 | 0 | 0 |
| +15 mins. | 5 | 15 | 0 | 20 | 0 | 0 | 5 | 5 | 0 | 7 | 3 | 10 | 0 | 0 | 0 | 0 |
| +30 mins. | 4 | 12 | 0 | 16 | 1 | 0 | 1 | 2 | 0 | 7 | 3 | 10 | 0 | 0 | 0 | 0 |
| +45 mins. | 5 | 5 | 0 | 10 | 1 | 0 | 7 | 8 | 0 | 8 | 5 | 13 | 0 | 0 | 0 | 0 |
| Total Volume | 16 | 38 | 0 | 54 | 2 | 0 | 18 | 20 | 0 | 31 | 11 | 42 | 0 | 0 | 0 | 0 |
| % App. Total | 29.6 | 70.4 | 0 | | 10 | 0 | 90 | | 0 | 73.8 | 26.2 | | 0 | 0 | 0 | |
| PHF | .800 | .633 | .000 | .675 | .500 | .000 | .643 | .625 | .000 | .861 | .550 | .808 | .000 | .000 | .000 | .000 |

City of Palm Desert
 N/S: Technology Drive
 E/W: East Driveway/The Village West DW
 Weather: Clear

File Name : 02_PLD_Tech_East DW PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

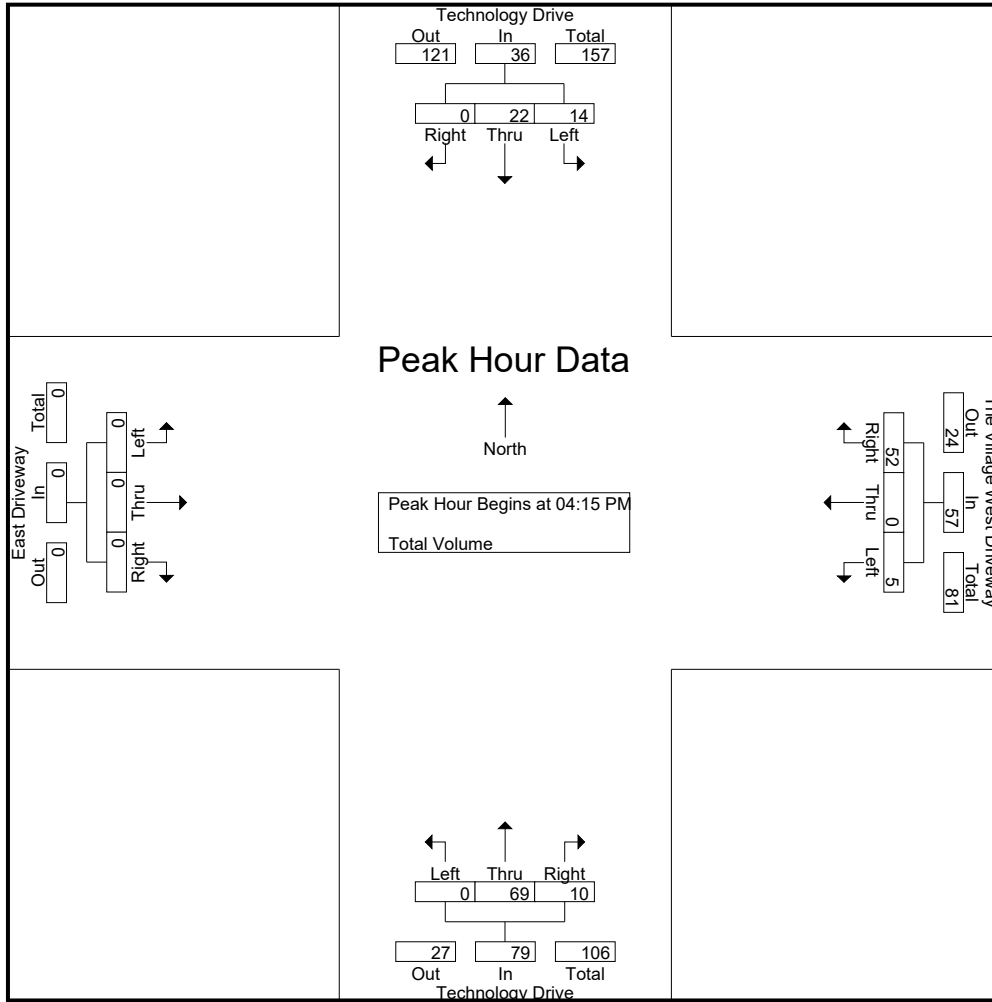
Groups Printed- Total Volume

| Start Time | Technology Drive Southbound | | | | The Village West Driveway Westbound | | | | Technology Drive Northbound | | | | East Driveway Eastbound | | | | Int. Total |
|-------------|-----------------------------|------|-------|------------|-------------------------------------|------|-------|------------|-----------------------------|------|-------|------------|-------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 2 | 7 | 0 | 9 | 2 | 0 | 10 | 12 | 0 | 10 | 3 | 13 | 0 | 0 | 0 | 0 | 34 |
| 04:15 PM | 2 | 5 | 0 | 7 | 1 | 0 | 9 | 10 | 0 | 23 | 1 | 24 | 0 | 0 | 0 | 0 | 41 |
| 04:30 PM | 5 | 8 | 0 | 13 | 2 | 0 | 13 | 15 | 0 | 17 | 1 | 18 | 0 | 0 | 0 | 0 | 46 |
| 04:45 PM | 3 | 6 | 0 | 9 | 0 | 0 | 13 | 13 | 0 | 14 | 4 | 18 | 0 | 0 | 0 | 0 | 40 |
| Total | 12 | 26 | 0 | 38 | 5 | 0 | 45 | 50 | 0 | 64 | 9 | 73 | 0 | 0 | 0 | 0 | 161 |
| 05:00 PM | 4 | 3 | 0 | 7 | 2 | 0 | 17 | 19 | 0 | 15 | 4 | 19 | 0 | 0 | 0 | 0 | 45 |
| 05:15 PM | 1 | 8 | 0 | 9 | 0 | 0 | 12 | 12 | 0 | 7 | 3 | 10 | 0 | 0 | 0 | 0 | 31 |
| 05:30 PM | 2 | 5 | 0 | 7 | 0 | 0 | 11 | 11 | 0 | 3 | 4 | 7 | 0 | 0 | 0 | 0 | 25 |
| 05:45 PM | 2 | 7 | 0 | 9 | 0 | 0 | 8 | 8 | 0 | 9 | 3 | 12 | 0 | 0 | 0 | 0 | 29 |
| Total | 9 | 23 | 0 | 32 | 2 | 0 | 48 | 50 | 0 | 34 | 14 | 48 | 0 | 0 | 0 | 0 | 130 |
| Grand Total | 21 | 49 | 0 | 70 | 7 | 0 | 93 | 100 | 0 | 98 | 23 | 121 | 0 | 0 | 0 | 0 | 291 |
| Apprch % | 30 | 70 | 0 | | 7 | 0 | 93 | | 0 | 81 | 19 | | 0 | 0 | 0 | | |
| Total % | 7.2 | 16.8 | 0 | 24.1 | 2.4 | 0 | 32 | 34.4 | 0 | 33.7 | 7.9 | 41.6 | 0 | 0 | 0 | 0 | |

| Start Time | Technology Drive Southbound | | | | The Village West Driveway Westbound | | | | Technology Drive Northbound | | | | East Driveway Eastbound | | | | Int. Total |
|--|-----------------------------|----------|-------|------------|-------------------------------------|------|-----------|------------|-----------------------------|-----------|----------|------------|-------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:15 PM | | | | | | | | | | | | | | | | | |
| 04:15 PM | 2 | 5 | 0 | 7 | 1 | 0 | 9 | 10 | 0 | 23 | 1 | 24 | 0 | 0 | 0 | 0 | 41 |
| 04:30 PM | 5 | 8 | 0 | 13 | 2 | 0 | 13 | 15 | 0 | 17 | 1 | 18 | 0 | 0 | 0 | 0 | 46 |
| 04:45 PM | 3 | 6 | 0 | 9 | 0 | 0 | 13 | 13 | 0 | 14 | 4 | 18 | 0 | 0 | 0 | 0 | 40 |
| 05:00 PM | 4 | 3 | 0 | 7 | 2 | 0 | 17 | 19 | 0 | 15 | 4 | 19 | 0 | 0 | 0 | 0 | 45 |
| Total Volume | 14 | 22 | 0 | 36 | 5 | 0 | 52 | 57 | 0 | 69 | 10 | 79 | 0 | 0 | 0 | 0 | 172 |
| % App. Total | 38.9 | 61.1 | 0 | | 8.8 | 0 | 91.2 | | 0 | 87.3 | 12.7 | | 0 | 0 | 0 | | |
| PHF | .700 | .688 | .000 | .692 | .625 | .000 | .765 | .750 | .000 | .750 | .625 | .823 | .000 | .000 | .000 | .000 | .935 |

City of Palm Desert
 N/S: Technology Drive
 E/W: East Driveway/The Village West DW
 Weather: Clear

File Name : 02_PLD_Tech_East DW PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:00 PM | | | | 04:30 PM | | | | 04:15 PM | | | | 04:00 PM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 2 | 7 | 0 | 9 | 2 | 0 | 13 | 15 | 0 | 23 | 1 | 24 | 0 | 0 | 0 | 0 |
| +15 mins. | 2 | 5 | 0 | 7 | 0 | 0 | 13 | 13 | 0 | 17 | 1 | 18 | 0 | 0 | 0 | 0 |
| +30 mins. | 5 | 8 | 0 | 13 | 2 | 0 | 17 | 19 | 0 | 14 | 4 | 18 | 0 | 0 | 0 | 0 |
| +45 mins. | 3 | 6 | 0 | 9 | 0 | 0 | 12 | 12 | 0 | 15 | 4 | 19 | 0 | 0 | 0 | 0 |
| Total Volume | 12 | 26 | 0 | 38 | 4 | 0 | 55 | 59 | 0 | 69 | 10 | 79 | 0 | 0 | 0 | 0 |
| % App. Total | 31.6 | 68.4 | 0 | | 6.8 | 0 | 93.2 | | 0 | 87.3 | 12.7 | | 0 | 0 | 0 | |
| PHF | .600 | .813 | .000 | .731 | .500 | .000 | .809 | .776 | .000 | .750 | .625 | .823 | .000 | .000 | .000 | .000 |

City of Palm Desert
 N/S: Technology Drive
 E/W: College Drive
 Weather: Clear

File Name : 03_PLD_Tech_Coll AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Total Volume

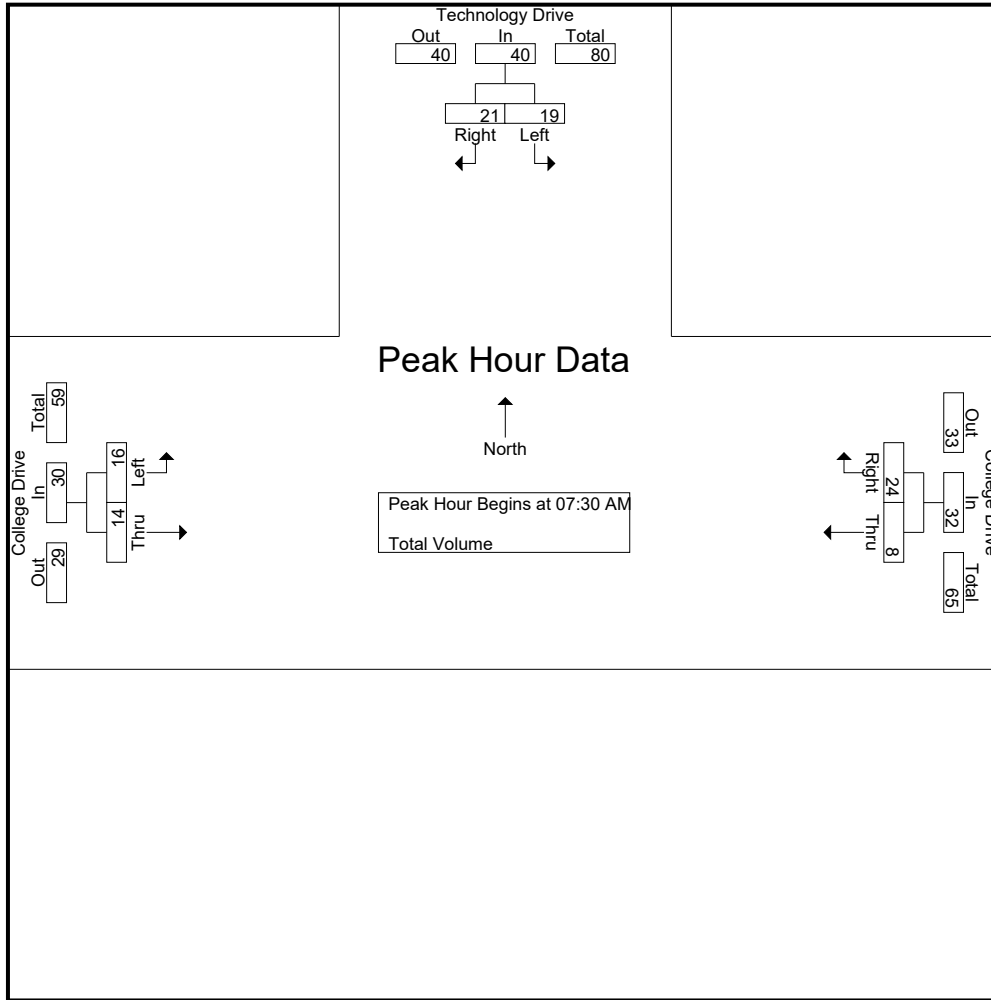
| Start Time | Technology Drive Southbound | | | College Drive Westbound | | | College Drive Eastbound | | | Int. Total |
|-------------|-----------------------------|-------|------------|-------------------------|-------|------------|-------------------------|------|------------|------------|
| | Left | Right | App. Total | Thru | Right | App. Total | Left | Thru | App. Total | |
| 07:00 AM | 1 | 6 | 7 | 1 | 5 | 6 | 3 | 1 | 4 | 17 |
| 07:15 AM | 1 | 1 | 2 | 0 | 1 | 1 | 3 | 0 | 3 | 6 |
| 07:30 AM | 2 | 5 | 7 | 0 | 4 | 4 | 5 | 2 | 7 | 18 |
| 07:45 AM | 8 | 8 | 16 | 3 | 10 | 13 | 2 | 4 | 6 | 35 |
| Total | 12 | 20 | 32 | 4 | 20 | 24 | 13 | 7 | 20 | 76 |
| 08:00 AM | 7 | 5 | 12 | 4 | 7 | 11 | 2 | 7 | 9 | 32 |
| 08:15 AM | 2 | 3 | 5 | 1 | 3 | 4 | 7 | 1 | 8 | 17 |
| 08:30 AM | 5 | 1 | 6 | 2 | 7 | 9 | 2 | 0 | 2 | 17 |
| 08:45 AM | 4 | 3 | 7 | 2 | 4 | 6 | 9 | 5 | 14 | 27 |
| Total | 18 | 12 | 30 | 9 | 21 | 30 | 20 | 13 | 33 | 93 |
| Grand Total | 30 | 32 | 62 | 13 | 41 | 54 | 33 | 20 | 53 | 169 |
| Apprch % | 48.4 | 51.6 | | 24.1 | 75.9 | | 62.3 | 37.7 | | |
| Total % | 17.8 | 18.9 | 36.7 | 7.7 | 24.3 | 32 | 19.5 | 11.8 | 31.4 | |

| Start Time | Technology Drive Southbound | | | College Drive Westbound | | | College Drive Eastbound | | | Int. Total |
|--------------|-----------------------------|----------|------------|-------------------------|-----------|------------|-------------------------|------|------------|------------|
| | Left | Right | App. Total | Thru | Right | App. Total | Left | Thru | App. Total | |
| 07:30 AM | 2 | 5 | 7 | 0 | 4 | 4 | 5 | 2 | 7 | 18 |
| 07:45 AM | 8 | 8 | 16 | 3 | 10 | 13 | 2 | 4 | 6 | 35 |
| 08:00 AM | 7 | 5 | 12 | 4 | 7 | 11 | 2 | 7 | 9 | 32 |
| 08:15 AM | 2 | 3 | 5 | 1 | 3 | 4 | 7 | 1 | 8 | 17 |
| Total Volume | 19 | 21 | 40 | 8 | 24 | 32 | 16 | 14 | 30 | 102 |
| % App. Total | 47.5 | 52.5 | | 25 | 75 | | 53.3 | 46.7 | | |
| PHF | .594 | .656 | .625 | .500 | .600 | .615 | .571 | .500 | .833 | .729 |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

City of Palm Desert
 N/S: Technology Drive
 E/W: College Drive
 Weather: Clear

File Name : 03_PLD_Tech_Coll AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:30 AM | | | 07:45 AM | | | 08:00 AM | | |
|--------------|----------|----------|-----------|----------|-----------|-----------|----------|----------|-----------|
| +0 mins. | 2 | 5 | 7 | 3 | 10 | 13 | 2 | 7 | 9 |
| +15 mins. | 8 | 8 | 16 | 4 | 7 | 11 | 7 | 1 | 8 |
| +30 mins. | 7 | 5 | 12 | 1 | 3 | 4 | 2 | 0 | 2 |
| +45 mins. | 2 | 3 | 5 | 2 | 7 | 9 | 9 | 5 | 14 |
| Total Volume | 19 | 21 | 40 | 10 | 27 | 37 | 20 | 13 | 33 |
| % App. Total | 47.5 | 52.5 | | 27 | 73 | | 60.6 | 39.4 | |
| PHF | .594 | .656 | .625 | .625 | .675 | .712 | .556 | .464 | .589 |

City of Palm Desert
 N/S: Technology Drive
 E/W: College Drive
 Weather: Clear

File Name : 03_PLD_Tech_Coll PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Total Volume

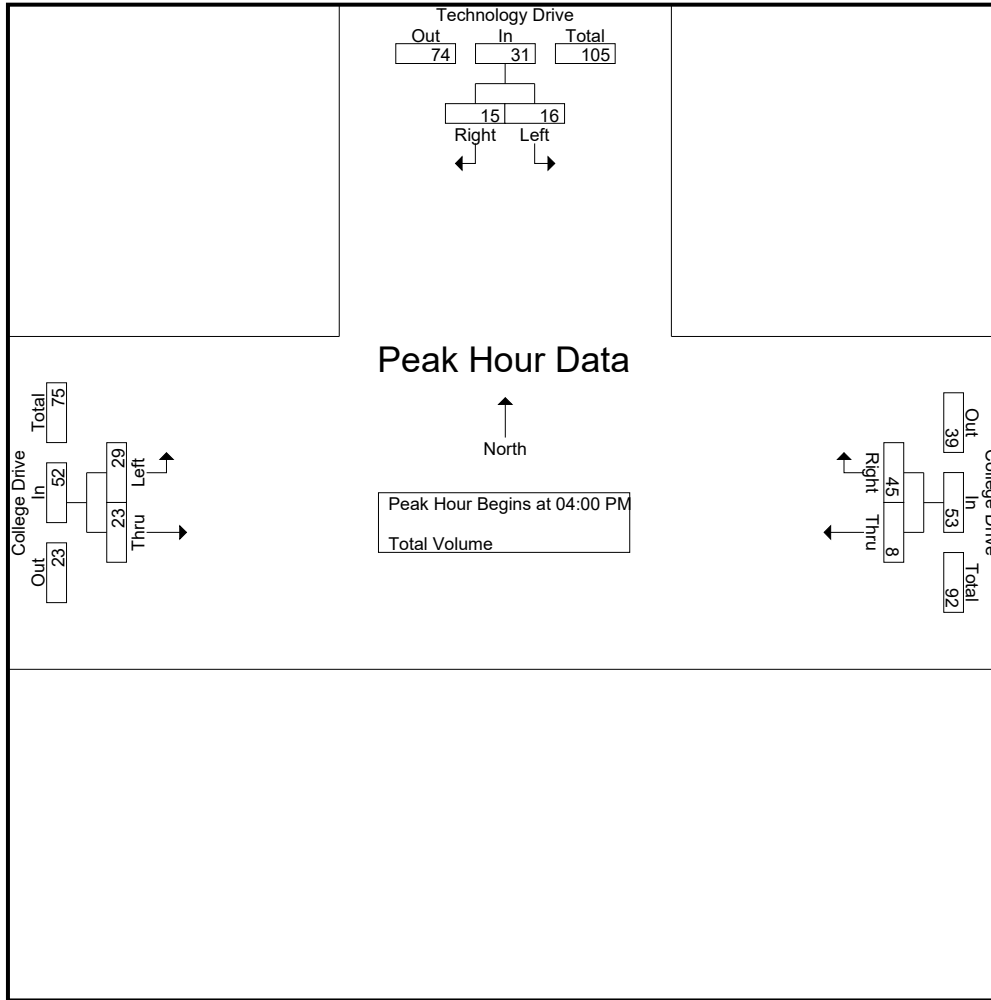
| Start Time | Technology Drive Southbound | | | College Drive Westbound | | | College Drive Eastbound | | | Int. Total |
|-------------|-----------------------------|-------|------------|-------------------------|-------|------------|-------------------------|------|------------|------------|
| | Left | Right | App. Total | Thru | Right | App. Total | Left | Thru | App. Total | |
| 04:00 PM | 6 | 3 | 9 | 4 | 8 | 12 | 5 | 7 | 12 | 33 |
| 04:15 PM | 2 | 4 | 6 | 1 | 14 | 15 | 10 | 3 | 13 | 34 |
| 04:30 PM | 5 | 4 | 9 | 1 | 13 | 14 | 5 | 10 | 15 | 38 |
| 04:45 PM | 3 | 4 | 7 | 2 | 10 | 12 | 9 | 3 | 12 | 31 |
| Total | 16 | 15 | 31 | 8 | 45 | 53 | 29 | 23 | 52 | 136 |
| 05:00 PM | 1 | 4 | 5 | 3 | 15 | 18 | 4 | 2 | 6 | 29 |
| 05:15 PM | 5 | 3 | 8 | 2 | 5 | 7 | 5 | 1 | 6 | 21 |
| 05:30 PM | 4 | 1 | 5 | 4 | 7 | 11 | 0 | 0 | 0 | 16 |
| 05:45 PM | 6 | 1 | 7 | 1 | 7 | 8 | 4 | 14 | 18 | 33 |
| Total | 16 | 9 | 25 | 10 | 34 | 44 | 13 | 17 | 30 | 99 |
| Grand Total | 32 | 24 | 56 | 18 | 79 | 97 | 42 | 40 | 82 | 235 |
| Apprch % | 57.1 | 42.9 | | 18.6 | 81.4 | | 51.2 | 48.8 | | |
| Total % | 13.6 | 10.2 | 23.8 | 7.7 | 33.6 | 41.3 | 17.9 | 17 | 34.9 | |

| Start Time | Technology Drive Southbound | | | College Drive Westbound | | | College Drive Eastbound | | | Int. Total |
|--------------|-----------------------------|----------|------------|-------------------------|-----------|------------|-------------------------|-----------|------------|------------|
| | Left | Right | App. Total | Thru | Right | App. Total | Left | Thru | App. Total | |
| 04:00 PM | 6 | 3 | 9 | 4 | 8 | 12 | 5 | 7 | 12 | 33 |
| 04:15 PM | 2 | 4 | 6 | 1 | 14 | 15 | 10 | 3 | 13 | 34 |
| 04:30 PM | 5 | 4 | 9 | 1 | 13 | 14 | 5 | 10 | 15 | 38 |
| 04:45 PM | 3 | 4 | 7 | 2 | 10 | 12 | 9 | 3 | 12 | 31 |
| Total Volume | 16 | 15 | 31 | 8 | 45 | 53 | 29 | 23 | 52 | 136 |
| % App. Total | 51.6 | 48.4 | | 15.1 | 84.9 | | 55.8 | 44.2 | | |
| PHF | .667 | .938 | .861 | .500 | .804 | .883 | .725 | .575 | .867 | .895 |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:00 PM

City of Palm Desert
 N/S: Technology Drive
 E/W: College Drive
 Weather: Clear

File Name : 03_PLD_Tech_Coll PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:00 PM | | | 04:15 PM | | | 04:00 PM | | |
|--------------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| +0 mins. | 6 | 3 | 9 | 1 | 14 | 15 | 5 | 7 | 12 |
| +15 mins. | 2 | 4 | 6 | 1 | 13 | 14 | 10 | 3 | 13 |
| +30 mins. | 5 | 4 | 9 | 2 | 10 | 12 | 5 | 10 | 15 |
| +45 mins. | 3 | 4 | 7 | 3 | 15 | 18 | 9 | 3 | 12 |
| Total Volume | 16 | 15 | 31 | 7 | 52 | 59 | 29 | 23 | 52 |
| % App. Total | 51.6 | 48.4 | | 11.9 | 88.1 | | 55.8 | 44.2 | |
| PHF | .667 | .938 | .861 | .583 | .867 | .819 | .725 | .575 | .867 |

City of Palm Desert
 N/S: South DW/University Park Drive
 E/W: College Drive
 Weather: Clear

File Name : 04_PLD_UP_Coll AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Total Volume

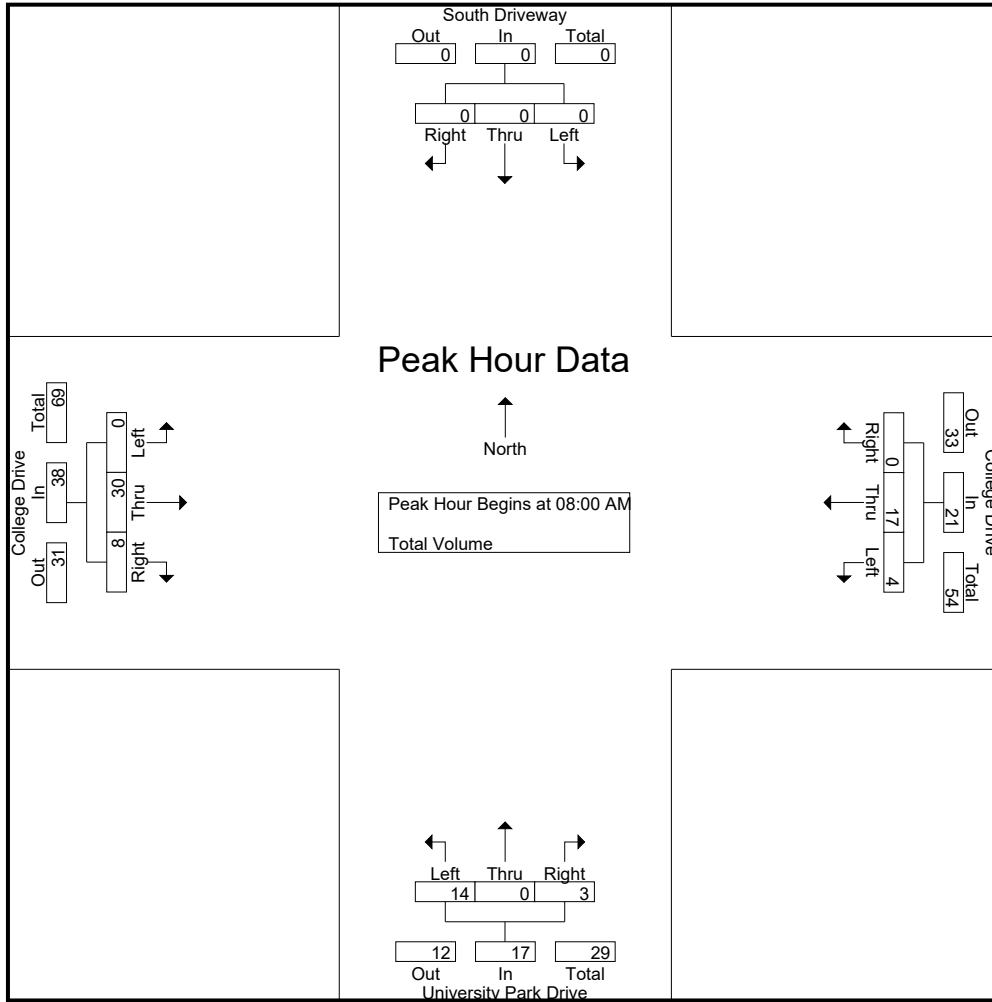
| Start Time | South Driveway Southbound | | | | College Drive Westbound | | | | University Park Drive Northbound | | | | College Drive Eastbound | | | | Int. Total |
|-------------|---------------------------|------|-------|------------|-------------------------|------|-------|------------|----------------------------------|------|-------|------------|-------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 0 | 0 | 0 | 0 | 4 | 5 | 0 | 9 | 0 | 0 | 1 | 1 | 0 | 3 | 3 | 6 | 16 |
| 07:15 AM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 0 | 1 | 0 | 3 | 1 | 4 | 7 |
| 07:30 AM | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 5 | 2 | 0 | 0 | 2 | 0 | 7 | 2 | 9 | 16 |
| 07:45 AM | 0 | 0 | 0 | 0 | 2 | 9 | 0 | 11 | 1 | 0 | 1 | 2 | 0 | 5 | 3 | 8 | 21 |
| Total | 0 | 0 | 0 | 0 | 7 | 20 | 0 | 27 | 4 | 0 | 2 | 6 | 0 | 18 | 9 | 27 | 60 |
| 08:00 AM | 0 | 0 | 0 | 0 | 2 | 7 | 0 | 9 | 3 | 0 | 1 | 4 | 0 | 9 | 1 | 10 | 23 |
| 08:15 AM | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 4 | 3 | 0 | 2 | 5 | 0 | 5 | 1 | 6 | 15 |
| 08:30 AM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 3 | 0 | 0 | 3 | 0 | 4 | 3 | 7 | 13 |
| 08:45 AM | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 5 | 5 | 0 | 0 | 5 | 0 | 12 | 3 | 15 | 25 |
| Total | 0 | 0 | 0 | 0 | 4 | 17 | 0 | 21 | 14 | 0 | 3 | 17 | 0 | 30 | 8 | 38 | 76 |
| Grand Total | 0 | 0 | 0 | 0 | 11 | 37 | 0 | 48 | 18 | 0 | 5 | 23 | 0 | 48 | 17 | 65 | 136 |
| Apprch % | 0 | 0 | 0 | | 22.9 | 77.1 | 0 | | 78.3 | 0 | 21.7 | | 0 | 73.8 | 26.2 | | |
| Total % | 0 | 0 | 0 | | 8.1 | 27.2 | 0 | 35.3 | 13.2 | 0 | 3.7 | 16.9 | 0 | 35.3 | 12.5 | 47.8 | |

| Start Time | South Driveway Southbound | | | | College Drive Westbound | | | | University Park Drive Northbound | | | | College Drive Eastbound | | | | Int. Total |
|--------------|---------------------------|------|-------|------------|-------------------------|------|-------|------------|----------------------------------|------|-------|------------|-------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 08:00 AM | 0 | 0 | 0 | 0 | 2 | 7 | 0 | 9 | 3 | 0 | 1 | 4 | 0 | 9 | 1 | 10 | 23 |
| 08:15 AM | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 4 | 3 | 0 | 2 | 5 | 0 | 5 | 1 | 6 | 15 |
| 08:30 AM | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 3 | 0 | 0 | 3 | 0 | 4 | 3 | 7 | 13 |
| 08:45 AM | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 5 | 5 | 0 | 0 | 5 | 0 | 12 | 3 | 15 | 25 |
| Total Volume | 0 | 0 | 0 | 0 | 4 | 17 | 0 | 21 | 14 | 0 | 3 | 17 | 0 | 30 | 8 | 38 | 76 |
| % App. Total | 0 | 0 | 0 | | 19 | 81 | 0 | | 82.4 | 0 | 17.6 | | 0 | 78.9 | 21.1 | | |
| PHF | .000 | .000 | .000 | .000 | .500 | .607 | .000 | .583 | .700 | .000 | .375 | .850 | .000 | .625 | .667 | .633 | .760 |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 08:00 AM

City of Palm Desert
 N/S: South DW/University Park Drive
 E/W: College Drive
 Weather: Clear

File Name : 04_PLD_UP_Coll AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:00 AM | | | | 07:30 AM | | | | 08:00 AM | | | | 08:00 AM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 0 | 0 | 0 | 0 | 1 | 4 | 0 | 5 | 3 | 0 | 1 | 4 | 0 | 9 | 1 | 10 |
| +15 mins. | 0 | 0 | 0 | 0 | 2 | 9 | 0 | 11 | 3 | 0 | 2 | 5 | 0 | 5 | 1 | 6 |
| +30 mins. | 0 | 0 | 0 | 0 | 2 | 7 | 0 | 9 | 3 | 0 | 0 | 3 | 0 | 4 | 3 | 7 |
| +45 mins. | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 4 | 5 | 0 | 0 | 5 | 0 | 12 | 3 | 15 |
| Total Volume | 0 | 0 | 0 | 0 | 6 | 23 | 0 | 29 | 14 | 0 | 3 | 17 | 0 | 30 | 8 | 38 |
| % App. Total | 0 | 0 | 0 | 0 | 20.7 | 79.3 | 0 | | 82.4 | 0 | 17.6 | | 0 | 78.9 | 21.1 | |
| PHF | .000 | .000 | .000 | .000 | .750 | .639 | .000 | .659 | .700 | .000 | .375 | .850 | .000 | .625 | .667 | .633 |

City of Palm Desert
 N/S: South DW/University Park Drive
 E/W: College Drive
 Weather: Clear

File Name : 04_PLD_UP_Coll PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

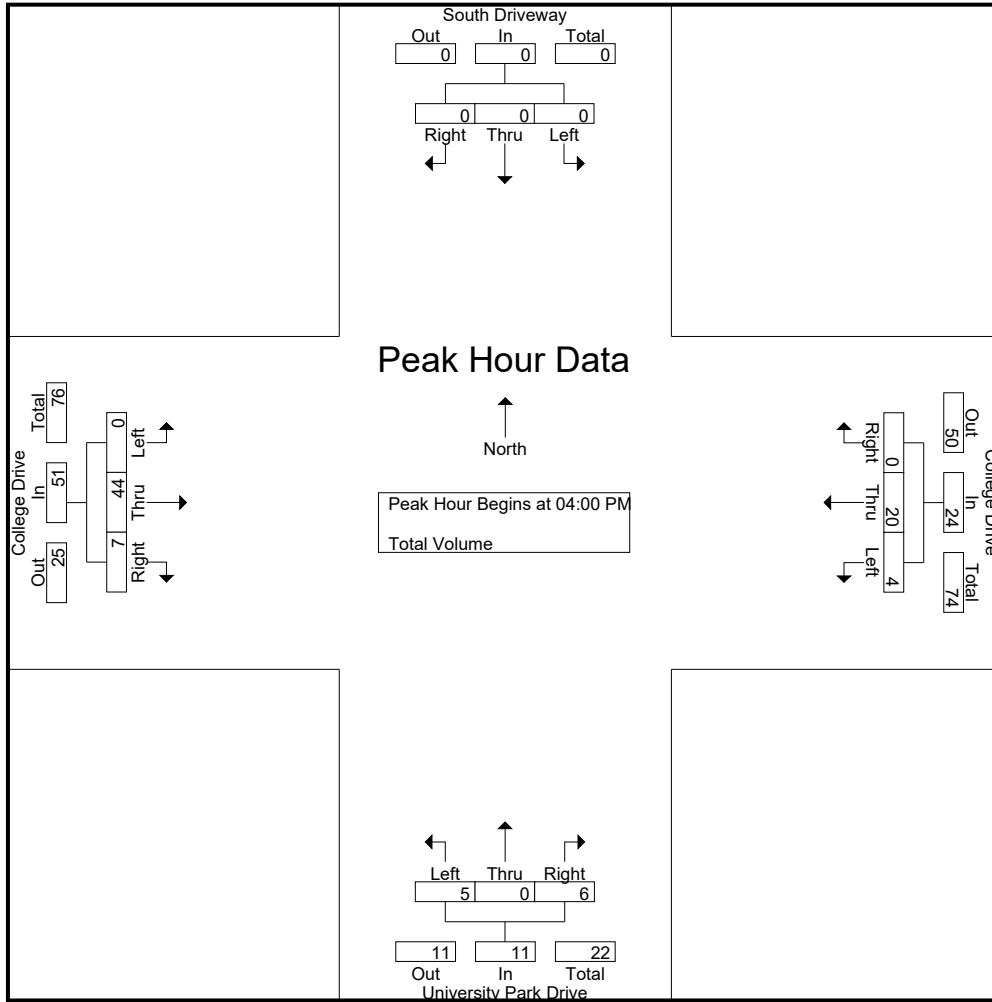
Groups Printed- Total Volume

| Start Time | South Driveway Southbound | | | | College Drive Westbound | | | | University Park Drive Northbound | | | | College Drive Eastbound | | | | Int. Total |
|--------------------|---------------------------|----------|----------|------------|-------------------------|-----------|----------|------------|----------------------------------|----------|----------|------------|-------------------------|-----------|-----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 11 | 18 |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 2 | 0 | 1 | 3 | 0 | 12 | 3 | 15 | 23 |
| 04:30 PM | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 4 | 2 | 0 | 3 | 5 | 0 | 12 | 2 | 14 | 23 |
| 04:45 PM | 0 | 0 | 0 | 0 | 2 | 6 | 0 | 8 | 1 | 0 | 2 | 3 | 0 | 10 | 1 | 11 | 22 |
| Total | 0 | 0 | 0 | 0 | 4 | 20 | 0 | 24 | 5 | 0 | 6 | 11 | 0 | 44 | 7 | 51 | 86 |
| 05:00 PM | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 | 1 | 0 | 0 | 1 | 0 | 6 | 1 | 7 | 15 |
| 05:15 PM | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 0 | 0 | 1 | 1 | 0 | 5 | 0 | 5 | 11 |
| 05:30 PM | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 2 | 0 | 0 | 2 | 0 | 1 | 1 | 2 | 9 |
| 05:45 PM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 | 2 | 2 | 0 | 3 | 1 | 4 | 8 |
| Total | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 19 | 3 | 0 | 3 | 6 | 0 | 15 | 3 | 18 | 43 |
| Grand Total | 0 | 0 | 0 | 0 | 4 | 39 | 0 | 43 | 8 | 0 | 9 | 17 | 0 | 59 | 10 | 69 | 129 |
| Apprch % | 0 | 0 | 0 | | 9.3 | 90.7 | 0 | | 47.1 | 0 | 52.9 | | 0 | 85.5 | 14.5 | | |
| Total % | 0 | 0 | 0 | 0 | 3.1 | 30.2 | 0 | 33.3 | 6.2 | 0 | 7 | 13.2 | 0 | 45.7 | 7.8 | 53.5 | |

| Start Time | South Driveway Southbound | | | | College Drive Westbound | | | | University Park Drive Northbound | | | | College Drive Eastbound | | | | Int. Total |
|--|---------------------------|----------|----------|------------|-------------------------|-----------|----------|------------|----------------------------------|----------|----------|------------|-------------------------|-----------|----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:00 PM | | | | | | | | | | | | | | | | | |
| 04:00 PM | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 11 | 18 |
| 04:15 PM | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 2 | 0 | 1 | 3 | 0 | 12 | 3 | 15 | 23 |
| 04:30 PM | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 4 | 2 | 0 | 3 | 5 | 0 | 12 | 2 | 14 | 23 |
| 04:45 PM | 0 | 0 | 0 | 0 | 2 | 6 | 0 | 8 | 1 | 0 | 2 | 3 | 0 | 10 | 1 | 11 | 22 |
| Total Volume | 0 | 0 | 0 | 0 | 4 | 20 | 0 | 24 | 5 | 0 | 6 | 11 | 0 | 44 | 7 | 51 | 86 |
| % App. Total | 0 | 0 | 0 | | 16.7 | 83.3 | 0 | | 45.5 | 0 | 54.5 | | 0 | 86.3 | 13.7 | | |
| PHF | .000 | .000 | .000 | .000 | .500 | .714 | .000 | .750 | .625 | .000 | .500 | .550 | .000 | .917 | .583 | .850 | .935 |

City of Palm Desert
 N/S: South DW/University Park Drive
 E/W: College Drive
 Weather: Clear

File Name : 04_PLD_UP_Coll PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:00 PM | | | | 04:45 PM | | | | 04:15 PM | | | | 04:00 PM | | | |
|--------------|----------|------|------|------|----------|----------|------|----------|----------|------|----------|----------|----------|-----------|----------|-----------|
| +0 mins. | 0 | 0 | 0 | 0 | 2 | 6 | 0 | 8 | 2 | 0 | 1 | 3 | 0 | 10 | 1 | 11 |
| +15 mins. | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 7 | 2 | 0 | 3 | 5 | 0 | 12 | 3 | 15 |
| +30 mins. | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 1 | 0 | 2 | 3 | 0 | 12 | 2 | 14 |
| +45 mins. | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 5 | 1 | 0 | 0 | 1 | 0 | 10 | 1 | 11 |
| Total Volume | 0 | 0 | 0 | 0 | 2 | 23 | 0 | 25 | 6 | 0 | 6 | 12 | 0 | 44 | 7 | 51 |
| % App. Total | 0 | 0 | 0 | 0 | 8 | 92 | 0 | 88 | 50 | 0 | 50 | 60 | 0 | 86.3 | 13.7 | 100 |
| PHF | .000 | .000 | .000 | .000 | .250 | .821 | .000 | .781 | .750 | .000 | .500 | .600 | .000 | .917 | .583 | .850 |

City of Palm Desert
 N/S: Pacific Avenue
 E/W: College Drive
 Weather: Clear

File Name : 05_PLD_Pac_Coll AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Total Volume

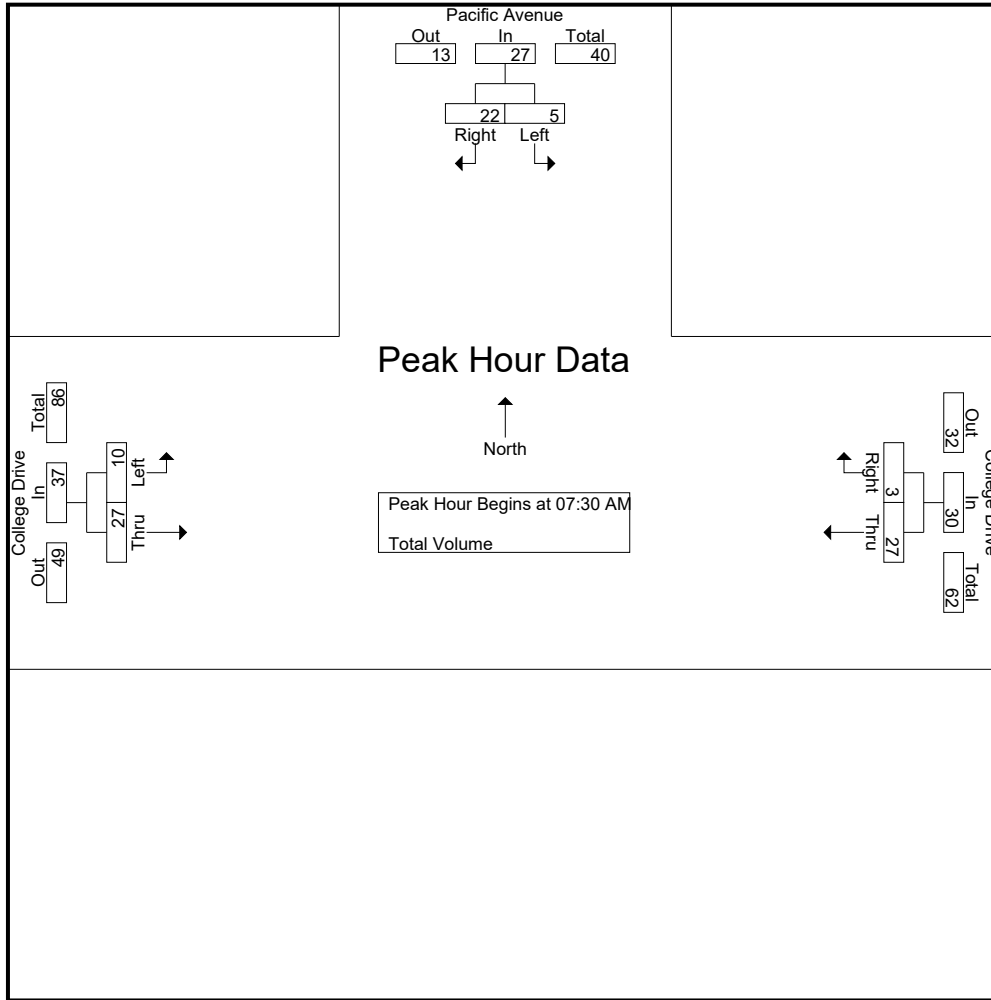
| Start Time | Pacific Avenue Southbound | | | College Drive Westbound | | | College Drive Eastbound | | | Int. Total |
|-------------|---------------------------|-------|------------|-------------------------|-------|------------|-------------------------|------|------------|------------|
| | Left | Right | App. Total | Thru | Right | App. Total | Left | Thru | App. Total | |
| 07:00 AM | 3 | 11 | 14 | 5 | 0 | 5 | 0 | 3 | 3 | 22 |
| 07:15 AM | 0 | 6 | 6 | 2 | 1 | 3 | 0 | 4 | 4 | 13 |
| 07:30 AM | 2 | 9 | 11 | 4 | 1 | 5 | 1 | 7 | 8 | 24 |
| 07:45 AM | 1 | 4 | 5 | 7 | 1 | 8 | 3 | 9 | 12 | 25 |
| Total | 6 | 30 | 36 | 18 | 3 | 21 | 4 | 23 | 27 | 84 |
| 08:00 AM | 1 | 3 | 4 | 10 | 1 | 11 | 3 | 6 | 9 | 24 |
| 08:15 AM | 1 | 6 | 7 | 6 | 0 | 6 | 3 | 5 | 8 | 21 |
| 08:30 AM | 0 | 3 | 3 | 4 | 2 | 6 | 6 | 7 | 13 | 22 |
| 08:45 AM | 2 | 0 | 2 | 6 | 4 | 10 | 0 | 13 | 13 | 25 |
| Total | 4 | 12 | 16 | 26 | 7 | 33 | 12 | 31 | 43 | 92 |
| Grand Total | 10 | 42 | 52 | 44 | 10 | 54 | 16 | 54 | 70 | 176 |
| Apprch % | 19.2 | 80.8 | | 81.5 | 18.5 | | 22.9 | 77.1 | | |
| Total % | 5.7 | 23.9 | 29.5 | 25 | 5.7 | 30.7 | 9.1 | 30.7 | 39.8 | |

| Start Time | Pacific Avenue Southbound | | | College Drive Westbound | | | College Drive Eastbound | | | Int. Total |
|--------------|---------------------------|-------|------------|-------------------------|-------|------------|-------------------------|------|------------|------------|
| | Left | Right | App. Total | Thru | Right | App. Total | Left | Thru | App. Total | |
| 07:30 AM | 2 | 9 | 11 | 4 | 1 | 5 | 1 | 7 | 8 | 24 |
| 07:45 AM | 1 | 4 | 5 | 7 | 1 | 8 | 3 | 9 | 12 | 25 |
| 08:00 AM | 1 | 3 | 4 | 10 | 1 | 11 | 3 | 6 | 9 | 24 |
| 08:15 AM | 1 | 6 | 7 | 6 | 0 | 6 | 3 | 5 | 8 | 21 |
| Total Volume | 5 | 22 | 27 | 27 | 3 | 30 | 10 | 27 | 37 | 94 |
| % App. Total | 18.5 | 81.5 | | 90 | 10 | | 27 | 73 | | |
| PHF | .625 | .611 | .614 | .675 | .750 | .682 | .833 | .750 | .771 | .940 |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:30 AM

City of Palm Desert
 N/S: Pacific Avenue
 E/W: College Drive
 Weather: Clear

File Name : 05_PLD_Pac_Coll AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:00 AM | | | 08:00 AM | | | 08:00 AM | | |
|--------------|----------|------|------|----------|------|------|----------|------|------|
| +0 mins. | 3 | 11 | 14 | 10 | 1 | 11 | 3 | 6 | 9 |
| +15 mins. | 0 | 6 | 6 | 6 | 0 | 6 | 3 | 5 | 8 |
| +30 mins. | 2 | 9 | 11 | 4 | 2 | 6 | 6 | 7 | 13 |
| +45 mins. | 1 | 4 | 5 | 6 | 4 | 10 | 0 | 13 | 13 |
| Total Volume | 6 | 30 | 36 | 26 | 7 | 33 | 12 | 31 | 43 |
| % App. Total | 16.7 | 83.3 | | 78.8 | 21.2 | | 27.9 | 72.1 | |
| PHF | .500 | .682 | .643 | .650 | .438 | .750 | .500 | .596 | .827 |

City of Palm Desert
 N/S: Pacific Avenue
 E/W: College Drive
 Weather: Clear

File Name : 05_PLD_Pac_Coll PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Total Volume

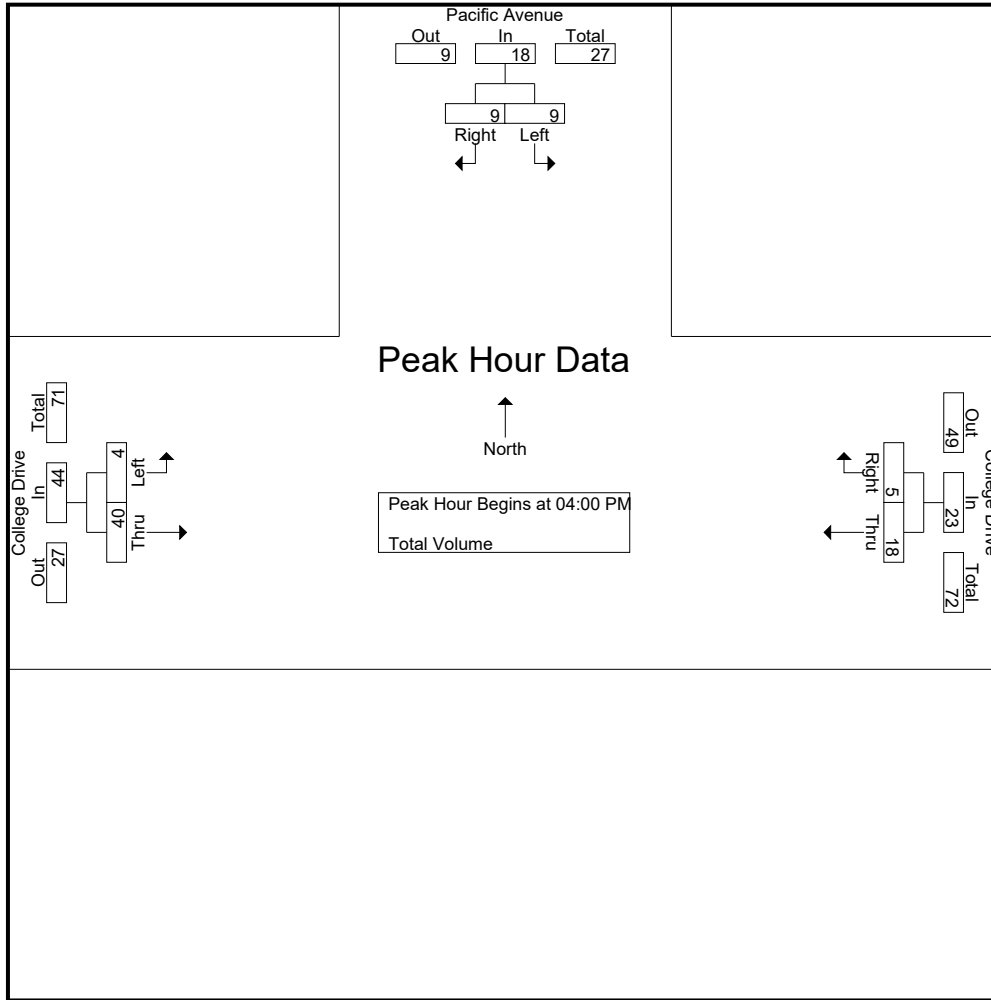
| Start Time | Pacific Avenue Southbound | | | College Drive Westbound | | | College Drive Eastbound | | | Int. Total |
|-------------|---------------------------|-------|------------|-------------------------|-------|------------|-------------------------|------|------------|------------|
| | Left | Right | App. Total | Thru | Right | App. Total | Left | Thru | App. Total | |
| 04:00 PM | 1 | 4 | 5 | 4 | 2 | 6 | 1 | 11 | 12 | 23 |
| 04:15 PM | 4 | 3 | 7 | 6 | 1 | 7 | 0 | 10 | 10 | 24 |
| 04:30 PM | 4 | 1 | 5 | 3 | 1 | 4 | 2 | 9 | 11 | 20 |
| 04:45 PM | 0 | 1 | 1 | 5 | 1 | 6 | 1 | 10 | 11 | 18 |
| Total | 9 | 9 | 18 | 18 | 5 | 23 | 4 | 40 | 44 | 85 |
| 05:00 PM | 2 | 1 | 3 | 7 | 1 | 8 | 1 | 6 | 7 | 18 |
| 05:15 PM | 0 | 0 | 0 | 4 | 1 | 5 | 2 | 4 | 6 | 11 |
| 05:30 PM | 0 | 2 | 2 | 3 | 4 | 7 | 1 | 2 | 3 | 12 |
| 05:45 PM | 2 | 2 | 4 | 1 | 1 | 2 | 1 | 3 | 4 | 10 |
| Total | 4 | 5 | 9 | 15 | 7 | 22 | 5 | 15 | 20 | 51 |
| Grand Total | 13 | 14 | 27 | 33 | 12 | 45 | 9 | 55 | 64 | 136 |
| Apprch % | 48.1 | 51.9 | | 73.3 | 26.7 | | 14.1 | 85.9 | | |
| Total % | 9.6 | 10.3 | 19.9 | 24.3 | 8.8 | 33.1 | 6.6 | 40.4 | 47.1 | |

| Start Time | Pacific Avenue Southbound | | | College Drive Westbound | | | College Drive Eastbound | | | Int. Total |
|--------------|---------------------------|-------|------------|-------------------------|-------|------------|-------------------------|------|------------|------------|
| | Left | Right | App. Total | Thru | Right | App. Total | Left | Thru | App. Total | |
| 04:00 PM | 1 | 4 | 5 | 4 | 2 | 6 | 1 | 11 | 12 | 23 |
| 04:15 PM | 4 | 3 | 7 | 6 | 1 | 7 | 0 | 10 | 10 | 24 |
| 04:30 PM | 4 | 1 | 5 | 3 | 1 | 4 | 2 | 9 | 11 | 20 |
| 04:45 PM | 0 | 1 | 1 | 5 | 1 | 6 | 1 | 10 | 11 | 18 |
| Total Volume | 9 | 9 | 18 | 18 | 5 | 23 | 4 | 40 | 44 | 85 |
| % App. Total | 50 | 50 | | 78.3 | 21.7 | | 9.1 | 90.9 | | |
| PHF | .563 | .563 | .643 | .750 | .625 | .821 | .500 | .909 | .917 | .885 |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:00 PM

City of Palm Desert
 N/S: Pacific Avenue
 E/W: College Drive
 Weather: Clear

File Name : 05_PLD_Pac_Coll PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:00 PM | | | 04:45 PM | | | 04:00 PM | | |
|--------------|----------|------|------|----------|------|------|----------|------|------|
| +0 mins. | 1 | 4 | 5 | 5 | 1 | 6 | 1 | 11 | 12 |
| +15 mins. | 4 | 3 | 7 | 7 | 1 | 8 | 0 | 10 | 10 |
| +30 mins. | 4 | 1 | 5 | 4 | 1 | 5 | 2 | 9 | 11 |
| +45 mins. | 0 | 1 | 1 | 3 | 4 | 7 | 1 | 10 | 11 |
| Total Volume | 9 | 9 | 18 | 19 | 7 | 26 | 4 | 40 | 44 |
| % App. Total | 50 | 50 | | 73.1 | 26.9 | | 9.1 | 90.9 | |
| PHF | .563 | .563 | .643 | .679 | .438 | .813 | .500 | .909 | .917 |

City of Palm Desert
 N/S: College Drive
 E/W: University Park Drive
 Weather: Clear

File Name : 06_PLD_Coll_UP AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Total Volume

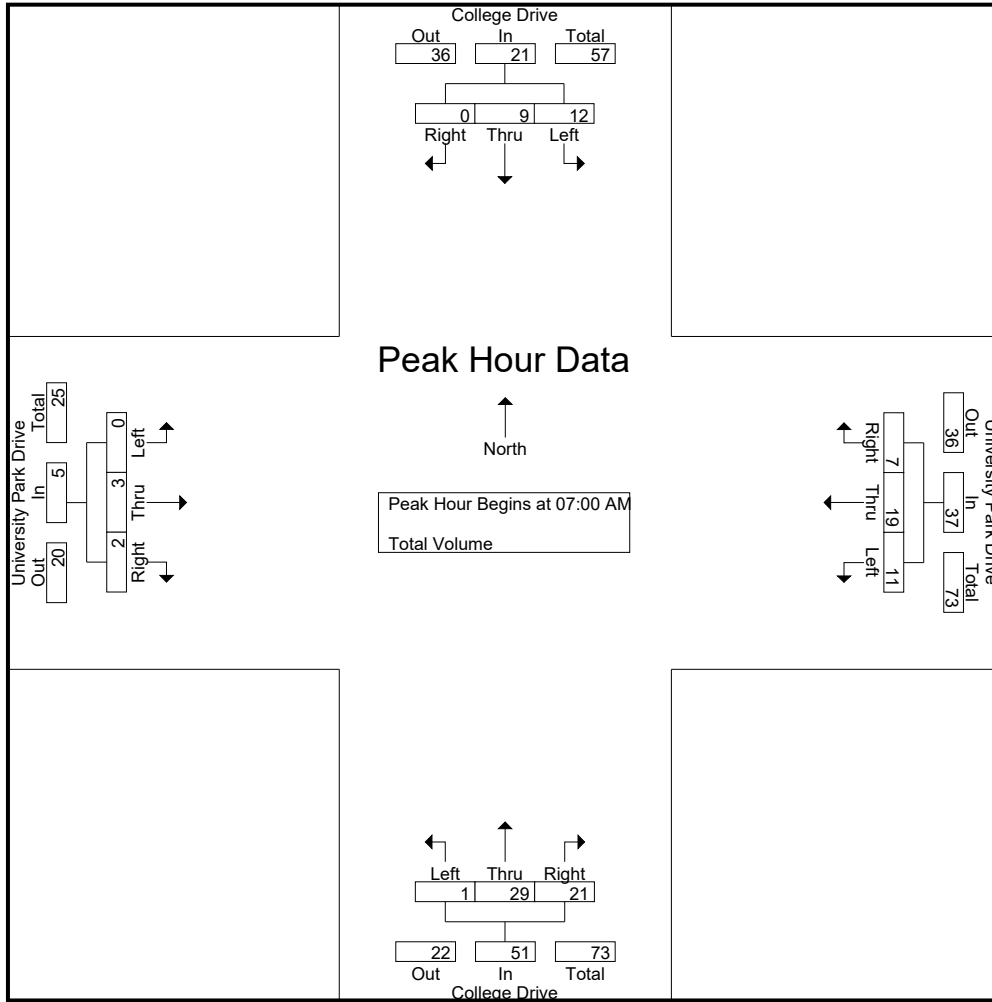
| Start Time | College Drive Southbound | | | | University Park Drive Westbound | | | | College Drive Northbound | | | | University Park Drive Eastbound | | | | Int. Total |
|-------------|--------------------------|------|-------|------------|---------------------------------|------|-------|------------|--------------------------|------|-------|------------|---------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 2 | 1 | 0 | 3 | 1 | 10 | 1 | 12 | 0 | 5 | 5 | 10 | 0 | 3 | 0 | 3 | 28 |
| 07:15 AM | 3 | 1 | 0 | 4 | 1 | 5 | 1 | 7 | 0 | 6 | 5 | 11 | 0 | 0 | 2 | 2 | 24 |
| 07:30 AM | 2 | 1 | 0 | 3 | 3 | 1 | 0 | 4 | 0 | 6 | 7 | 13 | 0 | 0 | 0 | 0 | 20 |
| 07:45 AM | 5 | 6 | 0 | 11 | 6 | 3 | 5 | 14 | 1 | 12 | 4 | 17 | 0 | 0 | 0 | 0 | 42 |
| Total | 12 | 9 | 0 | 21 | 11 | 19 | 7 | 37 | 1 | 29 | 21 | 51 | 0 | 3 | 2 | 5 | 114 |
| 08:00 AM | 7 | 4 | 1 | 12 | 2 | 2 | 2 | 6 | 1 | 4 | 0 | 5 | 0 | 0 | 0 | 0 | 23 |
| 08:15 AM | 0 | 4 | 2 | 6 | 2 | 1 | 3 | 6 | 3 | 3 | 3 | 9 | 0 | 1 | 1 | 2 | 23 |
| 08:30 AM | 4 | 1 | 0 | 5 | 3 | 1 | 1 | 5 | 1 | 6 | 1 | 8 | 1 | 3 | 2 | 6 | 24 |
| 08:45 AM | 5 | 4 | 0 | 9 | 12 | 4 | 4 | 20 | 2 | 8 | 5 | 15 | 0 | 0 | 0 | 0 | 44 |
| Total | 16 | 13 | 3 | 32 | 19 | 8 | 10 | 37 | 7 | 21 | 9 | 37 | 1 | 4 | 3 | 8 | 114 |
| Grand Total | 28 | 22 | 3 | 53 | 30 | 27 | 17 | 74 | 8 | 50 | 30 | 88 | 1 | 7 | 5 | 13 | 228 |
| Apprch % | 52.8 | 41.5 | 5.7 | | 40.5 | 36.5 | 23 | | 9.1 | 56.8 | 34.1 | | 7.7 | 53.8 | 38.5 | | |
| Total % | 12.3 | 9.6 | 1.3 | 23.2 | 13.2 | 11.8 | 7.5 | 32.5 | 3.5 | 21.9 | 13.2 | 38.6 | 0.4 | 3.1 | 2.2 | 5.7 | |

| Start Time | College Drive Southbound | | | | University Park Drive Westbound | | | | College Drive Northbound | | | | University Park Drive Eastbound | | | | Int. Total |
|--------------|--------------------------|----------|-------|------------|---------------------------------|-----------|----------|------------|--------------------------|-----------|----------|------------|---------------------------------|----------|----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 2 | 1 | 0 | 3 | 1 | 10 | 1 | 12 | 0 | 5 | 5 | 10 | 0 | 3 | 0 | 3 | 28 |
| 07:15 AM | 3 | 1 | 0 | 4 | 1 | 5 | 1 | 7 | 0 | 6 | 5 | 11 | 0 | 0 | 2 | 2 | 24 |
| 07:30 AM | 2 | 1 | 0 | 3 | 3 | 1 | 0 | 4 | 0 | 6 | 7 | 13 | 0 | 0 | 0 | 0 | 20 |
| 07:45 AM | 5 | 6 | 0 | 11 | 6 | 3 | 5 | 14 | 1 | 12 | 4 | 17 | 0 | 0 | 0 | 0 | 42 |
| Total Volume | 12 | 9 | 0 | 21 | 11 | 19 | 7 | 37 | 1 | 29 | 21 | 51 | 0 | 3 | 2 | 5 | 114 |
| % App. Total | 57.1 | 42.9 | 0 | | 29.7 | 51.4 | 18.9 | | 2 | 56.9 | 41.2 | | 0 | 60 | 40 | | |
| PHF | .600 | .375 | .000 | .477 | .458 | .475 | .350 | .661 | .250 | .604 | .750 | .750 | .000 | .250 | .250 | .417 | .679 |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:00 AM

City of Palm Desert
 N/S: College Drive
 E/W: University Park Drive
 Weather: Clear

File Name : 06_PLD_Coll_UP AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:45 AM | | | | 07:00 AM | | | | 07:00 AM | | | | 07:45 AM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 5 | 6 | 0 | 11 | 1 | 10 | 1 | 12 | 0 | 5 | 5 | 10 | 0 | 0 | 0 | 0 |
| +15 mins. | 7 | 4 | 1 | 12 | 1 | 5 | 1 | 7 | 0 | 6 | 5 | 11 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 4 | 2 | 6 | 3 | 1 | 0 | 4 | 0 | 6 | 7 | 13 | 0 | 1 | 1 | 2 |
| +45 mins. | 4 | 1 | 0 | 5 | 6 | 3 | 5 | 14 | 1 | 12 | 4 | 17 | 1 | 3 | 2 | 6 |
| Total Volume | 16 | 15 | 3 | 34 | 11 | 19 | 7 | 37 | 1 | 29 | 21 | 51 | 1 | 4 | 3 | 8 |
| % App. Total | 47.1 | 44.1 | 8.8 | | 29.7 | 51.4 | 18.9 | | 2 | 56.9 | 41.2 | | 12.5 | 50 | 37.5 | |
| PHF | .571 | .625 | .375 | .708 | .458 | .475 | .350 | .661 | .250 | .604 | .750 | .750 | .250 | .333 | .375 | .333 |

City of Palm Desert
 N/S: College Drive
 E/W: University Park Drive
 Weather: Clear

File Name : 06_PLD_Coll_UP PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

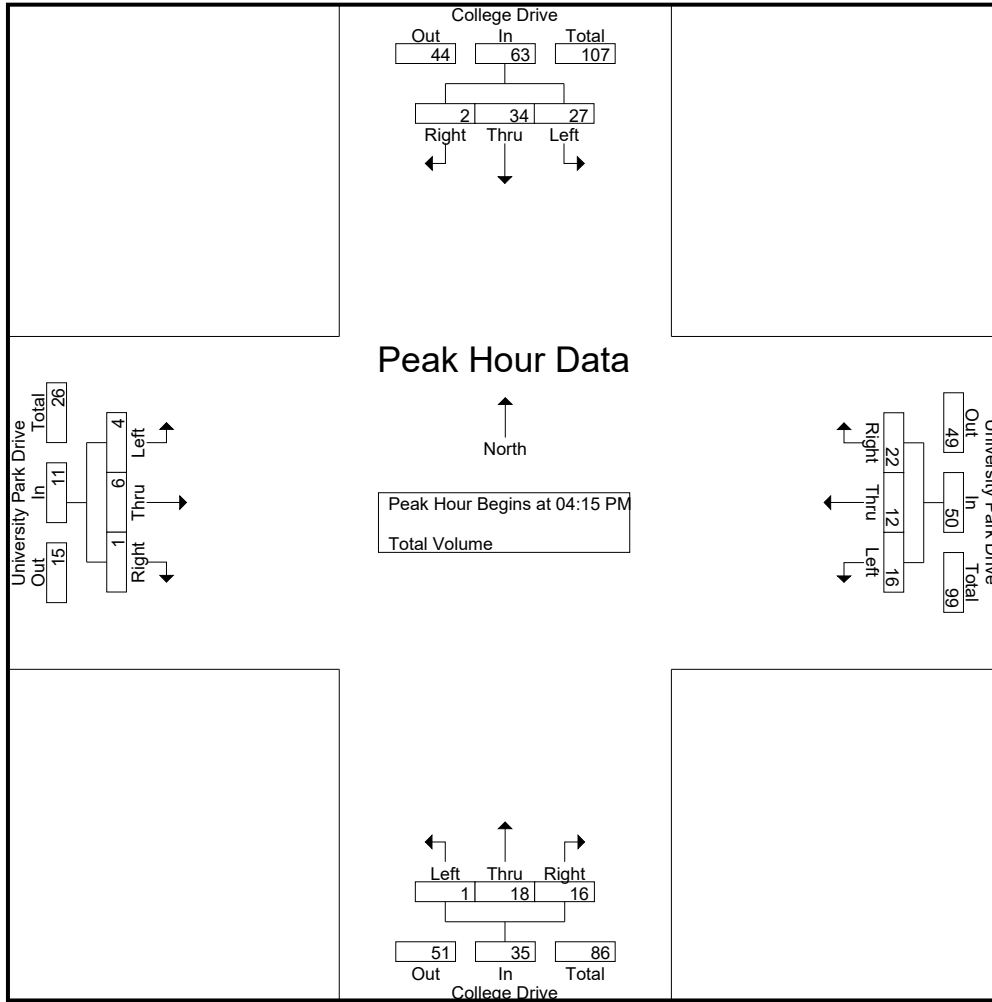
Groups Printed- Total Volume

| Start Time | College Drive Southbound | | | | University Park Drive Westbound | | | | College Drive Northbound | | | | University Park Drive Eastbound | | | | Int. Total |
|--------------------|--------------------------|-----------|----------|------------|---------------------------------|-----------|-----------|------------|--------------------------|-----------|-----------|------------|---------------------------------|-----------|----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 6 | 8 | 0 | 14 | 5 | 0 | 5 | 10 | 0 | 9 | 1 | 10 | 0 | 1 | 0 | 1 | 35 |
| 04:15 PM | 7 | 4 | 1 | 12 | 5 | 2 | 5 | 12 | 0 | 4 | 2 | 6 | 0 | 4 | 1 | 5 | 35 |
| 04:30 PM | 7 | 11 | 1 | 19 | 2 | 3 | 1 | 6 | 0 | 6 | 4 | 10 | 2 | 1 | 0 | 3 | 38 |
| 04:45 PM | 5 | 11 | 0 | 16 | 4 | 3 | 7 | 14 | 1 | 2 | 4 | 7 | 1 | 0 | 0 | 1 | 38 |
| Total | 25 | 34 | 2 | 61 | 16 | 8 | 18 | 42 | 1 | 21 | 11 | 33 | 3 | 6 | 1 | 10 | 146 |
| 05:00 PM | 8 | 8 | 0 | 16 | 5 | 4 | 9 | 18 | 0 | 6 | 6 | 12 | 1 | 1 | 0 | 2 | 48 |
| 05:15 PM | 4 | 6 | 0 | 10 | 8 | 1 | 1 | 10 | 1 | 7 | 2 | 10 | 0 | 2 | 0 | 2 | 32 |
| 05:30 PM | 3 | 6 | 0 | 9 | 6 | 1 | 5 | 12 | 0 | 2 | 7 | 9 | 0 | 0 | 0 | 0 | 30 |
| 05:45 PM | 4 | 4 | 0 | 8 | 4 | 0 | 5 | 9 | 0 | 7 | 2 | 9 | 0 | 1 | 1 | 2 | 28 |
| Total | 19 | 24 | 0 | 43 | 23 | 6 | 20 | 49 | 1 | 22 | 17 | 40 | 1 | 4 | 1 | 6 | 138 |
| Grand Total | 44 | 58 | 2 | 104 | 39 | 14 | 38 | 91 | 2 | 43 | 28 | 73 | 4 | 10 | 2 | 16 | 284 |
| Apprch % | 42.3 | 55.8 | 1.9 | | 42.9 | 15.4 | 41.8 | | 2.7 | 58.9 | 38.4 | | 25 | 62.5 | 12.5 | | |
| Total % | 15.5 | 20.4 | 0.7 | 36.6 | 13.7 | 4.9 | 13.4 | 32 | 0.7 | 15.1 | 9.9 | 25.7 | 1.4 | 3.5 | 0.7 | 5.6 | |

| Start Time | College Drive Southbound | | | | University Park Drive Westbound | | | | College Drive Northbound | | | | University Park Drive Eastbound | | | | Int. Total |
|--|--------------------------|------|-------|------------|---------------------------------|------|-------|------------|--------------------------|------|-------|------------|---------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:15 PM | | | | | | | | | | | | | | | | | |
| 04:15 PM | 7 | 4 | 1 | 12 | 5 | 2 | 5 | 12 | 0 | 4 | 2 | 6 | 0 | 4 | 1 | 5 | 35 |
| 04:30 PM | 7 | 11 | 1 | 19 | 2 | 3 | 1 | 6 | 0 | 6 | 4 | 10 | 2 | 1 | 0 | 3 | 38 |
| 04:45 PM | 5 | 11 | 0 | 16 | 4 | 3 | 7 | 14 | 1 | 2 | 4 | 7 | 1 | 0 | 0 | 1 | 38 |
| 05:00 PM | 8 | 8 | 0 | 16 | 5 | 4 | 9 | 18 | 0 | 6 | 6 | 12 | 1 | 1 | 0 | 2 | 48 |
| Total Volume | 27 | 34 | 2 | 63 | 16 | 12 | 22 | 50 | 1 | 18 | 16 | 35 | 4 | 6 | 1 | 11 | 159 |
| % App. Total | 42.9 | 54 | 3.2 | | 32 | 24 | 44 | | 2.9 | 51.4 | 45.7 | | 36.4 | 54.5 | 9.1 | | |
| PHF | .844 | .773 | .500 | .829 | .800 | .750 | .611 | .694 | .250 | .750 | .667 | .729 | .500 | .375 | .250 | .550 | .828 |

City of Palm Desert
 N/S: College Drive
 E/W: University Park Drive
 Weather: Clear

File Name : 06_PLD_Coll_UP PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:15 PM | | | | 04:45 PM | | | | 05:00 PM | | | | 04:15 PM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 7 | 4 | 1 | 12 | 4 | 3 | 7 | 14 | 0 | 6 | 6 | 12 | 0 | 4 | 1 | 5 |
| +15 mins. | 7 | 11 | 1 | 19 | 5 | 4 | 9 | 18 | 1 | 7 | 2 | 10 | 2 | 1 | 0 | 3 |
| +30 mins. | 5 | 11 | 0 | 16 | 8 | 1 | 1 | 10 | 0 | 2 | 7 | 9 | 1 | 0 | 0 | 1 |
| +45 mins. | 8 | 8 | 0 | 16 | 6 | 1 | 5 | 12 | 0 | 7 | 2 | 9 | 1 | 1 | 0 | 2 |
| Total Volume | 27 | 34 | 2 | 63 | 23 | 9 | 22 | 54 | 1 | 22 | 17 | 40 | 4 | 6 | 1 | 11 |
| % App. Total | 42.9 | 54 | 3.2 | | 42.6 | 16.7 | 40.7 | | 2.5 | 55 | 42.5 | | 36.4 | 54.5 | 9.1 | |
| PHF | .844 | .773 | .500 | .829 | .719 | .563 | .611 | .750 | .250 | .786 | .607 | .833 | .500 | .375 | .250 | .550 |

City of Palm Desert
 N/S: Cook Street
 E/W: I-10 Westbound Ramps
 Weather: Clear

File Name : 07_PLD_Cook_10W AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Total Volume

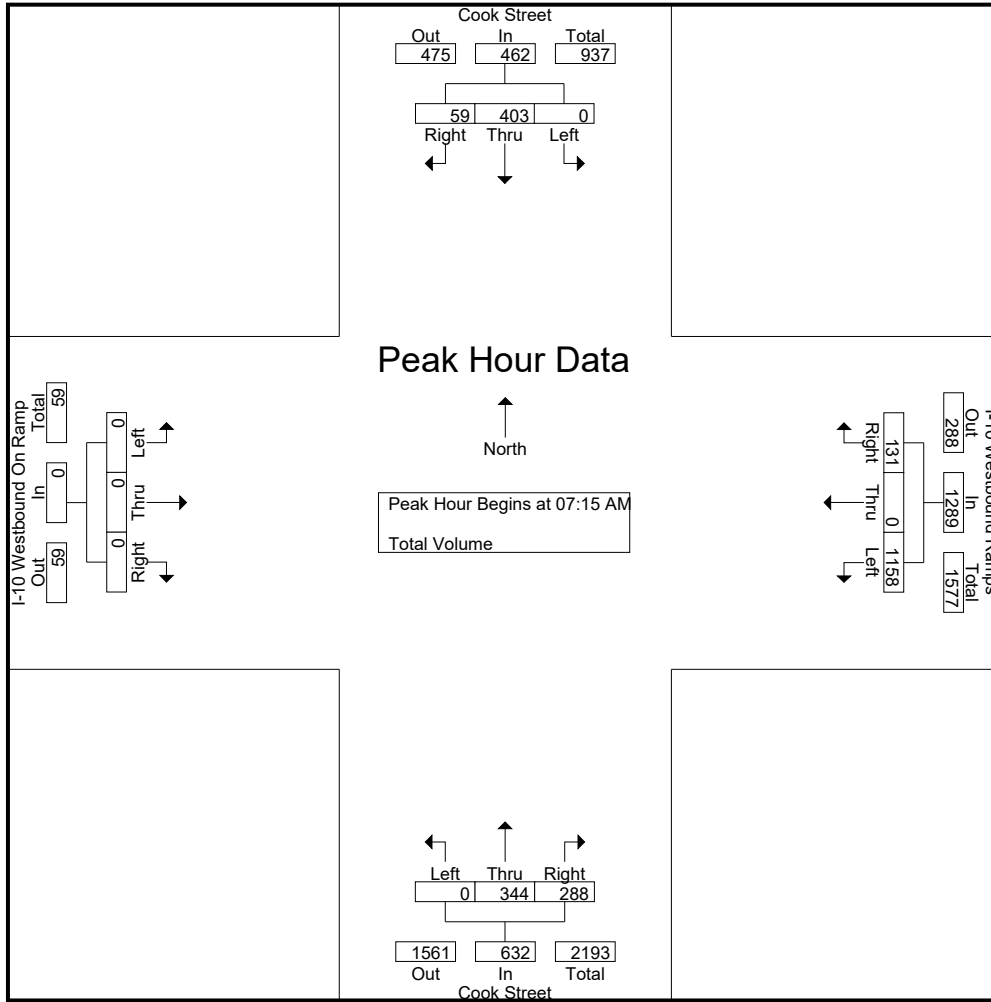
| Start Time | Cook Street Southbound | | | | I-10 Westbound Ramps Westbound | | | | Cook Street Northbound | | | | I-10 Westbound On Ramp Eastbound | | | | Int. Total |
|-------------|------------------------|------|-------|------------|--------------------------------|------|-------|------------|------------------------|------|-------|------------|----------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 0 | 59 | 9 | 68 | 155 | 0 | 13 | 168 | 0 | 40 | 78 | 118 | 0 | 0 | 0 | 0 | 354 |
| 07:15 AM | 0 | 58 | 6 | 64 | 241 | 0 | 21 | 262 | 0 | 54 | 67 | 121 | 0 | 0 | 0 | 0 | 447 |
| 07:30 AM | 0 | 84 | 9 | 93 | 306 | 0 | 36 | 342 | 0 | 117 | 69 | 186 | 0 | 0 | 0 | 0 | 621 |
| 07:45 AM | 0 | 143 | 20 | 163 | 327 | 0 | 65 | 392 | 0 | 127 | 75 | 202 | 0 | 0 | 0 | 0 | 757 |
| Total | 0 | 344 | 44 | 388 | 1029 | 0 | 135 | 1164 | 0 | 338 | 289 | 627 | 0 | 0 | 0 | 0 | 2179 |
| 08:00 AM | 0 | 118 | 24 | 142 | 284 | 0 | 9 | 293 | 0 | 46 | 77 | 123 | 0 | 0 | 0 | 0 | 558 |
| 08:15 AM | 0 | 37 | 3 | 40 | 207 | 0 | 11 | 218 | 0 | 29 | 79 | 108 | 0 | 0 | 0 | 0 | 366 |
| 08:30 AM | 0 | 51 | 8 | 59 | 216 | 0 | 10 | 226 | 0 | 41 | 91 | 132 | 0 | 0 | 0 | 0 | 417 |
| 08:45 AM | 0 | 54 | 6 | 60 | 202 | 0 | 9 | 211 | 0 | 55 | 73 | 128 | 0 | 0 | 0 | 0 | 399 |
| Total | 0 | 260 | 41 | 301 | 909 | 0 | 39 | 948 | 0 | 171 | 320 | 491 | 0 | 0 | 0 | 0 | 1740 |
| Grand Total | 0 | 604 | 85 | 689 | 1938 | 0 | 174 | 2112 | 0 | 509 | 609 | 1118 | 0 | 0 | 0 | 0 | 3919 |
| Apprch % | 0 | 87.7 | 12.3 | | 91.8 | 0 | 8.2 | | 0 | 45.5 | 54.5 | | 0 | 0 | 0 | | |
| Total % | 0 | 15.4 | 2.2 | 17.6 | 49.5 | 0 | 4.4 | 53.9 | 0 | 13 | 15.5 | 28.5 | 0 | 0 | 0 | 0 | |

| Start Time | Cook Street Southbound | | | | I-10 Westbound Ramps Westbound | | | | Cook Street Northbound | | | | I-10 Westbound On Ramp Eastbound | | | | Int. Total |
|--------------|------------------------|------|-------|------------|--------------------------------|------|-------|------------|------------------------|------|-------|------------|----------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:15 AM | 0 | 58 | 6 | 64 | 241 | 0 | 21 | 262 | 0 | 54 | 67 | 121 | 0 | 0 | 0 | 0 | 447 |
| 07:30 AM | 0 | 84 | 9 | 93 | 306 | 0 | 36 | 342 | 0 | 117 | 69 | 186 | 0 | 0 | 0 | 0 | 621 |
| 07:45 AM | 0 | 143 | 20 | 163 | 327 | 0 | 65 | 392 | 0 | 127 | 75 | 202 | 0 | 0 | 0 | 0 | 757 |
| 08:00 AM | 0 | 118 | 24 | 142 | 284 | 0 | 9 | 293 | 0 | 46 | 77 | 123 | 0 | 0 | 0 | 0 | 558 |
| Total Volume | 0 | 403 | 59 | 462 | 1158 | 0 | 131 | 1289 | 0 | 344 | 288 | 632 | 0 | 0 | 0 | 0 | 2383 |
| % App. Total | 0 | 87.2 | 12.8 | | 89.8 | 0 | 10.2 | | 0 | 54.4 | 45.6 | | 0 | 0 | 0 | | |
| PHF | .000 | .705 | .615 | .709 | .885 | .000 | .504 | .822 | .000 | .677 | .935 | .782 | .000 | .000 | .000 | .000 | .787 |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

City of Palm Desert
 N/S: Cook Street
 E/W: I-10 Westbound Ramps
 Weather: Clear

File Name : 07_PLD_Cook_10W AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:15 AM | | | | 07:15 AM | | | | 07:15 AM | | | | 07:00 AM | | | |
|--------------|----------|------------|-----------|------------|------------|------|-----------|------------|----------|------------|-----------|------------|----------|------|------|------|
| +0 mins. | 0 | 58 | 6 | 64 | 241 | 0 | 21 | 262 | 0 | 54 | 67 | 121 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 84 | 9 | 93 | 306 | 0 | 36 | 342 | 0 | 117 | 69 | 186 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 143 | 20 | 163 | 327 | 0 | 65 | 392 | 0 | 127 | 75 | 202 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 118 | 24 | 142 | 284 | 0 | 9 | 293 | 0 | 46 | 77 | 123 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 403 | 59 | 462 | 1158 | 0 | 131 | 1289 | 0 | 344 | 288 | 632 | 0 | 0 | 0 | 0 |
| % App. Total | 0 | 87.2 | 12.8 | | 89.8 | 0 | 10.2 | | 0 | 54.4 | 45.6 | | 0 | 0 | 0 | |
| PHF | .000 | .705 | .615 | .709 | .885 | .000 | .504 | .822 | .000 | .677 | .935 | .782 | .000 | .000 | .000 | .000 |

City of Palm Desert
 N/S: Cook Street
 E/W: I-10 Westbound Ramps
 Weather: Clear

File Name : 07_PLD_Cook_10W PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Total Volume

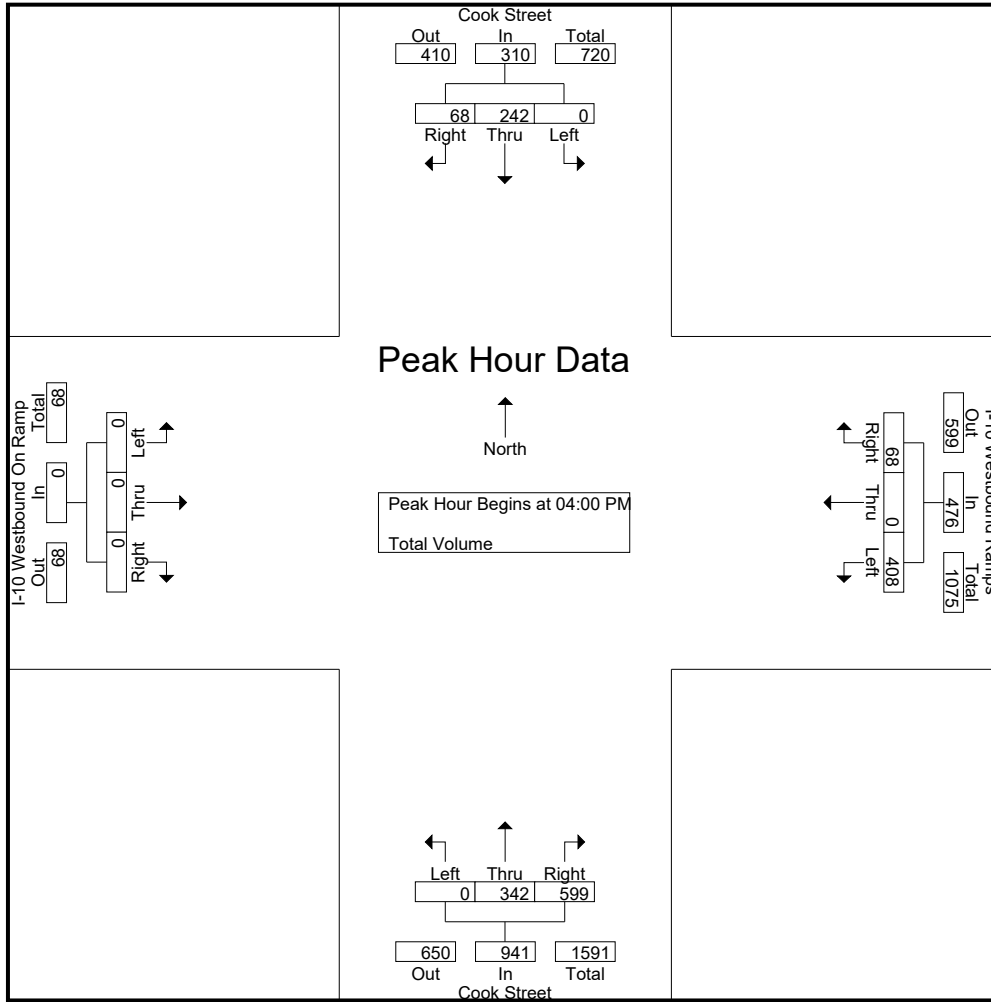
| Start Time | Cook Street Southbound | | | | I-10 Westbound Ramps Westbound | | | | Cook Street Northbound | | | | I-10 Westbound On Ramp Eastbound | | | | Int. Total |
|-------------|------------------------|------|-------|------------|--------------------------------|------|-------|------------|------------------------|------|-------|------------|----------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 0 | 61 | 25 | 86 | 100 | 0 | 26 | 126 | 0 | 93 | 159 | 252 | 0 | 0 | 0 | 0 | 464 |
| 04:15 PM | 0 | 56 | 18 | 74 | 128 | 0 | 15 | 143 | 0 | 91 | 144 | 235 | 0 | 0 | 0 | 0 | 452 |
| 04:30 PM | 0 | 60 | 12 | 72 | 89 | 0 | 14 | 103 | 0 | 81 | 164 | 245 | 0 | 0 | 0 | 0 | 420 |
| 04:45 PM | 0 | 65 | 13 | 78 | 91 | 0 | 13 | 104 | 0 | 77 | 132 | 209 | 0 | 0 | 0 | 0 | 391 |
| Total | 0 | 242 | 68 | 310 | 408 | 0 | 68 | 476 | 0 | 342 | 599 | 941 | 0 | 0 | 0 | 0 | 1727 |
| 05:00 PM | 0 | 60 | 11 | 71 | 98 | 0 | 13 | 111 | 0 | 67 | 154 | 221 | 0 | 0 | 0 | 0 | 403 |
| 05:15 PM | 0 | 46 | 3 | 49 | 111 | 0 | 13 | 124 | 0 | 97 | 153 | 250 | 0 | 0 | 0 | 0 | 423 |
| 05:30 PM | 0 | 40 | 8 | 48 | 93 | 0 | 7 | 100 | 0 | 53 | 119 | 172 | 0 | 0 | 0 | 0 | 320 |
| 05:45 PM | 0 | 40 | 2 | 42 | 82 | 0 | 4 | 86 | 0 | 50 | 92 | 142 | 0 | 0 | 0 | 0 | 270 |
| Total | 0 | 186 | 24 | 210 | 384 | 0 | 37 | 421 | 0 | 267 | 518 | 785 | 0 | 0 | 0 | 0 | 1416 |
| Grand Total | 0 | 428 | 92 | 520 | 792 | 0 | 105 | 897 | 0 | 609 | 1117 | 1726 | 0 | 0 | 0 | 0 | 3143 |
| Apprch % | 0 | 82.3 | 17.7 | | 88.3 | 0 | 11.7 | | 0 | 35.3 | 64.7 | | 0 | 0 | 0 | | |
| Total % | 0 | 13.6 | 2.9 | 16.5 | 25.2 | 0 | 3.3 | 28.5 | 0 | 19.4 | 35.5 | 54.9 | 0 | 0 | 0 | 0 | |

| Start Time | Cook Street Southbound | | | | I-10 Westbound Ramps Westbound | | | | Cook Street Northbound | | | | I-10 Westbound On Ramp Eastbound | | | | Int. Total |
|--------------|------------------------|-----------|-----------|------------|--------------------------------|------|-----------|------------|------------------------|-----------|------------|------------|----------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 0 | 61 | 25 | 86 | 100 | 0 | 26 | 126 | 0 | 93 | 159 | 252 | 0 | 0 | 0 | 0 | 464 |
| 04:15 PM | 0 | 56 | 18 | 74 | 128 | 0 | 15 | 143 | 0 | 91 | 144 | 235 | 0 | 0 | 0 | 0 | 452 |
| 04:30 PM | 0 | 60 | 12 | 72 | 89 | 0 | 14 | 103 | 0 | 81 | 164 | 245 | 0 | 0 | 0 | 0 | 420 |
| 04:45 PM | 0 | 65 | 13 | 78 | 91 | 0 | 13 | 104 | 0 | 77 | 132 | 209 | 0 | 0 | 0 | 0 | 391 |
| Total Volume | 0 | 242 | 68 | 310 | 408 | 0 | 68 | 476 | 0 | 342 | 599 | 941 | 0 | 0 | 0 | 0 | 1727 |
| % App. Total | 0 | 78.1 | 21.9 | | 85.7 | 0 | 14.3 | | 0 | 36.3 | 63.7 | | 0 | 0 | 0 | | |
| PHF | .000 | .931 | .680 | .901 | .797 | .000 | .654 | .832 | .000 | .919 | .913 | .934 | .000 | .000 | .000 | .000 | .930 |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:00 PM

City of Palm Desert
 N/S: Cook Street
 E/W: I-10 Westbound Ramps
 Weather: Clear

File Name : 07_PLD_Cook_10W PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:00 PM | | | | 04:00 PM | | | | 04:00 PM | | | | 04:00 PM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 0 | 61 | 25 | 86 | 100 | 0 | 26 | 126 | 0 | 93 | 159 | 252 | 0 | 0 | 0 | 0 |
| +15 mins. | 0 | 56 | 18 | 74 | 128 | 0 | 15 | 143 | 0 | 91 | 144 | 235 | 0 | 0 | 0 | 0 |
| +30 mins. | 0 | 60 | 12 | 72 | 89 | 0 | 14 | 103 | 0 | 81 | 164 | 245 | 0 | 0 | 0 | 0 |
| +45 mins. | 0 | 65 | 13 | 78 | 91 | 0 | 13 | 104 | 0 | 77 | 132 | 209 | 0 | 0 | 0 | 0 |
| Total Volume | 0 | 242 | 68 | 310 | 408 | 0 | 68 | 476 | 0 | 342 | 599 | 941 | 0 | 0 | 0 | 0 |
| % App. Total | 0 | 78.1 | 21.9 | | 85.7 | 0 | 14.3 | | 0 | 36.3 | 63.7 | | 0 | 0 | 0 | |
| PHF | .000 | .931 | .680 | .901 | .797 | .000 | .654 | .832 | .000 | .919 | .913 | .934 | .000 | .000 | .000 | .000 |

City of Palm Desert
 N/S: Cook Street
 E/W: I-10 Eastbound Ramps
 Weather: Clear

File Name : 08_PLD_Cook_10E AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Total Volume

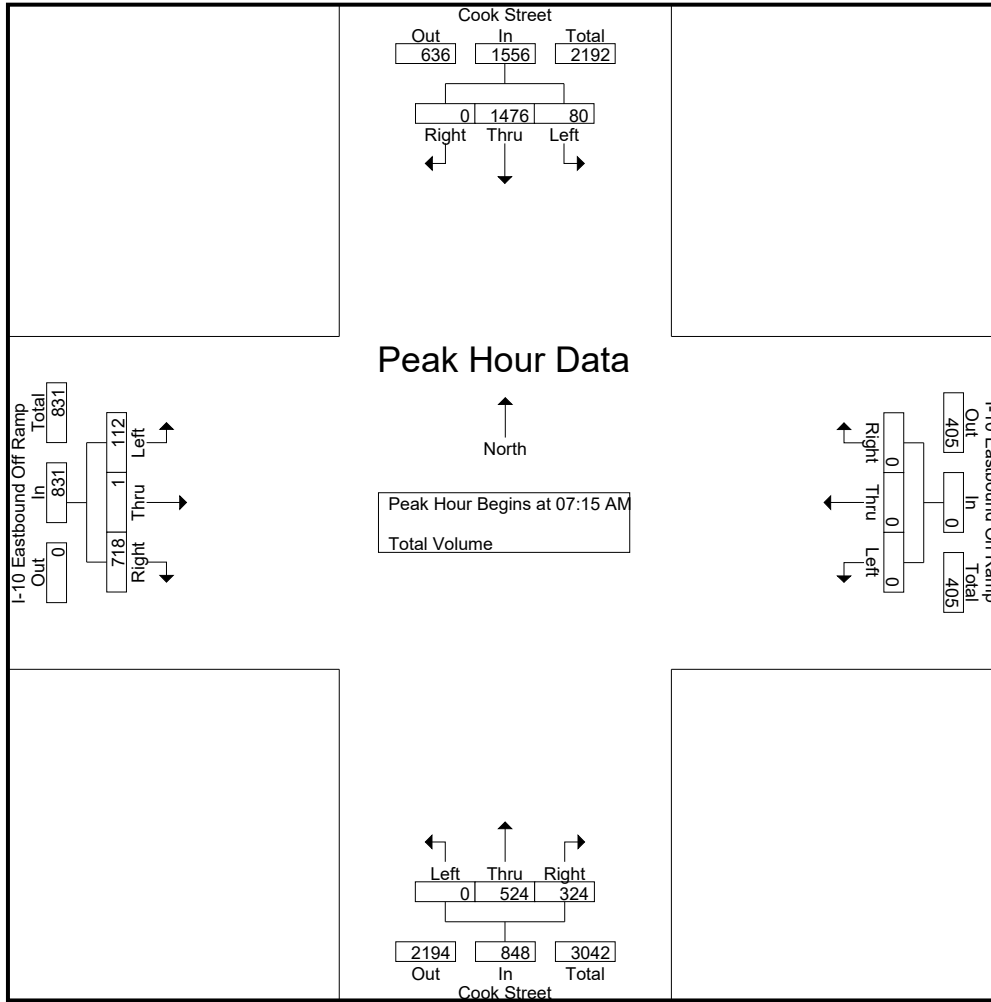
| Start Time | Cook Street Southbound | | | | I-10 Eastbound On Ramp Westbound | | | | Cook Street Northbound | | | | I-10 Eastbound Off Ramp Eastbound | | | | Int. Total |
|-------------|------------------------|------|-------|------------|----------------------------------|------|-------|------------|------------------------|------|-------|------------|-----------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 7 | 207 | 0 | 214 | 0 | 0 | 0 | 0 | 0 | 98 | 63 | 161 | 18 | 0 | 165 | 183 | 558 |
| 07:15 AM | 8 | 300 | 0 | 308 | 0 | 0 | 0 | 0 | 0 | 99 | 62 | 161 | 25 | 0 | 166 | 191 | 660 |
| 07:30 AM | 15 | 366 | 0 | 381 | 0 | 0 | 0 | 0 | 0 | 159 | 84 | 243 | 33 | 0 | 174 | 207 | 831 |
| 07:45 AM | 29 | 432 | 0 | 461 | 0 | 0 | 0 | 0 | 0 | 156 | 81 | 237 | 45 | 1 | 209 | 255 | 953 |
| Total | 59 | 1305 | 0 | 1364 | 0 | 0 | 0 | 0 | 0 | 512 | 290 | 802 | 121 | 1 | 714 | 836 | 3002 |
| 08:00 AM | 28 | 378 | 0 | 406 | 0 | 0 | 0 | 0 | 0 | 110 | 97 | 207 | 9 | 0 | 169 | 178 | 791 |
| 08:15 AM | 4 | 240 | 0 | 244 | 0 | 0 | 0 | 0 | 0 | 100 | 90 | 190 | 11 | 0 | 150 | 161 | 595 |
| 08:30 AM | 12 | 255 | 0 | 267 | 0 | 0 | 0 | 0 | 0 | 123 | 87 | 210 | 9 | 1 | 174 | 184 | 661 |
| 08:45 AM | 5 | 253 | 0 | 258 | 0 | 0 | 0 | 0 | 0 | 117 | 83 | 200 | 15 | 0 | 155 | 170 | 628 |
| Total | 49 | 1126 | 0 | 1175 | 0 | 0 | 0 | 0 | 0 | 450 | 357 | 807 | 44 | 1 | 648 | 693 | 2675 |
| Grand Total | 108 | 2431 | 0 | 2539 | 0 | 0 | 0 | 0 | 0 | 962 | 647 | 1609 | 165 | 2 | 1362 | 1529 | 5677 |
| Apprch % | 4.3 | 95.7 | 0 | | 0 | 0 | 0 | | 0 | 59.8 | 40.2 | | 10.8 | 0.1 | 89.1 | | |
| Total % | 1.9 | 42.8 | 0 | 44.7 | 0 | 0 | 0 | | 0 | 16.9 | 11.4 | 28.3 | 2.9 | 0 | 24 | 26.9 | |

| Start Time | Cook Street Southbound | | | | I-10 Eastbound On Ramp Westbound | | | | Cook Street Northbound | | | | I-10 Eastbound Off Ramp Eastbound | | | | Int. Total |
|--------------|------------------------|------------|-------|------------|----------------------------------|------|-------|------------|------------------------|------------|-----------|------------|-----------------------------------|----------|------------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:15 AM | 8 | 300 | 0 | 308 | 0 | 0 | 0 | 0 | 0 | 99 | 62 | 161 | 25 | 0 | 166 | 191 | 660 |
| 07:30 AM | 15 | 366 | 0 | 381 | 0 | 0 | 0 | 0 | 0 | 159 | 84 | 243 | 33 | 0 | 174 | 207 | 831 |
| 07:45 AM | 29 | 432 | 0 | 461 | 0 | 0 | 0 | 0 | 0 | 156 | 81 | 237 | 45 | 1 | 209 | 255 | 953 |
| 08:00 AM | 28 | 378 | 0 | 406 | 0 | 0 | 0 | 0 | 0 | 110 | 97 | 207 | 9 | 0 | 169 | 178 | 791 |
| Total Volume | 80 | 1476 | 0 | 1556 | 0 | 0 | 0 | 0 | 0 | 524 | 324 | 848 | 112 | 1 | 718 | 831 | 3235 |
| % App. Total | 5.1 | 94.9 | 0 | | 0 | 0 | 0 | | 0 | 61.8 | 38.2 | | 13.5 | 0.1 | 86.4 | | |
| PHF | .690 | .854 | .000 | .844 | .000 | .000 | .000 | .000 | .000 | .824 | .835 | .872 | .622 | .250 | .859 | .815 | .849 |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

City of Palm Desert
 N/S: Cook Street
 E/W: I-10 Eastbound Ramps
 Weather: Clear

File Name : 08_PLD_Cook_10E AM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:15 AM | | | | 07:00 AM | | | | 07:30 AM | | | | 07:00 AM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 8 | 300 | 0 | 308 | 0 | 0 | 0 | 0 | 0 | 159 | 84 | 243 | 18 | 0 | 165 | 183 |
| +15 mins. | 15 | 366 | 0 | 381 | 0 | 0 | 0 | 0 | 0 | 156 | 81 | 237 | 25 | 0 | 166 | 191 |
| +30 mins. | 29 | 432 | 0 | 461 | 0 | 0 | 0 | 0 | 0 | 110 | 97 | 207 | 33 | 0 | 174 | 207 |
| +45 mins. | 28 | 378 | 0 | 406 | 0 | 0 | 0 | 0 | 0 | 100 | 90 | 190 | 45 | 1 | 209 | 255 |
| Total Volume | 80 | 1476 | 0 | 1556 | 0 | 0 | 0 | 0 | 0 | 525 | 352 | 877 | 121 | 1 | 714 | 836 |
| % App. Total | 5.1 | 94.9 | 0 | | 0 | 0 | 0 | | 0 | 59.9 | 40.1 | | 14.5 | 0.1 | 85.4 | |
| PHF | .690 | .854 | .000 | .844 | .000 | .000 | .000 | .000 | .000 | .825 | .907 | .902 | .672 | .250 | .854 | .820 |

City of Palm Desert
 N/S: Cook Street
 E/W: I-10 Eastbound Ramps
 Weather: Clear

File Name : 08_PLD_Cook_10E PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 1

Groups Printed- Total Volume

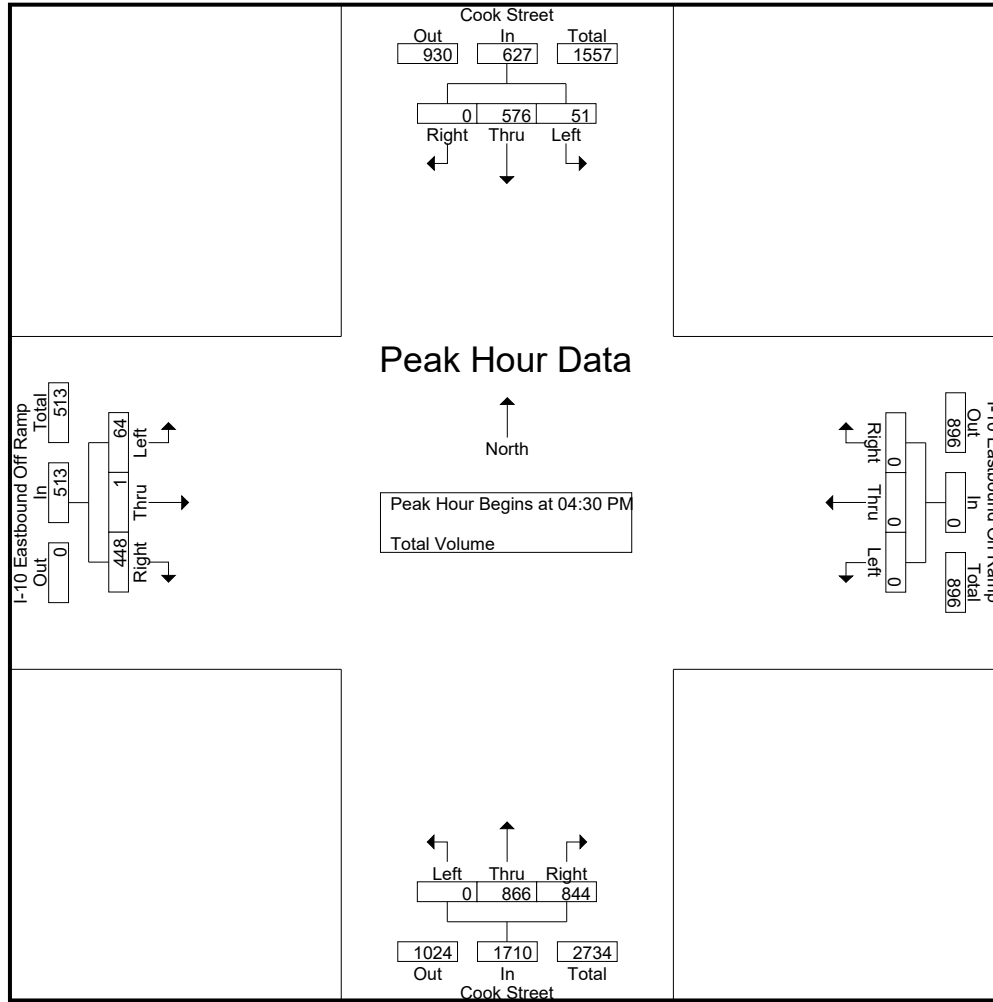
| Start Time | Cook Street Southbound | | | | I-10 Eastbound On Ramp Westbound | | | | Cook Street Northbound | | | | I-10 Eastbound Off Ramp Eastbound | | | | Int. Total |
|-------------|------------------------|------|-------|------------|----------------------------------|------|-------|------------|------------------------|------|-------|------------|-----------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 9 | 147 | 0 | 156 | 0 | 0 | 0 | 0 | 0 | 240 | 171 | 411 | 18 | 0 | 112 | 130 | 697 |
| 04:15 PM | 11 | 175 | 0 | 186 | 0 | 0 | 0 | 0 | 0 | 221 | 171 | 392 | 14 | 0 | 124 | 138 | 716 |
| 04:30 PM | 9 | 138 | 0 | 147 | 0 | 0 | 0 | 0 | 0 | 228 | 184 | 412 | 15 | 0 | 106 | 121 | 680 |
| 04:45 PM | 19 | 140 | 0 | 159 | 0 | 0 | 0 | 0 | 0 | 195 | 212 | 407 | 17 | 0 | 108 | 125 | 691 |
| Total | 48 | 600 | 0 | 648 | 0 | 0 | 0 | 0 | 0 | 884 | 738 | 1622 | 64 | 0 | 450 | 514 | 2784 |
| 05:00 PM | 16 | 144 | 0 | 160 | 0 | 0 | 0 | 0 | 0 | 216 | 209 | 425 | 14 | 0 | 117 | 131 | 716 |
| 05:15 PM | 7 | 154 | 0 | 161 | 0 | 0 | 0 | 0 | 0 | 227 | 239 | 466 | 18 | 1 | 117 | 136 | 763 |
| 05:30 PM | 13 | 122 | 0 | 135 | 0 | 0 | 0 | 0 | 0 | 168 | 153 | 321 | 8 | 0 | 88 | 96 | 552 |
| 05:45 PM | 7 | 118 | 0 | 125 | 0 | 0 | 0 | 0 | 0 | 124 | 136 | 260 | 13 | 0 | 120 | 133 | 518 |
| Total | 43 | 538 | 0 | 581 | 0 | 0 | 0 | 0 | 0 | 735 | 737 | 1472 | 53 | 1 | 442 | 496 | 2549 |
| Grand Total | 91 | 1138 | 0 | 1229 | 0 | 0 | 0 | 0 | 0 | 1619 | 1475 | 3094 | 117 | 1 | 892 | 1010 | 5333 |
| Apprch % | 7.4 | 92.6 | 0 | | 0 | 0 | 0 | | 0 | 52.3 | 47.7 | | 11.6 | 0.1 | 88.3 | | |
| Total % | 1.7 | 21.3 | 0 | 23 | 0 | 0 | 0 | | 0 | 30.4 | 27.7 | 58 | 2.2 | 0 | 16.7 | 18.9 | |

| Start Time | Cook Street Southbound | | | | I-10 Eastbound On Ramp Westbound | | | | Cook Street Northbound | | | | I-10 Eastbound Off Ramp Eastbound | | | | Int. Total |
|--------------|------------------------|------------|-------|------------|----------------------------------|------|-------|------------|------------------------|------------|------------|------------|-----------------------------------|----------|------------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:30 PM | 9 | 138 | 0 | 147 | 0 | 0 | 0 | 0 | 0 | 228 | 184 | 412 | 15 | 0 | 106 | 121 | 680 |
| 04:45 PM | 19 | 140 | 0 | 159 | 0 | 0 | 0 | 0 | 0 | 195 | 212 | 407 | 17 | 0 | 108 | 125 | 691 |
| 05:00 PM | 16 | 144 | 0 | 160 | 0 | 0 | 0 | 0 | 0 | 216 | 209 | 425 | 14 | 0 | 117 | 131 | 716 |
| 05:15 PM | 7 | 154 | 0 | 161 | 0 | 0 | 0 | 0 | 0 | 227 | 239 | 466 | 18 | 1 | 117 | 136 | 763 |
| Total Volume | 51 | 576 | 0 | 627 | 0 | 0 | 0 | 0 | 0 | 866 | 844 | 1710 | 64 | 1 | 448 | 513 | 2850 |
| % App. Total | 8.1 | 91.9 | 0 | | 0 | 0 | 0 | | 0 | 50.6 | 49.4 | | 12.5 | 0.2 | 87.3 | | |
| PHF | .671 | .935 | .000 | .974 | .000 | .000 | .000 | .000 | .000 | .950 | .883 | .917 | .889 | .250 | .957 | .943 | .934 |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Palm Desert
 N/S: Cook Street
 E/W: I-10 Eastbound Ramps
 Weather: Clear

File Name : 08_PLD_Cook_10E PM
 Site Code : 05122886
 Start Date : 10/13/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:15 PM | | | | 04:00 PM | | | | 04:30 PM | | | | 04:15 PM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 11 | 175 | 0 | 186 | 0 | 0 | 0 | 0 | 0 | 228 | 184 | 412 | 14 | 0 | 124 | 138 |
| +15 mins. | 9 | 138 | 0 | 147 | 0 | 0 | 0 | 0 | 0 | 195 | 212 | 407 | 15 | 0 | 106 | 121 |
| +30 mins. | 19 | 140 | 0 | 159 | 0 | 0 | 0 | 0 | 0 | 216 | 209 | 425 | 17 | 0 | 108 | 125 |
| +45 mins. | 16 | 144 | 0 | 160 | 0 | 0 | 0 | 0 | 0 | 227 | 239 | 466 | 14 | 0 | 117 | 131 |
| Total Volume | 55 | 597 | 0 | 652 | 0 | 0 | 0 | 0 | 0 | 866 | 844 | 1710 | 60 | 0 | 455 | 515 |
| % App. Total | 8.4 | 91.6 | 0 | | 0 | 0 | 0 | | 0 | 50.6 | 49.4 | | 11.7 | 0 | 88.3 | |
| PHF | .724 | .853 | .000 | .876 | .000 | .000 | .000 | .000 | .000 | .950 | .883 | .917 | .882 | .000 | .917 | .933 |

City of Palm Desert
 N/S: Cook Street
 E/W: Gerald Ford Drive
 Weather: Clear

File Name : 07_PLD_Cook_Ger AM
 Site Code : 05122326
 Start Date : 4/27/2022
 Page No : 1

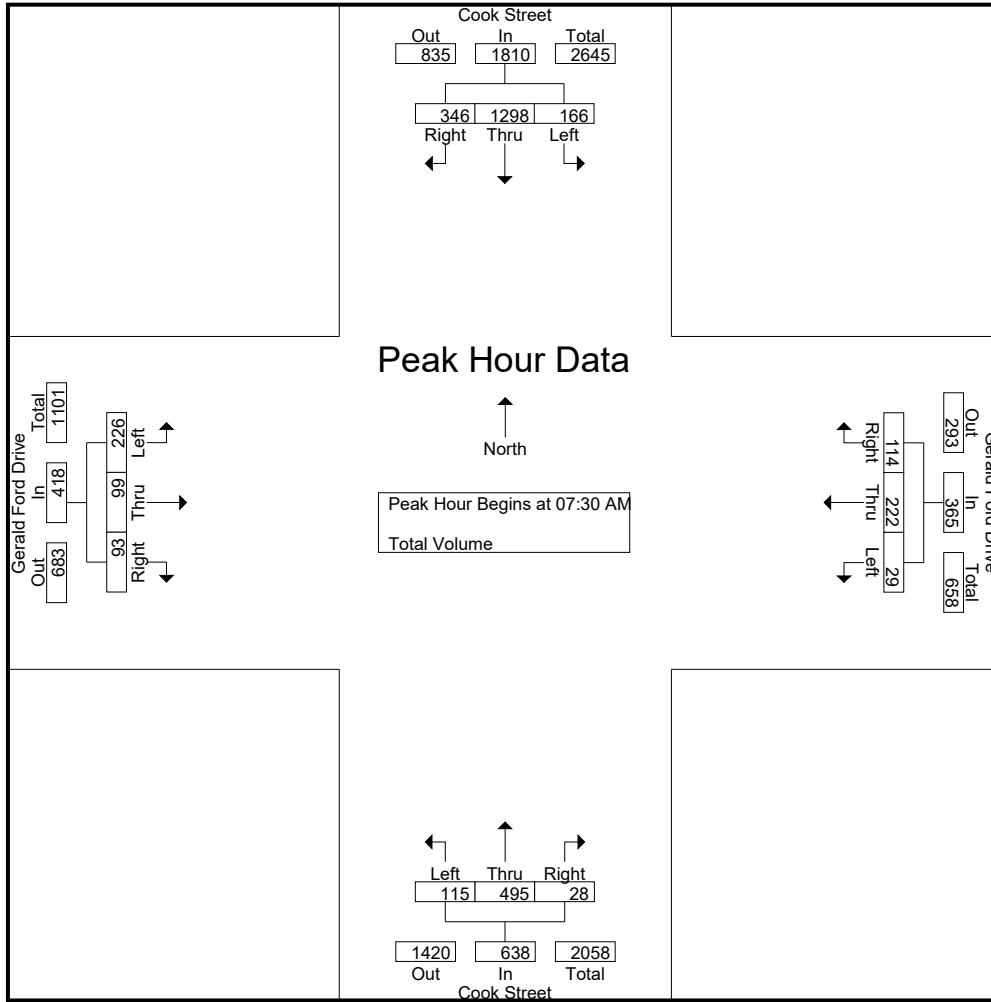
Groups Printed- Total Volume

| Start Time | Cook Street Southbound | | | | Gerald Ford Drive Westbound | | | | Cook Street Northbound | | | | Gerald Ford Drive Eastbound | | | | Int. Total |
|-------------|------------------------|------|-------|------------|-----------------------------|------|-------|------------|------------------------|------|-------|------------|-----------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 27 | 217 | 87 | 331 | 6 | 41 | 18 | 65 | 24 | 106 | 5 | 135 | 47 | 26 | 14 | 87 | 618 |
| 07:15 AM | 36 | 286 | 85 | 407 | 2 | 53 | 30 | 85 | 28 | 85 | 7 | 120 | 32 | 23 | 17 | 72 | 684 |
| 07:30 AM | 26 | 371 | 104 | 501 | 7 | 50 | 22 | 79 | 23 | 111 | 5 | 139 | 53 | 26 | 17 | 96 | 815 |
| 07:45 AM | 60 | 373 | 111 | 544 | 9 | 74 | 30 | 113 | 33 | 132 | 12 | 177 | 73 | 28 | 32 | 133 | 967 |
| Total | 149 | 1247 | 387 | 1783 | 24 | 218 | 100 | 342 | 108 | 434 | 29 | 571 | 205 | 103 | 80 | 388 | 3084 |
| 08:00 AM | 34 | 275 | 75 | 384 | 6 | 58 | 29 | 93 | 35 | 123 | 3 | 161 | 53 | 24 | 25 | 102 | 740 |
| 08:15 AM | 46 | 279 | 56 | 381 | 7 | 40 | 33 | 80 | 24 | 129 | 8 | 161 | 47 | 21 | 19 | 87 | 709 |
| 08:30 AM | 33 | 238 | 57 | 328 | 5 | 60 | 26 | 91 | 45 | 186 | 6 | 237 | 62 | 32 | 20 | 114 | 770 |
| 08:45 AM | 43 | 274 | 68 | 385 | 11 | 50 | 28 | 89 | 36 | 136 | 8 | 180 | 59 | 28 | 31 | 118 | 772 |
| Total | 156 | 1066 | 256 | 1478 | 29 | 208 | 116 | 353 | 140 | 574 | 25 | 739 | 221 | 105 | 95 | 421 | 2991 |
| Grand Total | 305 | 2313 | 643 | 3261 | 53 | 426 | 216 | 695 | 248 | 1008 | 54 | 1310 | 426 | 208 | 175 | 809 | 6075 |
| Apprch % | 9.4 | 70.9 | 19.7 | | 7.6 | 61.3 | 31.1 | | 18.9 | 76.9 | 4.1 | | 52.7 | 25.7 | 21.6 | | |
| Total % | 5 | 38.1 | 10.6 | 53.7 | 0.9 | 7 | 3.6 | 11.4 | 4.1 | 16.6 | 0.9 | 21.6 | 7 | 3.4 | 2.9 | 13.3 | |

| Start Time | Cook Street Southbound | | | | Gerald Ford Drive Westbound | | | | Cook Street Northbound | | | | Gerald Ford Drive Eastbound | | | | Int. Total |
|--|------------------------|------------|------------|------------|-----------------------------|-----------|-----------|------------|------------------------|------------|-----------|------------|-----------------------------|-----------|-----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:30 AM | | | | | | | | | | | | | | | | | |
| 07:30 AM | 26 | 371 | 104 | 501 | 7 | 50 | 22 | 79 | 23 | 111 | 5 | 139 | 53 | 26 | 17 | 96 | 815 |
| 07:45 AM | 60 | 373 | 111 | 544 | 9 | 74 | 30 | 113 | 33 | 132 | 12 | 177 | 73 | 28 | 32 | 133 | 967 |
| 08:00 AM | 34 | 275 | 75 | 384 | 6 | 58 | 29 | 93 | 35 | 123 | 3 | 161 | 53 | 24 | 25 | 102 | 740 |
| 08:15 AM | 46 | 279 | 56 | 381 | 7 | 40 | 33 | 80 | 24 | 129 | 8 | 161 | 47 | 21 | 19 | 87 | 709 |
| Total Volume | 166 | 1298 | 346 | 1810 | 29 | 222 | 114 | 365 | 115 | 495 | 28 | 638 | 226 | 99 | 93 | 418 | 3231 |
| % App. Total | 9.2 | 71.7 | 19.1 | | 7.9 | 60.8 | 31.2 | | 18 | 77.6 | 4.4 | | 54.1 | 23.7 | 22.2 | | |
| PHF | .692 | .870 | .779 | .832 | .806 | .750 | .864 | .808 | .821 | .938 | .583 | .901 | .774 | .884 | .727 | .786 | .835 |

City of Palm Desert
 N/S: Cook Street
 E/W: Gerald Ford Drive
 Weather: Clear

File Name : 07_PLD_Cook_Ger AM
 Site Code : 05122326
 Start Date : 4/27/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:15 AM | | | | 07:45 AM | | | | 08:00 AM | | | | 07:45 AM | | | |
|--------------|-----------|------------|------------|------------|----------|-----------|-----------|------------|-----------|------------|----------|------------|-----------|-----------|-----------|------------|
| +0 mins. | 36 | 286 | 85 | 407 | 9 | 74 | 30 | 113 | 35 | 123 | 3 | 161 | 73 | 28 | 32 | 133 |
| +15 mins. | 26 | 371 | 104 | 501 | 6 | 58 | 29 | 93 | 24 | 129 | 8 | 161 | 53 | 24 | 25 | 102 |
| +30 mins. | 60 | 373 | 111 | 544 | 7 | 40 | 33 | 80 | 45 | 186 | 6 | 237 | 47 | 21 | 19 | 87 |
| +45 mins. | 34 | 275 | 75 | 384 | 5 | 60 | 26 | 91 | 36 | 136 | 8 | 180 | 62 | 32 | 20 | 114 |
| Total Volume | 156 | 1305 | 375 | 1836 | 27 | 232 | 118 | 377 | 140 | 574 | 25 | 739 | 235 | 105 | 96 | 436 |
| % App. Total | 8.5 | 71.1 | 20.4 | | 7.2 | 61.5 | 31.3 | | 18.9 | 77.7 | 3.4 | | 53.9 | 24.1 | 22 | |
| PHF | .650 | .875 | .845 | .844 | .750 | .784 | .894 | .834 | .778 | .772 | .781 | .780 | .805 | .820 | .750 | .820 |

City of Palm Desert
 N/S: Cook Street
 E/W: Gerald Ford Drive
 Weather: Clear

File Name : 07_PLD_Cook_Ger PM
 Site Code : 05122326
 Start Date : 4/27/2022
 Page No : 1

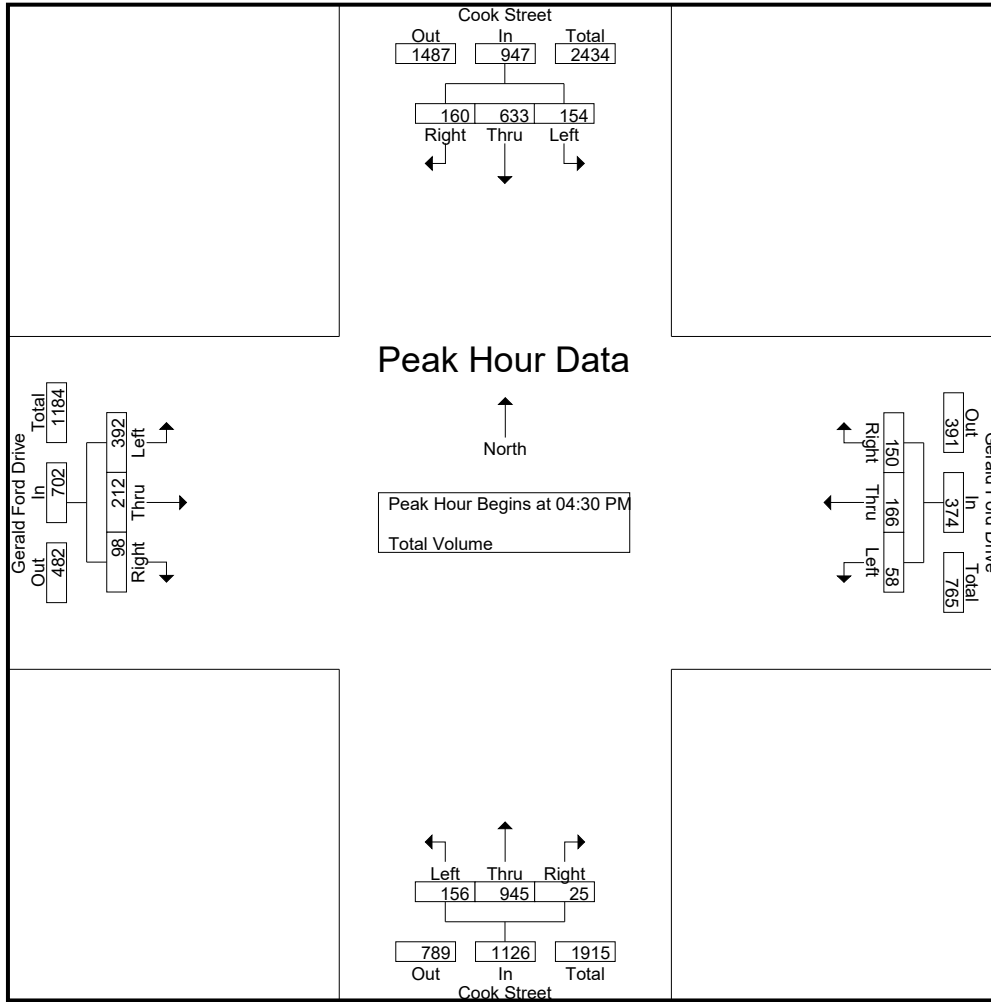
Groups Printed- Total Volume

| Start Time | Cook Street Southbound | | | | Gerald Ford Drive Westbound | | | | Cook Street Northbound | | | | Gerald Ford Drive Eastbound | | | | Int. Total |
|-------------|------------------------|------|-------|------------|-----------------------------|------|-------|------------|------------------------|------|-------|------------|-----------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 30 | 168 | 36 | 234 | 13 | 47 | 37 | 97 | 60 | 248 | 7 | 315 | 90 | 57 | 39 | 186 | 832 |
| 04:15 PM | 25 | 176 | 43 | 244 | 12 | 44 | 23 | 79 | 35 | 213 | 8 | 256 | 91 | 39 | 18 | 148 | 727 |
| 04:30 PM | 39 | 141 | 45 | 225 | 13 | 46 | 37 | 96 | 35 | 238 | 5 | 278 | 112 | 54 | 34 | 200 | 799 |
| 04:45 PM | 40 | 157 | 31 | 228 | 16 | 36 | 39 | 91 | 36 | 210 | 3 | 249 | 78 | 39 | 25 | 142 | 710 |
| Total | 134 | 642 | 155 | 931 | 54 | 173 | 136 | 363 | 166 | 909 | 23 | 1098 | 371 | 189 | 116 | 676 | 3068 |
| 05:00 PM | 38 | 162 | 42 | 242 | 16 | 40 | 39 | 95 | 24 | 254 | 9 | 287 | 96 | 62 | 23 | 181 | 805 |
| 05:15 PM | 37 | 173 | 42 | 252 | 13 | 44 | 35 | 92 | 61 | 243 | 8 | 312 | 106 | 57 | 16 | 179 | 835 |
| 05:30 PM | 33 | 153 | 52 | 238 | 13 | 28 | 36 | 77 | 32 | 178 | 4 | 214 | 91 | 33 | 24 | 148 | 677 |
| 05:45 PM | 45 | 129 | 34 | 208 | 16 | 26 | 28 | 70 | 53 | 124 | 6 | 183 | 76 | 41 | 17 | 134 | 595 |
| Total | 153 | 617 | 170 | 940 | 58 | 138 | 138 | 334 | 170 | 799 | 27 | 996 | 369 | 193 | 80 | 642 | 2912 |
| Grand Total | 287 | 1259 | 325 | 1871 | 112 | 311 | 274 | 697 | 336 | 1708 | 50 | 2094 | 740 | 382 | 196 | 1318 | 5980 |
| Apprch % | 15.3 | 67.3 | 17.4 | | 16.1 | 44.6 | 39.3 | | 16 | 81.6 | 2.4 | | 56.1 | 29 | 14.9 | | |
| Total % | 4.8 | 21.1 | 5.4 | 31.3 | 1.9 | 5.2 | 4.6 | 11.7 | 5.6 | 28.6 | 0.8 | 35 | 12.4 | 6.4 | 3.3 | 22 | |

| Start Time | Cook Street Southbound | | | | Gerald Ford Drive Westbound | | | | Cook Street Northbound | | | | Gerald Ford Drive Eastbound | | | | Int. Total |
|--|------------------------|------------|-----------|------------|-----------------------------|-----------|-----------|------------|------------------------|------------|----------|------------|-----------------------------|-----------|-----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:30 PM | | | | | | | | | | | | | | | | | |
| 04:30 PM | 39 | 141 | 45 | 225 | 13 | 46 | 37 | 96 | 35 | 238 | 5 | 278 | 112 | 54 | 34 | 200 | 799 |
| 04:45 PM | 40 | 157 | 31 | 228 | 16 | 36 | 39 | 91 | 36 | 210 | 3 | 249 | 78 | 39 | 25 | 142 | 710 |
| 05:00 PM | 38 | 162 | 42 | 242 | 16 | 40 | 39 | 95 | 24 | 254 | 9 | 287 | 96 | 62 | 23 | 181 | 805 |
| 05:15 PM | 37 | 173 | 42 | 252 | 13 | 44 | 35 | 92 | 61 | 243 | 8 | 312 | 106 | 57 | 16 | 179 | 835 |
| Total Volume | 154 | 633 | 160 | 947 | 58 | 166 | 150 | 374 | 156 | 945 | 25 | 1126 | 392 | 212 | 98 | 702 | 3149 |
| % App. Total | 16.3 | 66.8 | 16.9 | | 15.5 | 44.4 | 40.1 | | 13.9 | 83.9 | 2.2 | | 55.8 | 30.2 | 14 | | |
| PHF | .963 | .915 | .889 | .939 | .906 | .902 | .962 | .974 | .639 | .930 | .694 | .902 | .875 | .855 | .721 | .878 | .943 |

City of Palm Desert
 N/S: Cook Street
 E/W: Gerald Ford Drive
 Weather: Clear

File Name : 07_PLD_Cook_Ger PM
 Site Code : 05122326
 Start Date : 4/27/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:45 PM | | | | 04:30 PM | | | | 04:30 PM | | | | 04:30 PM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 40 | 157 | 31 | 228 | 13 | 46 | 37 | 96 | 35 | 238 | 5 | 278 | 112 | 54 | 34 | 200 |
| +15 mins. | 38 | 162 | 42 | 242 | 16 | 36 | 39 | 91 | 36 | 210 | 3 | 249 | 78 | 39 | 25 | 142 |
| +30 mins. | 37 | 173 | 42 | 252 | 16 | 40 | 39 | 95 | 24 | 254 | 9 | 287 | 96 | 62 | 23 | 181 |
| +45 mins. | 33 | 153 | 52 | 238 | 13 | 44 | 35 | 92 | 61 | 243 | 8 | 312 | 106 | 57 | 16 | 179 |
| Total Volume | 148 | 645 | 167 | 960 | 58 | 166 | 150 | 374 | 156 | 945 | 25 | 1126 | 392 | 212 | 98 | 702 |
| % App. Total | 15.4 | 67.2 | 17.4 | | 15.5 | 44.4 | 40.1 | | 13.9 | 83.9 | 2.2 | | 55.8 | 30.2 | 14 | |
| PHF | .925 | .932 | .803 | .952 | .906 | .902 | .962 | .974 | .639 | .930 | .694 | .902 | .875 | .855 | .721 | .878 |

City of Palm Desert
 N/S: Cook Street
 E/W: University Park Drive/Berger Dr W
 Weather: Clear

File Name : 11_PLD_Cook_Uni AM
 Site Code : 05122144
 Start Date : 3/9/2022
 Page No : 1

Groups Printed- Total Volume

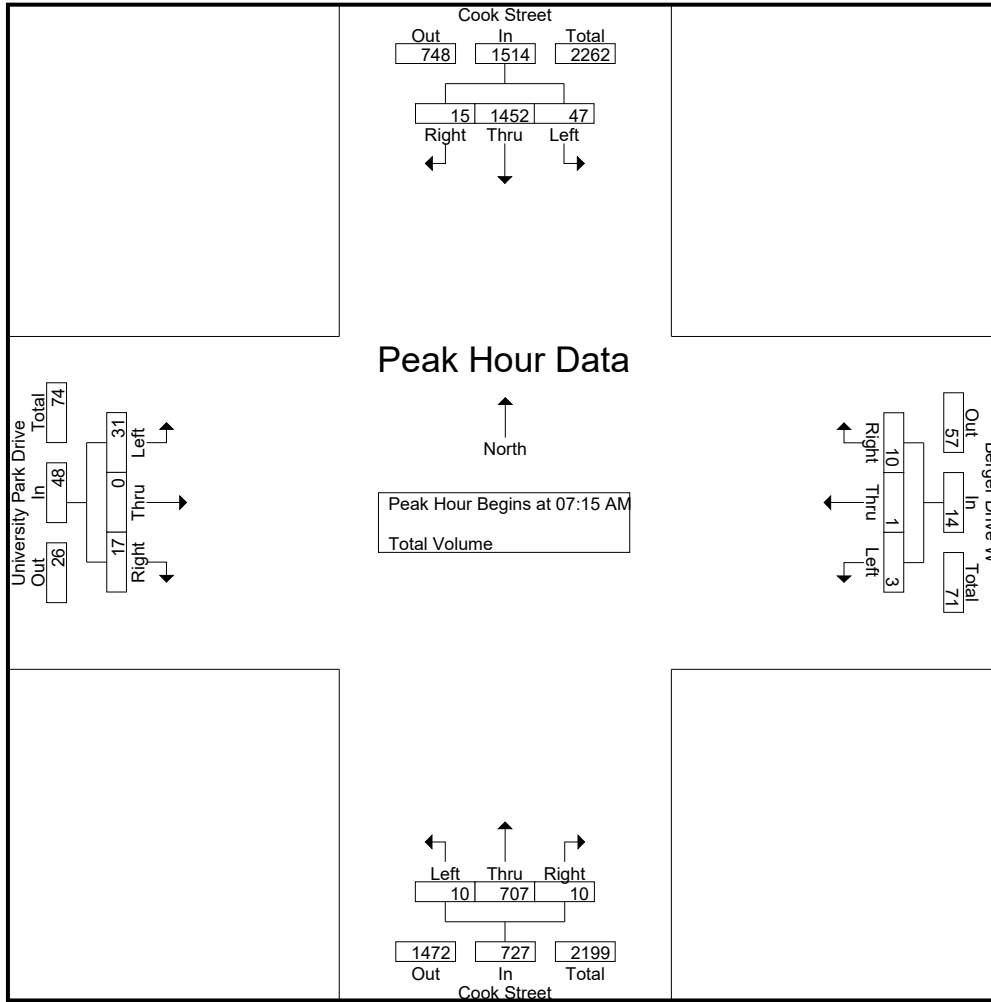
| Start Time | Cook Street Southbound | | | | Berger Drive W Westbound | | | | Cook Street Northbound | | | | University Park Drive Eastbound | | | | Int. Total |
|-------------|------------------------|------|-------|------------|--------------------------|------|-------|------------|------------------------|------|-------|------------|---------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 6 | 215 | 5 | 226 | 0 | 0 | 1 | 1 | 4 | 110 | 2 | 116 | 5 | 1 | 3 | 9 | 352 |
| 07:15 AM | 5 | 331 | 3 | 339 | 0 | 0 | 3 | 3 | 3 | 150 | 0 | 153 | 10 | 0 | 7 | 17 | 512 |
| 07:30 AM | 14 | 373 | 1 | 388 | 0 | 0 | 2 | 2 | 1 | 184 | 2 | 187 | 6 | 0 | 4 | 10 | 587 |
| 07:45 AM | 13 | 421 | 8 | 442 | 2 | 1 | 3 | 6 | 3 | 177 | 3 | 183 | 9 | 0 | 3 | 12 | 643 |
| Total | 38 | 1340 | 17 | 1395 | 2 | 1 | 9 | 12 | 11 | 621 | 7 | 639 | 30 | 1 | 17 | 48 | 2094 |
| 08:00 AM | 15 | 327 | 3 | 345 | 1 | 0 | 2 | 3 | 3 | 196 | 5 | 204 | 6 | 0 | 3 | 9 | 561 |
| 08:15 AM | 6 | 319 | 5 | 330 | 0 | 0 | 3 | 3 | 5 | 161 | 1 | 167 | 4 | 0 | 6 | 10 | 510 |
| 08:30 AM | 19 | 294 | 10 | 323 | 1 | 1 | 3 | 5 | 11 | 198 | 0 | 209 | 7 | 0 | 0 | 7 | 544 |
| 08:45 AM | 31 | 342 | 4 | 377 | 1 | 2 | 5 | 8 | 5 | 193 | 6 | 204 | 7 | 0 | 1 | 8 | 597 |
| Total | 71 | 1282 | 22 | 1375 | 3 | 3 | 13 | 19 | 24 | 748 | 12 | 784 | 24 | 0 | 10 | 34 | 2212 |
| Grand Total | 109 | 2622 | 39 | 2770 | 5 | 4 | 22 | 31 | 35 | 1369 | 19 | 1423 | 54 | 1 | 27 | 82 | 4306 |
| Apprch % | 3.9 | 94.7 | 1.4 | | 16.1 | 12.9 | 71 | | 2.5 | 96.2 | 1.3 | | 65.9 | 1.2 | 32.9 | | |
| Total % | 2.5 | 60.9 | 0.9 | 64.3 | 0.1 | 0.1 | 0.5 | 0.7 | 0.8 | 31.8 | 0.4 | 33 | 1.3 | 0 | 0.6 | 1.9 | |

| Start Time | Cook Street Southbound | | | | Berger Drive W Westbound | | | | Cook Street Northbound | | | | University Park Drive Eastbound | | | | Int. Total |
|--------------|------------------------|------------|----------|------------|--------------------------|----------|----------|------------|------------------------|------------|----------|------------|---------------------------------|------|----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:15 AM | 5 | 331 | 3 | 339 | 0 | 0 | 3 | 3 | 3 | 150 | 0 | 153 | 10 | 0 | 7 | 17 | 512 |
| 07:30 AM | 14 | 373 | 1 | 388 | 0 | 0 | 2 | 2 | 1 | 184 | 2 | 187 | 6 | 0 | 4 | 10 | 587 |
| 07:45 AM | 13 | 421 | 8 | 442 | 2 | 1 | 3 | 6 | 3 | 177 | 3 | 183 | 9 | 0 | 3 | 12 | 643 |
| 08:00 AM | 15 | 327 | 3 | 345 | 1 | 0 | 2 | 3 | 3 | 196 | 5 | 204 | 6 | 0 | 3 | 9 | 561 |
| Total Volume | 47 | 1452 | 15 | 1514 | 3 | 1 | 10 | 14 | 10 | 707 | 10 | 727 | 31 | 0 | 17 | 48 | 2303 |
| % App. Total | 3.1 | 95.9 | 1 | | 21.4 | 7.1 | 71.4 | | 1.4 | 97.2 | 1.4 | | 64.6 | 0 | 35.4 | | |
| PHF | .783 | .862 | .469 | .856 | .375 | .250 | .833 | .583 | .833 | .902 | .500 | .891 | .775 | .000 | .607 | .706 | .895 |

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 07:15 AM

City of Palm Desert
 N/S: Cook Street
 E/W: University Park Drive/Berger Dr W
 Weather: Clear

File Name : 11_PLD_Cook_Uni AM
 Site Code : 05122144
 Start Date : 3/9/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:15 AM | | | | 08:00 AM | | | | 08:00 AM | | | | 07:00 AM | | | |
|--------------|----------|------|------|------|----------|------|------|------|----------|------|------|------|----------|------|------|------|
| +0 mins. | 5 | 331 | 3 | 339 | 1 | 0 | 2 | 3 | 3 | 196 | 5 | 204 | 5 | 1 | 3 | 9 |
| +15 mins. | 14 | 373 | 1 | 388 | 0 | 0 | 3 | 3 | 5 | 161 | 1 | 167 | 10 | 0 | 7 | 17 |
| +30 mins. | 13 | 421 | 8 | 442 | 1 | 1 | 3 | 5 | 11 | 198 | 0 | 209 | 6 | 0 | 4 | 10 |
| +45 mins. | 15 | 327 | 3 | 345 | 1 | 2 | 5 | 8 | 5 | 193 | 6 | 204 | 9 | 0 | 3 | 12 |
| Total Volume | 47 | 1452 | 15 | 1514 | 3 | 3 | 13 | 19 | 24 | 748 | 12 | 784 | 30 | 1 | 17 | 48 |
| % App. Total | 3.1 | 95.9 | 1 | | 15.8 | 15.8 | 68.4 | | 3.1 | 95.4 | 1.5 | | 62.5 | 2.1 | 35.4 | |
| PHF | .783 | .862 | .469 | .856 | .750 | .375 | .650 | .594 | .545 | .944 | .500 | .938 | .750 | .250 | .607 | .706 |

City of Palm Desert
 N/S: Cook Street
 E/W: University Park Drive/Berger Dr W
 Weather: Clear

File Name : 11_PLD_Cook_Uni PM
 Site Code : 05122144
 Start Date : 3/9/2022
 Page No : 1

Groups Printed- Total Volume

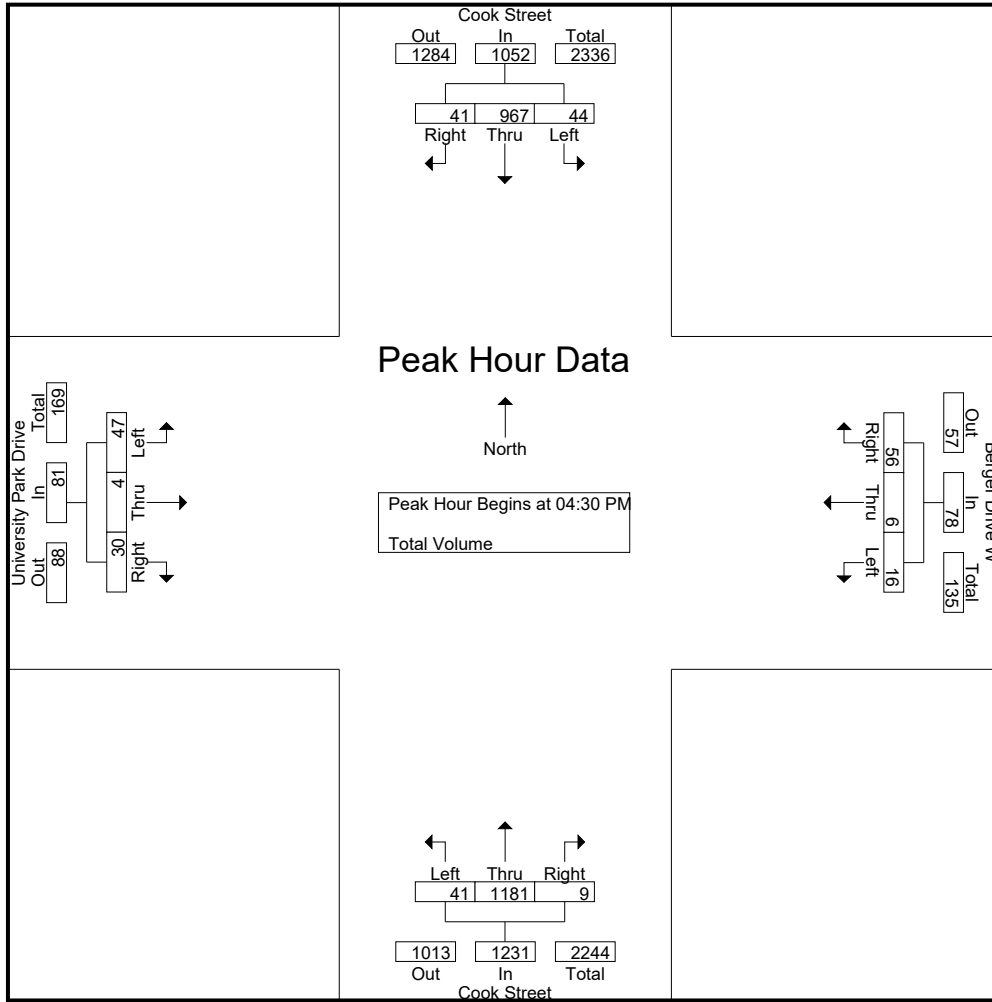
| Start Time | Cook Street Southbound | | | | Berger Drive W Westbound | | | | Cook Street Northbound | | | | University Park Drive Eastbound | | | | Int. Total |
|-------------|------------------------|------|-------|------------|--------------------------|------|-------|------------|------------------------|------|-------|------------|---------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 9 | 239 | 5 | 253 | 4 | 2 | 7 | 13 | 9 | 297 | 3 | 309 | 5 | 1 | 5 | 11 | 586 |
| 04:15 PM | 11 | 237 | 4 | 252 | 0 | 0 | 2 | 2 | 9 | 284 | 2 | 295 | 7 | 0 | 6 | 13 | 562 |
| 04:30 PM | 8 | 245 | 12 | 265 | 2 | 0 | 2 | 4 | 14 | 292 | 2 | 308 | 9 | 0 | 10 | 19 | 596 |
| 04:45 PM | 4 | 234 | 13 | 251 | 1 | 1 | 5 | 7 | 6 | 267 | 0 | 273 | 15 | 1 | 9 | 25 | 556 |
| Total | 32 | 955 | 34 | 1021 | 7 | 3 | 16 | 26 | 38 | 1140 | 7 | 1185 | 36 | 2 | 30 | 68 | 2300 |
| 05:00 PM | 15 | 268 | 6 | 289 | 4 | 1 | 15 | 20 | 10 | 341 | 2 | 353 | 13 | 2 | 3 | 18 | 680 |
| 05:15 PM | 17 | 220 | 10 | 247 | 9 | 4 | 34 | 47 | 11 | 281 | 5 | 297 | 10 | 1 | 8 | 19 | 610 |
| 05:30 PM | 17 | 217 | 6 | 240 | 2 | 2 | 8 | 12 | 6 | 261 | 5 | 272 | 9 | 0 | 5 | 14 | 538 |
| 05:45 PM | 6 | 203 | 4 | 213 | 0 | 0 | 5 | 5 | 6 | 237 | 0 | 243 | 11 | 1 | 3 | 15 | 476 |
| Total | 55 | 908 | 26 | 989 | 15 | 7 | 62 | 84 | 33 | 1120 | 12 | 1165 | 43 | 4 | 19 | 66 | 2304 |
| Grand Total | 87 | 1863 | 60 | 2010 | 22 | 10 | 78 | 110 | 71 | 2260 | 19 | 2350 | 79 | 6 | 49 | 134 | 4604 |
| Apprch % | 4.3 | 92.7 | 3 | | 20 | 9.1 | 70.9 | | 3 | 96.2 | 0.8 | | 59 | 4.5 | 36.6 | | |
| Total % | 1.9 | 40.5 | 1.3 | 43.7 | 0.5 | 0.2 | 1.7 | 2.4 | 1.5 | 49.1 | 0.4 | 51 | 1.7 | 0.1 | 1.1 | 2.9 | |

| Start Time | Cook Street Southbound | | | | Berger Drive W Westbound | | | | Cook Street Northbound | | | | University Park Drive Eastbound | | | | Int. Total |
|--------------|------------------------|------|-------|------------|--------------------------|------|-------|------------|------------------------|------|-------|------------|---------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:30 PM | 8 | 245 | 12 | 265 | 2 | 0 | 2 | 4 | 14 | 292 | 2 | 308 | 9 | 0 | 10 | 19 | 596 |
| 04:45 PM | 4 | 234 | 13 | 251 | 1 | 1 | 5 | 7 | 6 | 267 | 0 | 273 | 15 | 1 | 9 | 25 | 556 |
| 05:00 PM | 15 | 268 | 6 | 289 | 4 | 1 | 15 | 20 | 10 | 341 | 2 | 353 | 13 | 2 | 3 | 18 | 680 |
| 05:15 PM | 17 | 220 | 10 | 247 | 9 | 4 | 34 | 47 | 11 | 281 | 5 | 297 | 10 | 1 | 8 | 19 | 610 |
| Total Volume | 44 | 967 | 41 | 1052 | 16 | 6 | 56 | 78 | 41 | 1181 | 9 | 1231 | 47 | 4 | 30 | 81 | 2442 |
| % App. Total | 4.2 | 91.9 | 3.9 | | 20.5 | 7.7 | 71.8 | | 3.3 | 95.9 | 0.7 | | 58 | 4.9 | 37 | | |
| PHF | .647 | .902 | .788 | .910 | .444 | .375 | .412 | .415 | .732 | .866 | .450 | .872 | .783 | .500 | .750 | .810 | .898 |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:30 PM

City of Palm Desert
 N/S: Cook Street
 E/W: University Park Drive/Berger Dr W
 Weather: Clear

File Name : 11_PLD_Cook_Uni PM
 Site Code : 05122144
 Start Date : 3/9/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:15 PM | | | | 04:45 PM | | | | 04:30 PM | | | | 04:30 PM | | | |
|--------------|-----------|------------|-----------|------------|----------|----------|-----------|-----------|-----------|------------|----------|------------|-----------|----------|-----------|-----------|
| +0 mins. | 11 | 237 | 4 | 252 | 1 | 1 | 5 | 7 | 14 | 292 | 2 | 308 | 9 | 0 | 10 | 19 |
| +15 mins. | 8 | 245 | 12 | 265 | 4 | 1 | 15 | 20 | 6 | 267 | 0 | 273 | 15 | 1 | 9 | 25 |
| +30 mins. | 4 | 234 | 13 | 251 | 9 | 4 | 34 | 47 | 10 | 341 | 2 | 353 | 13 | 2 | 3 | 18 |
| +45 mins. | 15 | 268 | 6 | 289 | 2 | 2 | 8 | 12 | 11 | 281 | 5 | 297 | 10 | 1 | 8 | 19 |
| Total Volume | 38 | 984 | 35 | 1057 | 16 | 8 | 62 | 86 | 41 | 1181 | 9 | 1231 | 47 | 4 | 30 | 81 |
| % App. Total | 3.6 | 93.1 | 3.3 | | 18.6 | 9.3 | 72.1 | | 3.3 | 95.9 | 0.7 | | 58 | 4.9 | 37 | |
| PHF | .633 | .918 | .673 | .914 | .444 | .500 | .456 | .457 | .732 | .866 | .450 | .872 | .783 | .500 | .750 | .810 |

City of Palm Desert
 N/S: Cook Street
 E/W: Frank Sinatra Drive
 Weather: Clear

File Name : 05_PLD_Cook_Frank AM
 Site Code : 05122144
 Start Date : 3/9/2022
 Page No : 1

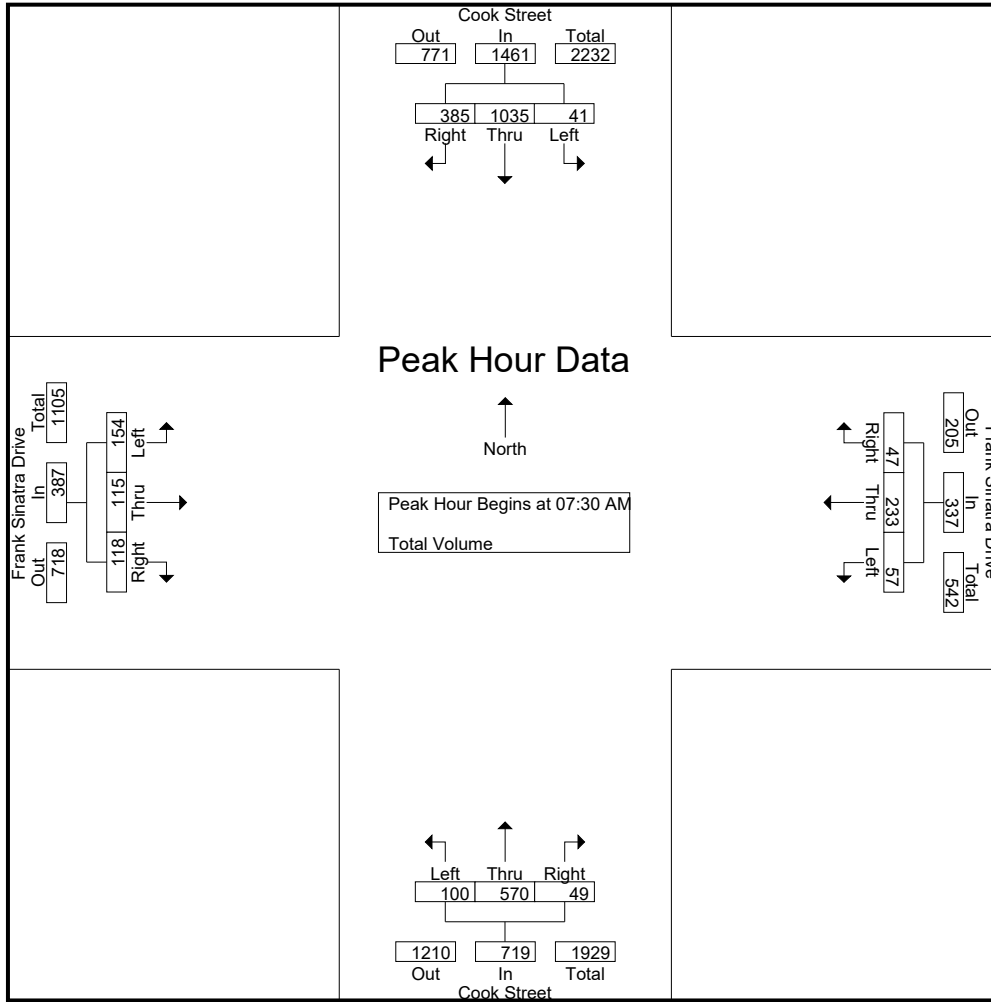
Groups Printed- Total Volume

| Start Time | Cook Street Southbound | | | | Frank Sinatra Drive Westbound | | | | Cook Street Northbound | | | | Frank Sinatra Drive Eastbound | | | | Int. Total |
|-------------|------------------------|------|-------|------------|-------------------------------|------|-------|------------|------------------------|------|-------|------------|-------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 07:00 AM | 5 | 173 | 57 | 235 | 6 | 41 | 10 | 57 | 18 | 90 | 5 | 113 | 20 | 20 | 14 | 54 | 459 |
| 07:15 AM | 9 | 206 | 92 | 307 | 10 | 63 | 11 | 84 | 21 | 104 | 3 | 128 | 28 | 12 | 19 | 59 | 578 |
| 07:30 AM | 9 | 256 | 103 | 368 | 19 | 59 | 7 | 85 | 24 | 154 | 24 | 202 | 37 | 29 | 36 | 102 | 757 |
| 07:45 AM | 12 | 288 | 123 | 423 | 17 | 56 | 20 | 93 | 30 | 132 | 9 | 171 | 45 | 25 | 38 | 108 | 795 |
| Total | 35 | 923 | 375 | 1333 | 52 | 219 | 48 | 319 | 93 | 480 | 41 | 614 | 130 | 86 | 107 | 323 | 2589 |
| 08:00 AM | 9 | 254 | 87 | 350 | 6 | 66 | 14 | 86 | 21 | 149 | 10 | 180 | 44 | 37 | 22 | 103 | 719 |
| 08:15 AM | 11 | 237 | 72 | 320 | 15 | 52 | 6 | 73 | 25 | 135 | 6 | 166 | 28 | 24 | 22 | 74 | 633 |
| 08:30 AM | 8 | 212 | 69 | 289 | 19 | 57 | 13 | 89 | 26 | 156 | 9 | 191 | 44 | 32 | 21 | 97 | 666 |
| 08:45 AM | 4 | 253 | 71 | 328 | 8 | 50 | 12 | 70 | 33 | 162 | 8 | 203 | 42 | 37 | 46 | 125 | 726 |
| Total | 32 | 956 | 299 | 1287 | 48 | 225 | 45 | 318 | 105 | 602 | 33 | 740 | 158 | 130 | 111 | 399 | 2744 |
| Grand Total | 67 | 1879 | 674 | 2620 | 100 | 444 | 93 | 637 | 198 | 1082 | 74 | 1354 | 288 | 216 | 218 | 722 | 5333 |
| Apprch % | 2.6 | 71.7 | 25.7 | | 15.7 | 69.7 | 14.6 | | 14.6 | 79.9 | 5.5 | | 39.9 | 29.9 | 30.2 | | |
| Total % | 1.3 | 35.2 | 12.6 | 49.1 | 1.9 | 8.3 | 1.7 | 11.9 | 3.7 | 20.3 | 1.4 | 25.4 | 5.4 | 4.1 | 4.1 | 13.5 | |

| Start Time | Cook Street Southbound | | | | Frank Sinatra Drive Westbound | | | | Cook Street Northbound | | | | Frank Sinatra Drive Eastbound | | | | Int. Total |
|--|------------------------|------------|------------|------------|-------------------------------|-----------|-----------|------------|------------------------|------------|-----------|------------|-------------------------------|-----------|-----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:30 AM | | | | | | | | | | | | | | | | | |
| 07:30 AM | 9 | 256 | 103 | 368 | 19 | 59 | 7 | 85 | 24 | 154 | 24 | 202 | 37 | 29 | 36 | 102 | 757 |
| 07:45 AM | 12 | 288 | 123 | 423 | 17 | 56 | 20 | 93 | 30 | 132 | 9 | 171 | 45 | 25 | 38 | 108 | 795 |
| 08:00 AM | 9 | 254 | 87 | 350 | 6 | 66 | 14 | 86 | 21 | 149 | 10 | 180 | 44 | 37 | 22 | 103 | 719 |
| 08:15 AM | 11 | 237 | 72 | 320 | 15 | 52 | 6 | 73 | 25 | 135 | 6 | 166 | 28 | 24 | 22 | 74 | 633 |
| Total Volume | 41 | 1035 | 385 | 1461 | 57 | 233 | 47 | 337 | 100 | 570 | 49 | 719 | 154 | 115 | 118 | 387 | 2904 |
| % App. Total | 2.8 | 70.8 | 26.4 | | 16.9 | 69.1 | 13.9 | | 13.9 | 79.3 | 6.8 | | 39.8 | 29.7 | 30.5 | | |
| PHF | .854 | .898 | .783 | .863 | .750 | .883 | .588 | .906 | .833 | .925 | .510 | .890 | .856 | .777 | .776 | .896 | .913 |

City of Palm Desert
 N/S: Cook Street
 E/W: Frank Sinatra Drive
 Weather: Clear

File Name : 05_PLD_Cook_Frank AM
 Site Code : 05122144
 Start Date : 3/9/2022
 Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 07:30 AM | | | | 07:15 AM | | | | 08:00 AM | | | | 08:00 AM | | | |
|--------------|-----------|------------|------------|------------|-----------|-----------|-----------|-----------|-----------|------------|-----------|------------|-----------|-----------|-----------|------------|
| +0 mins. | 9 | 256 | 103 | 368 | 10 | 63 | 11 | 84 | 21 | 149 | 10 | 180 | 44 | 37 | 22 | 103 |
| +15 mins. | 12 | 288 | 123 | 423 | 19 | 59 | 7 | 85 | 25 | 135 | 6 | 166 | 28 | 24 | 22 | 74 |
| +30 mins. | 9 | 254 | 87 | 350 | 17 | 56 | 20 | 93 | 26 | 156 | 9 | 191 | 44 | 32 | 21 | 97 |
| +45 mins. | 11 | 237 | 72 | 320 | 6 | 66 | 14 | 86 | 33 | 162 | 8 | 203 | 42 | 37 | 46 | 125 |
| Total Volume | 41 | 1035 | 385 | 1461 | 52 | 244 | 52 | 348 | 105 | 602 | 33 | 740 | 158 | 130 | 111 | 399 |
| % App. Total | 2.8 | 70.8 | 26.4 | | 14.9 | 70.1 | 14.9 | | 14.2 | 81.4 | 4.5 | | 39.6 | 32.6 | 27.8 | |
| PHF | .854 | .898 | .783 | .863 | .684 | .924 | .650 | .935 | .795 | .929 | .825 | .911 | .898 | .878 | .603 | .798 |

City of Palm Desert
 N/S: Cook Street
 E/W: Frank Sinatra Drive
 Weather: Clear

File Name : 05_PLD_Cook_Frank PM
 Site Code : 05122144
 Start Date : 3/9/2022
 Page No : 1

Groups Printed- Total Volume

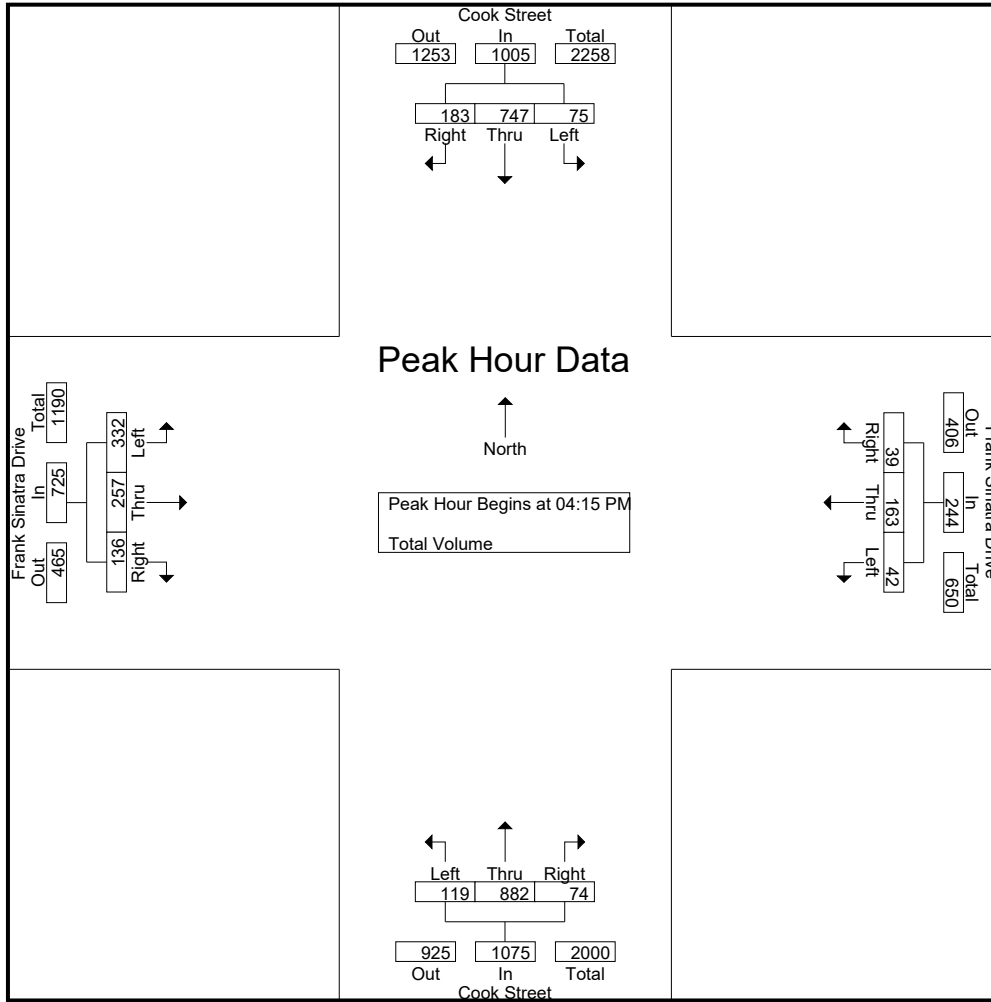
| Start Time | Cook Street Southbound | | | | Frank Sinatra Drive Westbound | | | | Cook Street Northbound | | | | Frank Sinatra Drive Eastbound | | | | Int. Total |
|-------------|------------------------|------|-------|------------|-------------------------------|------|-------|------------|------------------------|------|-------|------------|-------------------------------|------|-------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:00 PM | 9 | 174 | 41 | 224 | 9 | 31 | 12 | 52 | 33 | 242 | 20 | 295 | 53 | 61 | 48 | 162 | 733 |
| 04:15 PM | 19 | 190 | 45 | 254 | 14 | 41 | 8 | 63 | 33 | 220 | 22 | 275 | 85 | 71 | 38 | 194 | 786 |
| 04:30 PM | 20 | 189 | 41 | 250 | 14 | 35 | 14 | 63 | 31 | 229 | 19 | 279 | 78 | 50 | 29 | 157 | 749 |
| 04:45 PM | 21 | 167 | 54 | 242 | 5 | 38 | 6 | 49 | 22 | 175 | 16 | 213 | 86 | 58 | 33 | 177 | 681 |
| Total | 69 | 720 | 181 | 970 | 42 | 145 | 40 | 227 | 119 | 866 | 77 | 1062 | 302 | 240 | 148 | 690 | 2949 |
| 05:00 PM | 15 | 201 | 43 | 259 | 9 | 49 | 11 | 69 | 33 | 258 | 17 | 308 | 83 | 78 | 36 | 197 | 833 |
| 05:15 PM | 18 | 181 | 55 | 254 | 12 | 31 | 8 | 51 | 44 | 214 | 19 | 277 | 91 | 75 | 34 | 200 | 782 |
| 05:30 PM | 11 | 179 | 47 | 237 | 15 | 40 | 4 | 59 | 30 | 226 | 16 | 272 | 51 | 44 | 29 | 124 | 692 |
| 05:45 PM | 15 | 158 | 32 | 205 | 7 | 27 | 15 | 49 | 47 | 181 | 13 | 241 | 58 | 56 | 14 | 128 | 623 |
| Total | 59 | 719 | 177 | 955 | 43 | 147 | 38 | 228 | 154 | 879 | 65 | 1098 | 283 | 253 | 113 | 649 | 2930 |
| Grand Total | 128 | 1439 | 358 | 1925 | 85 | 292 | 78 | 455 | 273 | 1745 | 142 | 2160 | 585 | 493 | 261 | 1339 | 5879 |
| Apprch % | 6.6 | 74.8 | 18.6 | | 18.7 | 64.2 | 17.1 | | 12.6 | 80.8 | 6.6 | | 43.7 | 36.8 | 19.5 | | |
| Total % | 2.2 | 24.5 | 6.1 | 32.7 | 1.4 | 5 | 1.3 | 7.7 | 4.6 | 29.7 | 2.4 | 36.7 | 10 | 8.4 | 4.4 | 22.8 | |

| Start Time | Cook Street Southbound | | | | Frank Sinatra Drive Westbound | | | | Cook Street Northbound | | | | Frank Sinatra Drive Eastbound | | | | Int. Total |
|--------------|------------------------|------------|-----------|------------|-------------------------------|-----------|-----------|------------|------------------------|------------|-----------|------------|-------------------------------|-----------|-----------|------------|------------|
| | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | Left | Thru | Right | App. Total | |
| 04:15 PM | 19 | 190 | 45 | 254 | 14 | 41 | 8 | 63 | 33 | 220 | 22 | 275 | 85 | 71 | 38 | 194 | 786 |
| 04:30 PM | 20 | 189 | 41 | 250 | 14 | 35 | 14 | 63 | 31 | 229 | 19 | 279 | 78 | 50 | 29 | 157 | 749 |
| 04:45 PM | 21 | 167 | 54 | 242 | 5 | 38 | 6 | 49 | 22 | 175 | 16 | 213 | 86 | 58 | 33 | 177 | 681 |
| 05:00 PM | 15 | 201 | 43 | 259 | 9 | 49 | 11 | 69 | 33 | 258 | 17 | 308 | 83 | 78 | 36 | 197 | 833 |
| Total Volume | 75 | 747 | 183 | 1005 | 42 | 163 | 39 | 244 | 119 | 882 | 74 | 1075 | 332 | 257 | 136 | 725 | 3049 |
| % App. Total | 7.5 | 74.3 | 18.2 | | 17.2 | 66.8 | 16 | | 11.1 | 82 | 6.9 | | 45.8 | 35.4 | 18.8 | | |
| PHF | .893 | .929 | .847 | .970 | .750 | .832 | .696 | .884 | .902 | .855 | .841 | .873 | .965 | .824 | .895 | .920 | .915 |

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Entire Intersection Begins at 04:15 PM

City of Palm Desert
 N/S: Cook Street
 E/W: Frank Sinatra Drive
 Weather: Clear

File Name : 05_PLD_Cook_Frank PM
 Site Code : 05122144
 Start Date : 3/9/2022
 Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
 Peak Hour for Each Approach Begins at:

| | 04:15 PM | | | | 04:15 PM | | | | 05:00 PM | | | | 04:30 PM | | | |
|--------------|-----------|------------|-----------|------------|-----------|-----------|-----------|-----------|-----------|------------|-----------|------------|-----------|-----------|-----------|------------|
| +0 mins. | 19 | 190 | 45 | 254 | 14 | 41 | 8 | 63 | 33 | 258 | 17 | 308 | 78 | 50 | 29 | 157 |
| +15 mins. | 20 | 189 | 41 | 250 | 14 | 35 | 14 | 63 | 44 | 214 | 19 | 277 | 86 | 58 | 33 | 177 |
| +30 mins. | 21 | 167 | 54 | 242 | 5 | 38 | 6 | 49 | 30 | 226 | 16 | 272 | 83 | 78 | 36 | 197 |
| +45 mins. | 15 | 201 | 43 | 259 | 9 | 49 | 11 | 69 | 47 | 181 | 13 | 241 | 91 | 75 | 34 | 200 |
| Total Volume | 75 | 747 | 183 | 1005 | 42 | 163 | 39 | 244 | 154 | 879 | 65 | 1098 | 338 | 261 | 132 | 731 |
| % App. Total | 7.5 | 74.3 | 18.2 | | 17.2 | 66.8 | 16 | | 14 | 80.1 | 5.9 | | 46.2 | 35.7 | 18.1 | |
| PHF | .893 | .929 | .847 | .970 | .750 | .832 | .696 | .884 | .819 | .852 | .855 | .891 | .929 | .837 | .917 | .914 |

Counts Unlimited, Inc.

City of Palm Desert
 Gerald Ford Drive
 W/ Cook Street
 24 Hour Directional Volume Count

PO Box 1178
 Corona, CA 92878
 Phone: (951) 268-6268
 email: counts@countsunlimited.com

PLD003
 Site Code: 051-22326

| Start Time | 27-Apr-22 Wed | Eastbound | | Hour Totals | | Westbound | | Hour Totals | | Combined Totals | |
|----------------|------------------|------------|-------------|-------------|-----------|------------|------------|-------------|-----------|-----------------|-----------|
| | | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon |
| 12:00 | | 2 | 102 | | | 1 | 118 | | | | |
| 12:15 | | 2 | 149 | | | 3 | 132 | | | | |
| 12:30 | | 3 | 115 | | | 5 | 119 | | | | |
| 12:45 | | 3 | 104 | 10 | 470 | 2 | 145 | 11 | 514 | 21 | 984 |
| 01:00 | | 1 | 132 | | | 3 | 100 | | | | |
| 01:15 | | 2 | 143 | | | 4 | 139 | | | | |
| 01:30 | | 3 | 120 | | | 3 | 132 | | | | |
| 01:45 | | 2 | 125 | 8 | 520 | 4 | 148 | 14 | 519 | 22 | 1039 |
| 02:00 | | 4 | 156 | | | 0 | 130 | | | | |
| 02:15 | | 0 | 118 | | | 2 | 129 | | | | |
| 02:30 | | 2 | 152 | | | 3 | 132 | | | | |
| 02:45 | | 4 | 145 | 10 | 571 | 1 | 151 | 6 | 542 | 16 | 1113 |
| 03:00 | | 3 | 167 | | | 1 | 126 | | | | |
| 03:15 | | 3 | 179 | | | 1 | 146 | | | | |
| 03:30 | | 3 | 149 | | | 4 | 143 | | | | |
| 03:45 | | 4 | 166 | 13 | 661 | 9 | 147 | 15 | 562 | 28 | 1223 |
| 04:00 | | 7 | 186 | | | 8 | 143 | | | | |
| 04:15 | | 3 | 148 | | | 10 | 122 | | | | |
| 04:30 | | 6 | 200 | | | 19 | 126 | | | | |
| 04:45 | | 5 | 142 | 21 | 676 | 36 | 103 | 73 | 494 | 94 | 1170 |
| 05:00 | | 7 | 181 | | | 11 | 106 | | | | |
| 05:15 | | 11 | 179 | | | 33 | 147 | | | | |
| 05:30 | | 17 | 148 | | | 41 | 112 | | | | |
| 05:45 | | 29 | 134 | 64 | 642 | 67 | 113 | 152 | 478 | 216 | 1120 |
| 06:00 | | 25 | 122 | | | 50 | 102 | | | | |
| 06:15 | | 32 | 112 | | | 71 | 96 | | | | |
| 06:30 | | 34 | 92 | | | 118 | 77 | | | | |
| 06:45 | | 74 | 253 | 165 | 579 | 172 | 66 | 411 | 341 | 576 | 920 |
| 07:00 | | 87 | 102 | | | 152 | 61 | | | | |
| 07:15 | | 72 | 73 | | | 166 | 41 | | | | |
| 07:30 | | 96 | 60 | | | 177 | 53 | | | | |
| 07:45 | | 133 | 76 | 388 | 311 | 218 | 59 | 713 | 214 | 1101 | 525 |
| 08:00 | | 102 | 61 | | | 168 | 40 | | | | |
| 08:15 | | 87 | 58 | | | 120 | 49 | | | | |
| 08:30 | | 114 | 67 | | | 162 | 49 | | | | |
| 08:45 | | 118 | 37 | 421 | 223 | 154 | 34 | 604 | 172 | 1025 | 395 |
| 09:00 | | 91 | 58 | | | 128 | 37 | | | | |
| 09:15 | | 98 | 45 | | | 115 | 37 | | | | |
| 09:30 | | 99 | 43 | | | 142 | 30 | | | | |
| 09:45 | | 97 | 36 | 385 | 182 | 158 | 24 | 543 | 128 | 928 | 310 |
| 10:00 | | 96 | 21 | | | 129 | 25 | | | | |
| 10:15 | | 118 | 22 | | | 140 | 24 | | | | |
| 10:30 | | 94 | 24 | | | 128 | 14 | | | | |
| 10:45 | | 115 | 15 | 423 | 82 | 134 | 8 | 531 | 71 | 954 | 153 |
| 11:00 | | 115 | 20 | | | 115 | 15 | | | | |
| 11:15 | | 106 | 15 | | | 122 | 15 | | | | |
| 11:30 | | 116 | 12 | | | 146 | 11 | | | | |
| 11:45 | | 90 | 8 | 427 | 55 | 131 | 14 | 514 | 55 | 941 | 110 |
| Total | | 2335 | 4972 | 2335 | 4972 | 3587 | 4090 | 3587 | 4090 | 5922 | 9062 |
| Combined Total | | 7307 | | 7307 | | 7677 | | 7677 | | 14984 | |
| AM Peak | - | 10:45 | - | - | - | 07:15 | - | - | - | - | - |
| Vol. | - | 452 | - | - | - | 729 | - | - | - | - | - |
| P.H.F. | - | 0.974 | - | - | - | 0.836 | - | - | - | - | - |
| PM Peak | - | - | 04:30 | - | - | - | 03:15 | - | - | - | - |
| Vol. | - | - | 702 | - | - | - | 579 | - | - | - | - |
| P.H.F. | - | - | 0.878 | - | - | - | 0.985 | - | - | - | - |
| Percentage | | 32.0% | 68.0% | | | 46.7% | 53.3% | | | | |
| ADT/AADT | | ADT 14,984 | AADT 14,984 | | | | | | | | |

Counts Unlimited, Inc.

City of Palm Desert
College Drive
E/ Technology Drive
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

PLD003
Site Code: 051-22886

| Start Time | 10/13/22 Thu | Eastbound | | Hour Totals | | Westbound | | Hour Totals | | Combined Totals | |
|-----------------------|--------------|-----------|-----------|-------------|-----------|-----------|-----------|-------------|-----------|-----------------|-----------|
| | | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon |
| 12:00 | | 0 | 9 | | | 0 | 18 | | | | |
| 12:15 | | 0 | 5 | | | 1 | 11 | | | | |
| 12:30 | | 0 | 6 | | | 0 | 8 | | | | |
| 12:45 | | 0 | 6 | 0 | 26 | 0 | 7 | 1 | 44 | 1 | 70 |
| 01:00 | | 0 | 8 | | | 0 | 4 | | | | |
| 01:15 | | 0 | 4 | | | 0 | 13 | | | | |
| 01:30 | | 1 | 10 | | | 0 | 10 | | | | |
| 01:45 | | 0 | 9 | 1 | 31 | 1 | 6 | 1 | 33 | 2 | 64 |
| 02:00 | | 0 | 5 | | | 0 | 6 | | | | |
| 02:15 | | 0 | 6 | | | 0 | 14 | | | | |
| 02:30 | | 0 | 3 | | | 0 | 15 | | | | |
| 02:45 | | 0 | 12 | 0 | 26 | 0 | 14 | 0 | 49 | 0 | 75 |
| 03:00 | | 1 | 5 | | | 0 | 7 | | | | |
| 03:15 | | 0 | 6 | | | 0 | 8 | | | | |
| 03:30 | | 0 | 5 | | | 0 | 8 | | | | |
| 03:45 | | 0 | 12 | 1 | 28 | 0 | 10 | 0 | 33 | 1 | 61 |
| 04:00 | | 0 | 13 | | | 0 | 12 | | | | |
| 04:15 | | 1 | 5 | | | 1 | 15 | | | | |
| 04:30 | | 0 | 15 | | | 1 | 14 | | | | |
| 04:45 | | 0 | 6 | 1 | 39 | 0 | 12 | 2 | 53 | 3 | 92 |
| 05:00 | | 1 | 3 | | | 0 | 18 | | | | |
| 05:15 | | 1 | 6 | | | 2 | 7 | | | | |
| 05:30 | | 1 | 4 | | | 1 | 11 | | | | |
| 05:45 | | 2 | 20 | 5 | 33 | 1 | 8 | 4 | 44 | 9 | 77 |
| 06:00 | | 3 | 2 | | | 1 | 7 | | | | |
| 06:15 | | 1 | 7 | | | 7 | 7 | | | | |
| 06:30 | | 5 | 13 | | | 2 | 11 | | | | |
| 06:45 | | 4 | 8 | 13 | 30 | 3 | 5 | 13 | 30 | 26 | 60 |
| 07:00 | | 2 | 1 | | | 6 | 9 | | | | |
| 07:15 | | 1 | 8 | | | 1 | 7 | | | | |
| 07:30 | | 4 | 3 | | | 4 | 5 | | | | |
| 07:45 | | 12 | 5 | 19 | 17 | 13 | 5 | 24 | 26 | 43 | 43 |
| 08:00 | | 14 | 6 | | | 11 | 1 | | | | |
| 08:15 | | 3 | 4 | | | 4 | 2 | | | | |
| 08:30 | | 5 | 0 | | | 9 | 1 | | | | |
| 08:45 | | 9 | 2 | 31 | 12 | 6 | 0 | 30 | 4 | 61 | 16 |
| 09:00 | | 4 | 1 | | | 10 | 4 | | | | |
| 09:15 | | 4 | 3 | | | 8 | 1 | | | | |
| 09:30 | | 6 | 1 | | | 8 | 2 | | | | |
| 09:45 | | 7 | 1 | 21 | 6 | 13 | 1 | 39 | 8 | 60 | 14 |
| 10:00 | | 10 | 0 | | | 10 | 3 | | | | |
| 10:15 | | 16 | 0 | | | 15 | 2 | | | | |
| 10:30 | | 5 | 0 | | | 3 | 1 | | | | |
| 10:45 | | 2 | 2 | 33 | 2 | 7 | 0 | 35 | 6 | 68 | 8 |
| 11:00 | | 7 | 2 | | | 5 | 2 | | | | |
| 11:15 | | 8 | 1 | | | 7 | 0 | | | | |
| 11:30 | | 7 | 0 | | | 14 | 0 | | | | |
| 11:45 | | 7 | 0 | 29 | 3 | 15 | 0 | 41 | 2 | 70 | 5 |
| Total | | 154 | 253 | 154 | 253 | 190 | 332 | 190 | 332 | 344 | 585 |
| Combined Total | | 407 | | 407 | | 522 | | 522 | | 929 | |
| AM Peak | - | 09:30 | - | - | - | 09:30 | - | - | - | - | - |
| Vol. | - | 39 | - | - | - | 46 | - | - | - | - | - |
| P.H.F. | - | 0.609 | - | - | - | 0.767 | - | - | - | - | - |
| PM Peak | - | - | 03:45 | - | - | - | 04:15 | - | - | - | - |
| Vol. | - | - | 45 | - | - | - | 59 | - | - | - | - |
| P.H.F. | - | - | 0.750 | - | - | - | 0.819 | - | - | - | - |
| Percentage | | 37.8% | 62.2% | | | 36.4% | 63.6% | | | | |
| ADT/AADT | | ADT 929 | | AADT 929 | | | | | | | |

Counts Unlimited, Inc.

City of Palm Desert
Cook Street
N/ Gerald Ford Drive
24 Hour Directional Volume Count

PO Box 1178
Corona, CA 92878
Phone: (951) 268-6268
email: counts@countsunlimited.com

PLD001
Site Code: 051-22886

| Start Time | 10/13/22 Thu | Northbound | | Hour Totals | | Southbound | | Hour Totals | | Combined Totals | |
|-----------------------|-----------------|------------|------------|-------------|-----------|------------|------------|-------------|-----------|-----------------|-----------|
| | | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon |
| 12:00 | | 12 | 237 | | | 15 | 221 | | | | |
| 12:15 | | 19 | 230 | | | 20 | 197 | | | | |
| 12:30 | | 27 | 232 | | | 13 | 223 | | | | |
| 12:45 | | 10 | 213 | 68 | 912 | 12 | 268 | 60 | 909 | 128 | 1821 |
| 01:00 | | 12 | 206 | | | 9 | 223 | | | | |
| 01:15 | | 9 | 241 | | | 6 | 268 | | | | |
| 01:30 | | 8 | 228 | | | 12 | 257 | | | | |
| 01:45 | | 7 | 286 | 36 | 961 | 6 | 244 | 33 | 992 | 69 | 1953 |
| 02:00 | | 6 | 249 | | | 8 | 235 | | | | |
| 02:15 | | 3 | 281 | | | 6 | 253 | | | | |
| 02:30 | | 10 | 307 | | | 14 | 259 | | | | |
| 02:45 | | 11 | 360 | 30 | 1197 | 7 | 354 | 35 | 1101 | 65 | 2298 |
| 03:00 | | 7 | 380 | | | 10 | 267 | | | | |
| 03:15 | | 9 | 388 | | | 14 | 270 | | | | |
| 03:30 | | 16 | 372 | | | 15 | 298 | | | | |
| 03:45 | | 9 | 465 | 41 | 1605 | 34 | 271 | 73 | 1106 | 114 | 2711 |
| 04:00 | | 21 | 411 | | | 19 | 259 | | | | |
| 04:15 | | 17 | 392 | | | 44 | 299 | | | | |
| 04:30 | | 44 | 412 | | | 74 | 244 | | | | |
| 04:45 | | 35 | 407 | 117 | 1622 | 107 | 268 | 244 | 1070 | 361 | 2692 |
| 05:00 | | 24 | 425 | | | 91 | 261 | | | | |
| 05:15 | | 46 | 466 | | | 126 | 271 | | | | |
| 05:30 | | 62 | 321 | | | 161 | 210 | | | | |
| 05:45 | | 67 | 260 | 199 | 1472 | 244 | 238 | 622 | 980 | 821 | 2452 |
| 06:00 | | 95 | 254 | | | 216 | 168 | | | | |
| 06:15 | | 96 | 230 | | | 259 | 187 | | | | |
| 06:30 | | 135 | 247 | | | 345 | 177 | | | | |
| 06:45 | | 145 | 190 | 471 | 921 | 507 | 149 | 1327 | 681 | 1798 | 1602 |
| 07:00 | | 161 | 183 | | | 372 | 141 | | | | |
| 07:15 | | 161 | 140 | | | 466 | 120 | | | | |
| 07:30 | | 243 | 108 | | | 540 | 98 | | | | |
| 07:45 | | 237 | 136 | 802 | 567 | 641 | 138 | 2019 | 497 | 2821 | 1064 |
| 08:00 | | 207 | 113 | | | 557 | 94 | | | | |
| 08:15 | | 190 | 93 | | | 390 | 100 | | | | |
| 08:30 | | 210 | 95 | | | 429 | 97 | | | | |
| 08:45 | | 200 | 91 | 807 | 392 | 408 | 106 | 1784 | 397 | 2591 | 789 |
| 09:00 | | 201 | 66 | | | 272 | 100 | | | | |
| 09:15 | | 193 | 79 | | | 250 | 86 | | | | |
| 09:30 | | 192 | 78 | | | 285 | 86 | | | | |
| 09:45 | | 205 | 71 | 791 | 294 | 303 | 70 | 1110 | 342 | 1901 | 636 |
| 10:00 | | 182 | 59 | | | 227 | 81 | | | | |
| 10:15 | | 240 | 54 | | | 240 | 70 | | | | |
| 10:30 | | 226 | 29 | | | 241 | 57 | | | | |
| 10:45 | | 178 | 45 | 826 | 187 | 256 | 49 | 964 | 257 | 1790 | 444 |
| 11:00 | | 227 | 37 | | | 226 | 39 | | | | |
| 11:15 | | 212 | 28 | | | 232 | 26 | | | | |
| 11:30 | | 225 | 29 | | | 239 | 30 | | | | |
| 11:45 | | 226 | 17 | 890 | 111 | 217 | 23 | 914 | 118 | 1804 | 229 |
| Total | | 5078 | 10241 | 5078 | 10241 | 9185 | 8450 | 9185 | 8450 | 14263 | 18691 |
| Combined Total | | 15319 | | 15319 | | 17635 | | 17635 | | 32954 | |
| AM Peak | - | 11:00 | - | - | - | 07:15 | - | - | - | - | - |
| Vol. | - | 890 | - | - | - | 2204 | - | - | - | - | - |
| P.H.F. | - | 0.927 | - | - | - | 0.860 | - | - | - | - | - |
| PM Peak | - | - | 04:30 | - | - | - | 02:45 | - | - | - | - |
| Vol. | - | - | 1710 | - | - | - | 1189 | - | - | - | - |
| P.H.F. | - | - | 0.917 | - | - | - | 0.840 | - | - | - | - |
| Percentage | | 33.1% | 66.9% | | | 52.1% | 47.9% | | | | |
| ADT/AADT | | ADT 32,954 | | AADT 32,954 | | | | | | | |

Counts Unlimited, Inc.

City of Palm Desert
 Technology Drive
 S/ Gerald Ford Drive
 24 Hour Directional Volume Count

PO Box 1178
 Corona, CA 92878
 Phone: (951) 268-6268
 email: counts@countsunlimited.com

PLD002
 Site Code: 051-22886

| Start Time | 10/13/22 Thu | Northbound | | Hour Totals | | Southbound | | Hour Totals | | Combined Totals | |
|-----------------------|--------------|-------------|------------|-------------|------------|------------|------------|-------------|------------|-----------------|-------------|
| | | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon | Morning | Afternoon |
| 12:00 | | 0 | 36 | | | 0 | 12 | | | | |
| 12:15 | | 0 | 27 | | | 0 | 13 | | | | |
| 12:30 | | 0 | 16 | | | 0 | 16 | | | | |
| 12:45 | | 0 | 17 | 0 | 96 | 0 | 9 | 0 | 50 | 0 | 146 |
| 01:00 | | 1 | 12 | | | 0 | 12 | | | | |
| 01:15 | | 0 | 26 | | | 0 | 9 | | | | |
| 01:30 | | 1 | 19 | | | 0 | 13 | | | | |
| 01:45 | | 1 | 23 | 3 | 80 | 0 | 15 | 0 | 49 | 3 | 129 |
| 02:00 | | 0 | 14 | | | 0 | 8 | | | | |
| 02:15 | | 0 | 21 | | | 0 | 13 | | | | |
| 02:30 | | 0 | 26 | | | 0 | 6 | | | | |
| 02:45 | | 0 | 27 | 0 | 88 | 0 | 12 | 0 | 39 | 0 | 127 |
| 03:00 | | 0 | 35 | | | 1 | 14 | | | | |
| 03:15 | | 1 | 18 | | | 0 | 5 | | | | |
| 03:30 | | 0 | 22 | | | 0 | 11 | | | | |
| 03:45 | | 1 | 20 | 2 | 95 | 0 | 18 | 1 | 48 | 3 | 143 |
| 04:00 | | 0 | 20 | | | 0 | 9 | | | | |
| 04:15 | | 1 | 32 | | | 0 | 7 | | | | |
| 04:30 | | 2 | 30 | | | 0 | 13 | | | | |
| 04:45 | | 1 | 27 | 4 | 109 | 0 | 9 | 0 | 38 | 4 | 147 |
| 05:00 | | 1 | 32 | | | 0 | 7 | | | | |
| 05:15 | | 1 | 19 | | | 0 | 9 | | | | |
| 05:30 | | 0 | 14 | | | 3 | 7 | | | | |
| 05:45 | | 6 | 17 | 8 | 82 | 4 | 9 | 7 | 32 | 15 | 114 |
| 06:00 | | 4 | 14 | | | 8 | 4 | | | | |
| 06:15 | | 9 | 15 | | | 8 | 8 | | | | |
| 06:30 | | 2 | 16 | | | 11 | 9 | | | | |
| 06:45 | | 3 | 11 | 18 | 56 | 16 | 5 | 43 | 26 | 61 | 82 |
| 07:00 | | 9 | 15 | | | 7 | 2 | | | | |
| 07:15 | | 4 | 13 | | | 6 | 7 | | | | |
| 07:30 | | 11 | 15 | | | 8 | 1 | | | | |
| 07:45 | | 13 | 8 | 37 | 51 | 20 | 4 | 41 | 14 | 78 | 65 |
| 08:00 | | 14 | 7 | | | 16 | 5 | | | | |
| 08:15 | | 12 | 7 | | | 10 | 2 | | | | |
| 08:30 | | 8 | 3 | | | 8 | 3 | | | | |
| 08:45 | | 15 | 2 | 49 | 19 | 11 | 1 | 45 | 11 | 94 | 30 |
| 09:00 | | 17 | 3 | | | 7 | 3 | | | | |
| 09:15 | | 20 | 3 | | | 10 | 3 | | | | |
| 09:30 | | 10 | 2 | | | 10 | 1 | | | | |
| 09:45 | | 33 | 7 | 80 | 15 | 14 | 2 | 41 | 9 | 121 | 24 |
| 10:00 | | 14 | 2 | | | 17 | 0 | | | | |
| 10:15 | | 23 | 2 | | | 15 | 1 | | | | |
| 10:30 | | 11 | 4 | | | 10 | 0 | | | | |
| 10:45 | | 14 | 1 | 62 | 9 | 12 | 3 | 54 | 4 | 116 | 13 |
| 11:00 | | 22 | 3 | | | 8 | 0 | | | | |
| 11:15 | | 20 | 2 | | | 13 | 1 | | | | |
| 11:30 | | 25 | 0 | | | 12 | 1 | | | | |
| 11:45 | | 29 | 0 | 96 | 5 | 13 | 0 | 46 | 2 | 142 | 7 |
| Total | | 359 | 705 | 359 | 705 | 278 | 322 | 278 | 322 | 637 | 1027 |
| Combined Total | | 1064 | | 1064 | | 600 | | 600 | | 1664 | |
| AM Peak | - | 11:00 | - | - | - | 09:30 | - | - | - | - | - |
| Vol. | - | 96 | - | - | - | 56 | - | - | - | - | - |
| P.H.F. | | 0.828 | | | | 0.700 | | | | | |
| PM Peak | - | - | 04:15 | - | - | - | 12:00 | - | - | - | - |
| Vol. | - | - | 121 | - | - | - | 50 | - | - | - | - |
| P.H.F. | | | 0.864 | | | | 0.781 | | | | |
| Percentage | | 33.7% | 66.3% | | | 46.3% | 53.7% | | | | |
| ADT/AADT | | ADT 1,664 | | AADT 1,664 | | | | | | | |

**APPENDIX 3.2: EXISTING (2022) CONDITIONS INTERSECTION
OPERATIONS ANALYSIS WORKSHEETS**

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Lanes, Volumes, Timings
1: Technology Dr. & Gerald Ford Dr.

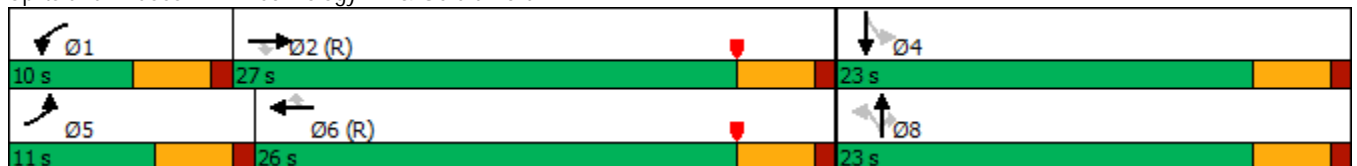
Existing (2022) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 31 | 303 | 27 | 14 | 609 | 42 | 16 | 22 | 19 | 60 | 17 | 32 |
| Future Volume (vph) | 31 | 303 | 27 | 14 | 609 | 42 | 16 | 22 | 19 | 60 | 17 | 32 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 185 | | 165 | 180 | | 120 | 102 | | 230 | 85 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 90 | | | 60 | | | 60 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | | 35 |
| Link Distance (ft) | | 549 | | | 936 | | | 343 | | | | 642 |
| Travel Time (s) | | 9.4 | | | 16.0 | | | 6.7 | | | | 12.5 |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 37 | 365 | 33 | 17 | 734 | 51 | 19 | 27 | 23 | 72 | 20 | 39 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 37 | 365 | 33 | 17 | 734 | 51 | 19 | 27 | 23 | 72 | 59 | 0 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.0 | 27.0 | 27.0 | 10.0 | 26.0 | 26.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 |
| Total Split (%) | 18.3% | 45.0% | 45.0% | 16.7% | 43.3% | 43.3% | 38.3% | 38.3% | 38.3% | 38.3% | 38.3% | 38.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | Max | Max | Max | Max | Max | Max |

Intersection Summary





























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 35 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Technology Dr. & Gerald Ford Dr.














HCM 6th Signalized Intersection Summary
1: Technology Dr. & Gerald Ford Dr.

Existing (2022) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |    |  |  |    |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 31 | 303 | 27 | 14 | 609 | 42 | 16 | 22 | 19 | 60 | 17 | 32 |
| Future Volume (veh/h) | 31 | 303 | 27 | 14 | 609 | 42 | 16 | 22 | 19 | 60 | 17 | 32 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 37 | 365 | 33 | 17 | 734 | 51 | 19 | 27 | 23 | 72 | 20 | 39 |
| 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 | 68 | 2278 | 703 | 37 | 2187 | 675 | 499 | 577 | 486 | 522 | 174 | 340 |
| Arrive On Green | 0.04 | 0.45 | 0.45 | 0.03 | 0.57 | 0.57 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 5106 | 1576 | 1781 | 5106 | 1576 | 1338 | 1870 | 1577 | 1349 | 565 | 1101 |
| Grp Volume(v), veh/h | 37 | 365 | 33 | 17 | 734 | 51 | 19 | 27 | 23 | 72 | 0 | 59 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1576 | 1781 | 1702 | 1576 | 1338 | 1870 | 1577 | 1349 | 0 | 1666 |
| Q Serve(g_s), s | 1.2 | 2.6 | 0.7 | 0.6 | 4.6 | 0.9 | 0.6 | 0.6 | 0.6 | 2.4 | 0.0 | 1.5 |
| Cycle Q Clear(g_c), s | 1.2 | 2.6 | 0.7 | 0.6 | 4.6 | 0.9 | 2.1 | 0.6 | 0.6 | 3.0 | 0.0 | 1.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.66 |
| Lane Grp Cap(c), veh/h | 68 | 2278 | 703 | 37 | 2187 | 675 | 499 | 577 | 486 | 522 | 0 | 514 |
| V/C Ratio(X) | 0.54 | 0.16 | 0.05 | 0.46 | 0.34 | 0.08 | 0.04 | 0.05 | 0.05 | 0.14 | 0.00 | 0.11 |
| Avail Cap(c_a), veh/h | 193 | 2278 | 703 | 163 | 2187 | 675 | 499 | 577 | 486 | 522 | 0 | 514 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 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 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.3 | 9.9 | 9.4 | 28.9 | 8.4 | 7.6 | 15.6 | 14.6 | 14.6 | 15.6 | 0.0 | 14.9 |
| Incr Delay (d2), s/veh | 6.5 | 0.2 | 0.1 | 7.7 | 0.4 | 0.2 | 0.1 | 0.2 | 0.2 | 0.6 | 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 0.8 | 0.2 | 0.3 | 1.4 | 0.3 | 0.2 | 0.3 | 0.2 | 0.7 | 0.0 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.8 | 10.1 | 9.5 | 36.5 | 8.7 | 7.8 | 15.8 | 14.7 | 14.7 | 16.2 | 0.0 | 15.3 |
| LnGrp LOS | C | B | A | D | A | A | B | B | B | B | A | B |
| Approach Vol, veh/h | | 435 | | | 802 | | | 69 | | | 131 | |
| Approach Delay, s/veh | | 12.1 | | | 9.3 | | | 15.0 | | | 15.8 | |
| Approach LOS | | B | | | A | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 5.7 | 31.3 | | 23.0 | 6.8 | 30.2 | | 23.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.5 | 22.5 | | 18.5 | 6.5 | 21.5 | | 18.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.6 | 4.6 | | 5.0 | 3.2 | 6.6 | | 4.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.2 | | 0.4 | 0.0 | 4.3 | | 0.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 11.0 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

Lanes, Volumes, Timings
 2: Technology Dr. & The Village W. Dwy.

Existing (2022) AM Peak Hour

| |  |  |  |  |  |  |
|-----------------------------|---|---|---|---|---|---|
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  |  |  |  |
| Traffic Volume (vph) | 2 | 21 | 36 | 4 | 20 | 38 |
| Future Volume (vph) | 2 | 21 | 36 | 4 | 20 | 38 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | 0 | | 175 | 55 | |
| Storage Lanes | 1 | 0 | | 1 | 1 | |
| Taper Length (ft) | 90 | | | | 60 | |
| Link Speed (mph) | 30 | | 35 | | | 35 |
| Link Distance (ft) | 313 | | 338 | | | 343 |
| Travel Time (s) | 7.1 | | 6.6 | | | 6.7 |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 3 | 27 | 46 | 5 | 25 | 48 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 30 | 0 | 46 | 5 | 25 | 48 |
| Sign Control | Stop | | Free | | | Free |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |
| Control Type: | Unsignalized | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.9 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↘↗ | | ↑ | ↗↘ | ↘↗ | ↑ |
| Traffic Vol, veh/h | 2 | 21 | 36 | 4 | 20 | 38 |
| Future Vol, veh/h | 2 | 21 | 36 | 4 | 20 | 38 |
| 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 | - | - | 175 | 55 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 27 | 46 | 5 | 25 | 48 |

| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 144 | 46 | 0 | 0 | 51 |
| Stage 1 | 46 | - | - | - | - |
| Stage 2 | 98 | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 |
| Pot Cap-1 Maneuver | 849 | 1023 | - | - | 1555 |
| Stage 1 | 976 | - | - | - | - |
| Stage 2 | 926 | - | - | - | - |
| Platoon blocked, % | | | - | - | - |
| Mov Cap-1 Maneuver | 835 | 1023 | - | - | 1555 |
| Mov Cap-2 Maneuver | 835 | - | - | - | - |
| Stage 1 | 976 | - | - | - | - |
| Stage 2 | 911 | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 8.7 | 0 | 2.5 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 1003 | 1555 |
| HCM Lane V/C Ratio | - | - | 0.029 | 0.016 |
| HCM Control Delay (s) | - | - | 8.7 | 7.4 |
| HCM Lane LOS | - | - | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0.1 |

Lanes, Volumes, Timings
 3: College Dr. & Technology Dr.

Existing (2022) AM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 16 | 17 | 8 | 24 | 19 | 21 |
| Future Volume (vph) | 16 | 17 | 8 | 24 | 19 | 21 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 40 | 40 | | 35 | |
| Link Distance (ft) | | 803 | 445 | | 338 | |
| Travel Time (s) | | 13.7 | 7.6 | | 6.6 | |
| Peak Hour Factor | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 |
| Adj. Flow (vph) | 22 | 23 | 11 | 33 | 26 | 29 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 45 | 44 | 0 | 55 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 3.0 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 45 | 44 | 55 |
| Demand Flow Rate, veh/h | 45 | 45 | 57 |
| Vehicles Circulating, veh/h | 27 | 22 | 11 |
| Vehicles Exiting, veh/h | 41 | 50 | 56 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.0 | 3.0 | 3.1 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 45 | 45 | 57 |
| Cap Entry Lane, veh/h | 1342 | 1349 | 1364 |
| Entry HV Adj Factor | 0.990 | 0.973 | 0.965 |
| Flow Entry, veh/h | 45 | 44 | 55 |
| Cap Entry, veh/h | 1329 | 1313 | 1317 |
| V/C Ratio | 0.034 | 0.033 | 0.042 |
| Control Delay, s/veh | 3.0 | 3.0 | 3.1 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 0 | 0 |

Lanes, Volumes, Timings
 4: University Dr. & College Dr.

Existing (2022) AM Peak Hour

| | → | ↘ | ↙ | ← | ↖ | ↗ |
|-------------------------|------|------|------|------|------|------|
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | ↗ | ↙ | ↑ | ↖ | ↗ |
| Traffic Volume (vph) | 30 | 8 | 4 | 25 | 14 | 3 |
| Future Volume (vph) | 30 | 8 | 4 | 25 | 14 | 3 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 120 | 130 | | 100 | 0 |
| Storage Lanes | | 1 | 1 | | 1 | 1 |
| Taper Length (ft) | | | 65 | | 60 | |
| Link Speed (mph) | 40 | | | 40 | 35 | |
| Link Distance (ft) | 755 | | | 803 | 448 | |
| Travel Time (s) | 12.9 | | | 13.7 | 8.7 | |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Adj. Flow (vph) | 39 | 11 | 5 | 33 | 18 | 4 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 39 | 11 | 5 | 33 | 18 | 4 |
| Sign Control | Free | | | Free | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.1 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | ↗ | ↘ | ↑ | ↘ | ↗ |
| Traffic Vol, veh/h | 30 | 8 | 4 | 25 | 14 | 3 |
| Future Vol, veh/h | 30 | 8 | 4 | 25 | 14 | 3 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 120 | 130 | - | 100 | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 76 | 76 | 76 | 76 | 76 | 76 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 39 | 11 | 5 | 33 | 18 | 4 |

| Major/Minor | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 50 | 0 | 82 |
| Stage 1 | - | - | - | - | 39 |
| Stage 2 | - | - | - | - | 43 |
| Critical Hdwy | - | - | 4.12 | - | 6.42 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 |
| Pot Cap-1 Maneuver | - | - | 1557 | - | 920 |
| Stage 1 | - | - | - | - | 983 |
| Stage 2 | - | - | - | - | 979 |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1557 | - | 917 |
| Mov Cap-2 Maneuver | - | - | - | - | 917 |
| Stage 1 | - | - | - | - | 983 |
| Stage 2 | - | - | - | - | 976 |

| Approach | EB | WB | NB |
|----------------------|----|----|-----|
| HCM Control Delay, s | 0 | 1 | 8.9 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 917 | 1033 | - | - | 1557 | - |
| HCM Lane V/C Ratio | 0.02 | 0.004 | - | - | 0.003 | - |
| HCM Control Delay (s) | 9 | 8.5 | - | - | 7.3 | - |
| HCM Lane LOS | A | A | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.1 | 0 | - | - | 0 | - |

Lanes, Volumes, Timings
5: College Dr. & Pacific Av.

Existing (2022) AM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | ↕ | ↔ | | ↙ | |
| Traffic Volume (vph) | 10 | 33 | 36 | 3 | 5 | 22 |
| Future Volume (vph) | 10 | 33 | 36 | 3 | 5 | 22 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 40 | 40 | | 35 | |
| Link Distance (ft) | | 711 | 644 | | 595 | |
| Travel Time (s) | | 12.1 | 11.0 | | 11.6 | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 11 | 35 | 38 | 3 | 5 | 23 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 46 | 41 | 0 | 28 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

















HCM 6th Roundabout
5: College Dr. & Pacific Av.

Existing (2022) AM Peak Hour

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 2.9 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 46 | 41 | 28 |
| Demand Flow Rate, veh/h | 47 | 42 | 28 |
| Vehicles Circulating, veh/h | 5 | 11 | 39 |
| Vehicles Exiting, veh/h | 62 | 41 | 14 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 2.9 | 2.9 | 2.9 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 47 | 42 | 28 |
| Cap Entry Lane, veh/h | 1373 | 1364 | 1326 |
| Entry HV Adj Factor | 0.985 | 0.982 | 1.000 |
| Flow Entry, veh/h | 46 | 41 | 28 |
| Cap Entry, veh/h | 1352 | 1340 | 1326 |
| V/C Ratio | 0.034 | 0.031 | 0.021 |
| Control Delay, s/veh | 2.9 | 2.9 | 2.9 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 0 | 0 |

Lanes, Volumes, Timings
6: College Dr. & University Park Dr.

Existing (2022) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (vph) | 1 | 3 | 2 | 11 | 19 | 7 | 1 | 29 | 21 | 12 | 9 | 1 |
| Future Volume (vph) | 1 | 3 | 2 | 11 | 19 | 7 | 1 | 29 | 21 | 12 | 9 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Link Speed (mph) | | 35 | | | 35 | | | 40 | | | 40 | |
| Link Distance (ft) | | 974 | | | 473 | | | 829 | | | 921 | |
| Travel Time (s) | | 19.0 | | | 9.2 | | | 14.1 | | | 15.7 | |
| Peak Hour Factor | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 |
| Adj. Flow (vph) | 1 | 4 | 3 | 16 | 28 | 10 | 1 | 43 | 31 | 18 | 13 | 1 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 8 | 0 | 0 | 54 | 0 | 0 | 75 | 0 | 0 | 32 | 0 |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

HCM 6th Roundabout
6: College Dr. & University Park Dr.

Existing (2022) AM Peak Hour

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 3.1 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 8 | 54 | 75 | 32 |
| Demand Flow Rate, veh/h | 8 | 55 | 77 | 32 |
| Vehicles Circulating, veh/h | 47 | 46 | 23 | 46 |
| Vehicles Exiting, veh/h | 31 | 54 | 32 | 55 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 2.8 | 3.1 | 3.2 | 2.9 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 8 | 55 | 77 | 32 |
| Cap Entry Lane, veh/h | 1315 | 1317 | 1348 | 1317 |
| Entry HV Adj Factor | 0.990 | 0.990 | 0.976 | 0.992 |
| Flow Entry, veh/h | 8 | 54 | 75 | 32 |
| Cap Entry, veh/h | 1302 | 1303 | 1315 | 1306 |
| V/C Ratio | 0.006 | 0.042 | 0.057 | 0.024 |
| Control Delay, s/veh | 2.8 | 3.1 | 3.2 | 2.9 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 0 | 0 | 0 | 0 |

Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

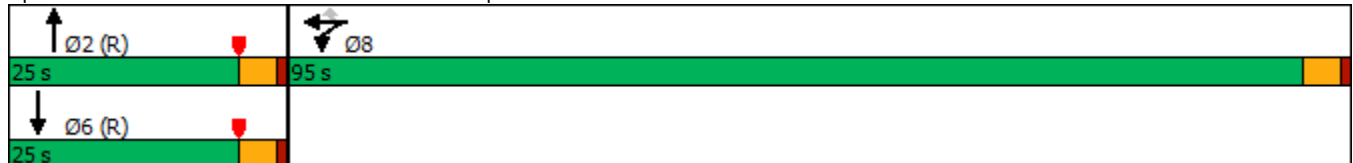
Existing (2022) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|-------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | ↕ | ↗ | | ↕↕ | ↗ | | ↕↕↕ | |
| Traffic Volume (vph) | 0 | 0 | 0 | 1158 | 0 | 131 | 0 | 344 | 292 | 0 | 403 | 59 |
| Future Volume (vph) | 0 | 0 | 0 | 1158 | 0 | 131 | 0 | 344 | 292 | 0 | 403 | 59 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 10.9 | | | 9.7 | |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 0 | 0 | 0 | 1466 | 0 | 166 | 0 | 435 | 370 | 0 | 510 | 75 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 1466 | 166 | 0 | 435 | 370 | 0 | 585 | 0 |
| Turn Type | | | | Split | NA | Perm | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | Free | | | |
| Detector Phase | | | | 8 | 8 | 8 | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | 5.0 | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | | 25.0 | | | 25.0 | |
| Total Split (s) | | | | 95.0 | 95.0 | 95.0 | | 25.0 | | | 25.0 | |
| Total Split (%) | | | | 79.2% | 79.2% | 79.2% | | 20.8% | | | 20.8% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | None | | C-Max | | | C-Max | |

Intersection Summary



















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

Existing (2022) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | |  |  | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1158 | 0 | 131 | 0 | 344 | 292 | 0 | 403 | 59 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1158 | 0 | 131 | 0 | 344 | 292 | 0 | 403 | 59 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 1466 | 0 | 166 | 0 | 435 | 0 | 0 | 510 | 75 |
| Peak Hour Factor | | | | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 1343 | 0 | 1195 | 0 | 607 | | 0 | 770 | 111 |
| Arrive On Green | | | | 0.75 | 0.00 | 0.75 | 0.00 | 0.34 | 0.00 | 0.00 | 0.17 | 0.17 |
| Sat Flow, veh/h | | | | 1781 | 0 | 1585 | 0 | 3647 | 1585 | 0 | 4674 | 651 |
| Grp Volume(v), veh/h | | | | 1466 | 0 | 166 | 0 | 435 | 0 | 0 | 383 | 202 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 0 | 1585 | 0 | 1777 | 1585 | 0 | 1702 | 1753 |
| Q Serve(g_s), s | | | | 90.5 | 0.0 | 3.5 | 0.0 | 12.8 | 0.0 | 0.0 | 12.6 | 12.9 |
| Cycle Q Clear(g_c), s | | | | 90.5 | 0.0 | 3.5 | 0.0 | 12.8 | 0.0 | 0.0 | 12.6 | 12.9 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 1.00 | 0.00 | | 0.37 |
| Lane Grp Cap(c), veh/h | | | | 1343 | 0 | 1195 | 0 | 607 | | 0 | 582 | 299 |
| V/C Ratio(X) | | | | 1.09 | 0.00 | 0.14 | 0.00 | 0.72 | | 0.00 | 0.66 | 0.67 |
| Avail Cap(c_a), veh/h | | | | 1343 | 0 | 1195 | 0 | 607 | | 0 | 582 | 299 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 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 | | | | 14.8 | 0.0 | 4.1 | 0.0 | 37.0 | 0.0 | 0.0 | 46.5 | 46.6 |
| Incr Delay (d2), s/veh | | | | 53.4 | 0.0 | 0.1 | 0.0 | 6.2 | 0.0 | 0.0 | 5.8 | 11.5 |
| 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 | | | | 48.9 | 0.0 | 1.0 | 0.0 | 5.2 | 0.0 | 0.0 | 5.8 | 6.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 68.1 | 0.0 | 4.1 | 0.0 | 43.2 | 0.0 | 0.0 | 52.2 | 58.1 |
| LnGrp LOS | | | | F | A | A | A | D | | A | D | E |
| Approach Vol, veh/h | | | | | 1632 | | | 435 | | | 585 | |
| Approach Delay, s/veh | | | | | 61.6 | | | 43.2 | | | 54.3 | |
| Approach LOS | | | | | E | | | D | | | D | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 25.0 | | | | 25.0 | | 95.0 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 20.5 | | | | 20.5 | | 90.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 14.8 | | | | 14.9 | | 92.5 | | | | |
| Green Ext Time (p_c), s | | 1.3 | | | | 1.7 | | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 57.0 | | | | | | | | |
| HCM 6th LOS | | | | E | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

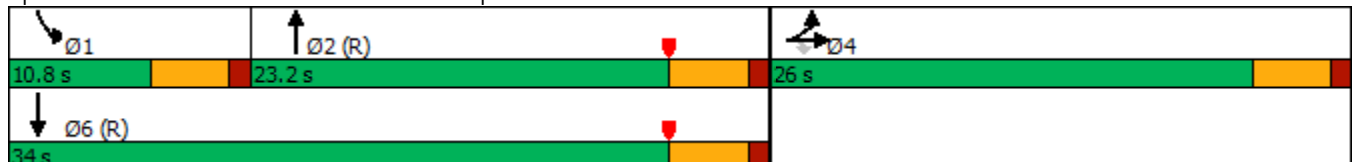
Existing (2022) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 112 | 1 | 718 | 0 | 0 | 0 | 0 | 524 | 324 | 85 | 1476 | 0 |
| Future Volume (vph) | 112 | 1 | 718 | 0 | 0 | 0 | 0 | 524 | 324 | 85 | 1476 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 0 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 0 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 14.8 | | | 10.9 | |
| 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 |
| Adj. Flow (vph) | 132 | 1 | 845 | 0 | 0 | 0 | 0 | 616 | 381 | 100 | 1736 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 132 | 424 | 422 | 0 | 0 | 0 | 0 | 997 | 0 | 100 | 1736 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 26.0 | 26.0 | 26.0 | | | | | 23.2 | | 10.8 | 34.0 | |
| Total Split (%) | 43.3% | 43.3% | 43.3% | | | | | 38.7% | | 18.0% | 56.7% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary





















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

Existing (2022) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |  |  |  |  |  |
| Traffic Volume (veh/h) | 112 | 1 | 718 | 0 | 0 | 0 | 0 | 524 | 324 | 85 | 1476 | 0 |
| Future Volume (veh/h) | 112 | 1 | 718 | 0 | 0 | 0 | 0 | 524 | 324 | 85 | 1476 | 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 | 132 | 0 | 846 | | | | 0 | 616 | 381 | 100 | 1736 | 0 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | | | | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 560 | 0 | 996 | | | | 0 | 1323 | 616 | 128 | 2736 | 0 |
| Arrive On Green | 0.31 | 0.00 | 0.31 | | | | 0.00 | 0.39 | 0.39 | 0.07 | 0.54 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 3572 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 132 | 0 | 846 | | | | 0 | 616 | 381 | 100 | 1736 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 3.3 | 0.0 | 15.0 | | | | 0.0 | 8.1 | 11.6 | 3.3 | 14.3 | 0.0 |
| Cycle Q Clear(g_c), s | 3.3 | 0.0 | 15.0 | | | | 0.0 | 8.1 | 11.6 | 3.3 | 14.3 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 560 | 0 | 996 | | | | 0 | 1323 | 616 | 128 | 2736 | 0 |
| V/C Ratio(X) | 0.24 | 0.00 | 0.85 | | | | 0.00 | 0.47 | 0.62 | 0.78 | 0.63 | 0.00 |
| Avail Cap(c_a), veh/h | 638 | 0 | 1136 | | | | 0 | 1323 | 616 | 187 | 2736 | 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 | 0.68 | 0.68 | 0.00 |
| Uniform Delay (d), s/veh | 15.2 | 0.0 | 19.2 | | | | 0.0 | 13.7 | 14.8 | 27.4 | 9.8 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 5.6 | | | | 0.0 | 1.2 | 4.6 | 8.4 | 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 | 1.3 | 0.0 | 5.7 | | | | 0.0 | 2.9 | 4.3 | 1.6 | 4.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 15.5 | 0.0 | 24.9 | | | | 0.0 | 14.9 | 19.4 | 35.8 | 10.6 | 0.0 |
| LnGrp LOS | B | A | C | | | | A | B | B | D | B | A |
| Approach Vol, veh/h | | 978 | | | | | | 997 | | | 1836 | |
| Approach Delay, s/veh | | 23.6 | | | | | | 16.6 | | | 11.9 | |
| Approach LOS | | C | | | | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 4 | 6 | | | | | | | | |
| Phs Duration (G+Y+Rc), s | 8.8 | 27.8 | 23.3 | 36.7 | | | | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | | |
| Max Green Setting (Gmax), s | 6.3 | 18.7 | 21.5 | 29.5 | | | | | | | | |
| Max Q Clear Time (g_c+I1), s | 5.3 | 13.6 | 17.0 | 16.3 | | | | | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.8 | 1.9 | 9.3 | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 16.2 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |

Lanes, Volumes, Timings
9: Cook St. & Gerald Ford Dr.

Existing (2022) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 226 | 99 | 93 | 29 | 222 | 114 | 115 | 495 | 28 | 166 | 1298 | 346 |
| Future Volume (vph) | 226 | 99 | 93 | 29 | 222 | 114 | 115 | 495 | 28 | 166 | 1298 | 346 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 225 | | 230 | 160 | | 200 | 210 | | 120 | 290 | | 360 |
| Storage Lanes | 2 | | 0 | 2 | | 1 | 2 | | 1 | 2 | | 1 |
| Taper Length (ft) | 130 | | | 160 | | | 140 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 936 | | | 424 | | | 1144 | | | 831 | |
| Travel Time (s) | | 16.0 | | | 5.8 | | | 14.2 | | | 10.3 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Adj. Flow (vph) | 269 | 118 | 111 | 35 | 264 | 136 | 137 | 589 | 33 | 198 | 1545 | 412 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 269 | 118 | 111 | 35 | 264 | 136 | 137 | 589 | 33 | 198 | 1545 | 412 |
| Turn Type | Prot | NA | Free | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 |
| Total Split (s) | 22.0 | 36.0 | | 10.0 | 24.0 | 24.0 | 15.0 | 55.0 | 55.0 | 19.0 | 59.0 | 59.0 |
| Total Split (%) | 18.3% | 30.0% | | 8.3% | 20.0% | 20.0% | 12.5% | 45.8% | 45.8% | 15.8% | 49.2% | 49.2% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |



































Intersection Summary
 Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated

Splits and Phases: 9: Cook St. & Gerald Ford Dr.



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

Existing (2022) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |    |  |   |    |  |
| Traffic Volume (veh/h) | 226 | 99 | 93 | 29 | 222 | 114 | 115 | 495 | 28 | 166 | 1298 | 346 |
| Future Volume (veh/h) | 226 | 99 | 93 | 29 | 222 | 114 | 115 | 495 | 28 | 166 | 1298 | 346 |
| 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 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 269 | 118 | 0 | 35 | 264 | 136 | 137 | 589 | 33 | 198 | 1545 | 412 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 335 | 656 | | 99 | 413 | 182 | 194 | 2868 | 888 | 260 | 2966 | 918 |
| Arrive On Green | 0.10 | 0.18 | 0.00 | 0.03 | 0.12 | 0.12 | 0.06 | 0.56 | 0.56 | 0.08 | 0.58 | 0.58 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1565 | 3456 | 5106 | 1581 | 3456 | 5106 | 1581 |
| Grp Volume(v), veh/h | 269 | 118 | 0 | 35 | 264 | 136 | 137 | 589 | 33 | 198 | 1545 | 412 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1565 | 1728 | 1702 | 1581 | 1728 | 1702 | 1581 |
| Q Serve(g_s), s | 9.1 | 3.4 | 0.0 | 1.2 | 8.5 | 10.1 | 4.7 | 6.9 | 1.1 | 6.7 | 21.8 | 17.7 |
| Cycle Q Clear(g_c), s | 9.1 | 3.4 | 0.0 | 1.2 | 8.5 | 10.1 | 4.7 | 6.9 | 1.1 | 6.7 | 21.8 | 17.7 |
| 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 | 335 | 656 | | 99 | 413 | 182 | 194 | 2868 | 888 | 260 | 2966 | 918 |
| V/C Ratio(X) | 0.80 | 0.18 | | 0.35 | 0.64 | 0.75 | 0.71 | 0.21 | 0.04 | 0.76 | 0.52 | 0.45 |
| Avail Cap(c_a), veh/h | 504 | 933 | | 158 | 577 | 254 | 302 | 2868 | 888 | 418 | 2966 | 918 |
| HCM Platoon Ratio | 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 | 53.1 | 41.3 | 0.0 | 57.2 | 50.6 | 51.3 | 55.7 | 13.0 | 11.8 | 54.4 | 15.1 | 14.3 |
| Incr Delay (d2), s/veh | 5.6 | 0.1 | 0.0 | 2.1 | 1.6 | 7.4 | 4.7 | 0.2 | 0.1 | 4.6 | 0.7 | 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 | 4.2 | 1.5 | 0.0 | 0.5 | 3.8 | 4.2 | 2.1 | 2.4 | 0.4 | 3.0 | 7.5 | 6.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 58.7 | 41.4 | 0.0 | 59.3 | 52.3 | 58.7 | 60.4 | 13.2 | 11.8 | 59.1 | 15.8 | 15.8 |
| LnGrp LOS | E | D | | E | D | E | E | B | B | E | B | B |
| Approach Vol, veh/h | | 387 | | | 435 | | | 759 | | | 2155 | |
| Approach Delay, s/veh | | 53.4 | | | 54.8 | | | 21.6 | | | 19.8 | |
| Approach LOS | | D | | | D | | | C | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 13.5 | 71.9 | 7.9 | 26.6 | 11.2 | 74.2 | 16.1 | 18.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 14.5 | 50.5 | 5.5 | 31.5 | 10.5 | 54.5 | 17.5 | 19.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.7 | 8.9 | 3.2 | 5.4 | 6.7 | 23.8 | 11.1 | 12.1 | | | | |
| Green Ext Time (p_c), s | 0.3 | 3.9 | 0.0 | 0.6 | 0.1 | 14.6 | 0.5 | 1.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 27.7 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved pedestrian interval to be less than phase max green. | | | | | | | | | | | | |
| Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
 10: Cook St. & University Park Dr./Berger Dr. W.

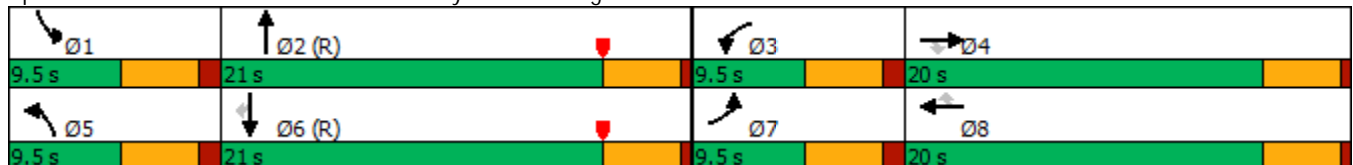
Existing (2022) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 31 | 1 | 17 | 3 | 2 | 10 | 10 | 707 | 10 | 47 | 1452 | 25 |
| Future Volume (vph) | 31 | 1 | 17 | 3 | 2 | 10 | 10 | 707 | 10 | 47 | 1452 | 25 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 180 | | 180 | 100 | | 0 | 140 | | 140 | 225 | | 295 |
| Storage Lanes | 1 | | 1 | 0 | | 1 | 1 | | 1 | 2 | | 0 |
| Taper Length (ft) | 90 | | | 0 | | | 160 | | | 165 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 35 | | | 35 | | | 55 | | | 55 | |
| Link Distance (ft) | | 473 | | | 452 | | | 1623 | | | 476 | |
| Travel Time (s) | | 9.2 | | | 8.8 | | | 20.1 | | | 5.9 | |
| 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 |
| Adj. Flow (vph) | 34 | 1 | 19 | 3 | 2 | 11 | 11 | 786 | 11 | 52 | 1613 | 28 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 34 | 1 | 19 | 3 | 2 | 11 | 11 | 786 | 11 | 52 | 1613 | 28 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Free | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | | 9.5 | 20.0 | 20.0 |
| Total Split (s) | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | 20.0 | 9.5 | 21.0 | | 9.5 | 21.0 | 21.0 |
| Total Split (%) | 15.8% | 33.3% | 33.3% | 15.8% | 33.3% | 33.3% | 15.8% | 35.0% | | 15.8% | 35.0% | 35.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Cook St. & University Park Dr./Berger Dr. W.



HCM 6th Signalized Intersection Summary
 10: Cook St. & University Park Dr./Berger Dr. W.

Existing (2022) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 31 | 1 | 17 | 3 | 2 | 10 | 10 | 707 | 10 | 47 | 1452 | 25 |
| Future Volume (veh/h) | 31 | 1 | 17 | 3 | 2 | 10 | 10 | 707 | 10 | 47 | 1452 | 25 |
| 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 | 1 | 19 | 3 | 2 | 0 | 11 | 786 | 0 | 52 | 1613 | 28 |
| 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 | 102 | 87 | 7 | 42 | | 25 | 3113 | | 167 | 3288 | 1021 |
| Arrive On Green | 0.04 | 0.05 | 0.05 | 0.00 | 0.02 | 0.00 | 0.03 | 1.00 | 0.00 | 0.05 | 0.64 | 0.64 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 34 | 1 | 19 | 3 | 2 | 0 | 11 | 786 | 0 | 52 | 1613 | 28 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 1.1 | 0.0 | 0.7 | 0.1 | 0.1 | 0.0 | 0.4 | 0.0 | 0.0 | 0.9 | 9.9 | 0.4 |
| Cycle Q Clear(g_c), s | 1.1 | 0.0 | 0.7 | 0.1 | 0.1 | 0.0 | 0.4 | 0.0 | 0.0 | 0.9 | 9.9 | 0.4 |
| 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 | 64 | 102 | 87 | 7 | 42 | | 25 | 3113 | | 167 | 3288 | 1021 |
| V/C Ratio(X) | 0.53 | 0.01 | 0.22 | 0.41 | 0.05 | | 0.44 | 0.25 | | 0.31 | 0.49 | 0.03 |
| Avail Cap(c_a), veh/h | 148 | 499 | 423 | 148 | 499 | | 148 | 3113 | | 288 | 3288 | 1021 |
| 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 | 1.00 | 1.00 | 0.00 | 0.92 | 0.92 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.4 | 26.8 | 27.1 | 29.8 | 28.7 | 0.0 | 28.9 | 0.0 | 0.0 | 27.6 | 5.6 | 3.9 |
| Incr Delay (d2), s/veh | 6.6 | 0.0 | 1.3 | 33.7 | 0.5 | 0.0 | 10.9 | 0.2 | 0.0 | 1.1 | 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 | 0.6 | 0.0 | 0.3 | 0.1 | 0.0 | 0.0 | 0.2 | 0.1 | 0.0 | 0.3 | 1.7 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 35.0 | 26.9 | 28.4 | 63.5 | 29.1 | 0.0 | 39.9 | 0.2 | 0.0 | 28.6 | 6.1 | 3.9 |
| LnGrp LOS | D | C | C | E | C | | D | A | | C | A | A |
| Approach Vol, veh/h | | 54 | | | 5 | | | 797 | | | 1693 | |
| Approach Delay, s/veh | | 32.5 | | | 49.8 | | | 0.7 | | | 6.7 | |
| Approach LOS | | C | | | D | | | A | | | A | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 7.4 | 40.6 | 4.7 | 7.3 | 5.3 | 42.6 | 6.7 | 5.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 17.0 | 5.0 | 16.0 | 5.0 | 17.0 | 5.0 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 2.0 | 2.1 | 2.7 | 2.4 | 11.9 | 3.1 | 2.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.1 | 0.0 | 0.0 | 0.0 | 3.8 | 0.0 | 0.0 | | | | |

Intersection Summary

| | |
|--------------------|-----|
| HCM 6th Ctrl Delay | 5.5 |
| HCM 6th LOS | A |

Notes

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

Lanes, Volumes, Timings
11: Cook St. & Frank Sinatra Dr.

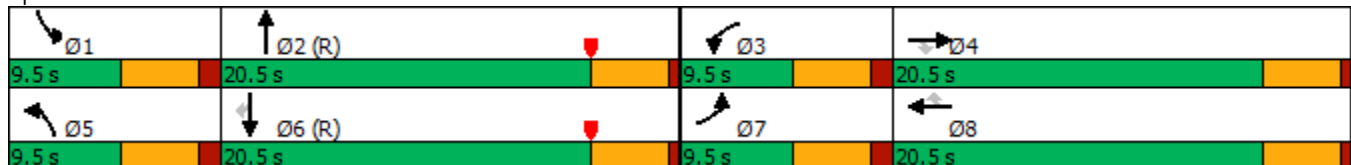
Existing (2022) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 154 | 115 | 118 | 57 | 233 | 47 | 100 | 570 | 49 | 41 | 1035 | 385 |
| Future Volume (vph) | 154 | 115 | 118 | 57 | 233 | 47 | 100 | 570 | 49 | 41 | 1035 | 385 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | | 135 | 135 | | 260 | 140 | | 0 | 210 | | 220 |
| Storage Lanes | 2 | | 1 | 2 | | 1 | 2 | | 0 | 2 | | 1 |
| Taper Length (ft) | 120 | | | 110 | | | 110 | | | 140 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 50 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 1477 | | | 944 | | | 330 | | | 1623 | |
| Travel Time (s) | | 20.1 | | | 12.9 | | | 4.1 | | | 20.1 | |
| 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 |
| Adj. Flow (vph) | 169 | 126 | 130 | 63 | 256 | 52 | 110 | 626 | 54 | 45 | 1137 | 423 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 169 | 126 | 130 | 63 | 256 | 52 | 110 | 680 | 0 | 45 | 1137 | 423 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (%) | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | | 15.8% | 34.2% | 34.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

































Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0.5 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Cook St. & Frank Sinatra Dr.



HCM 6th Signalized Intersection Summary
11: Cook St. & Frank Sinatra Dr.

Existing (2022) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |   | |   |    |  |
| Traffic Volume (veh/h) | 154 | 115 | 118 | 57 | 233 | 47 | 100 | 570 | 49 | 41 | 1035 | 385 |
| Future Volume (veh/h) | 154 | 115 | 118 | 57 | 233 | 47 | 100 | 570 | 49 | 41 | 1035 | 385 |
| 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 | 169 | 126 | 130 | 63 | 256 | 52 | 110 | 626 | 54 | 45 | 1137 | 423 |
| 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 | 271 | 512 | 228 | 187 | 426 | 190 | 242 | 1571 | 135 | 152 | 2290 | 711 |
| Arrive On Green | 0.08 | 0.14 | 0.14 | 0.05 | 0.12 | 0.12 | 0.07 | 0.47 | 0.47 | 0.09 | 0.90 | 0.90 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1585 | 3456 | 3311 | 285 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 169 | 126 | 130 | 63 | 256 | 52 | 110 | 336 | 344 | 45 | 1137 | 423 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1585 | 1728 | 1777 | 1819 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 2.8 | 1.9 | 4.6 | 1.1 | 4.1 | 1.8 | 1.8 | 7.3 | 7.4 | 0.7 | 2.5 | 3.5 |
| Cycle Q Clear(g_c), s | 2.8 | 1.9 | 4.6 | 1.1 | 4.1 | 1.8 | 1.8 | 7.3 | 7.4 | 0.7 | 2.5 | 3.5 |
| 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 | 271 | 512 | 228 | 187 | 426 | 190 | 242 | 843 | 863 | 152 | 2290 | 711 |
| V/C Ratio(X) | 0.62 | 0.25 | 0.57 | 0.34 | 0.60 | 0.27 | 0.45 | 0.40 | 0.40 | 0.30 | 0.50 | 0.59 |
| Avail Cap(c_a), veh/h | 288 | 977 | 436 | 288 | 977 | 436 | 288 | 843 | 863 | 288 | 2290 | 711 |
| 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 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.92 | 0.92 | 0.92 |
| Uniform Delay (d), s/veh | 26.8 | 22.8 | 23.9 | 27.3 | 25.0 | 24.0 | 26.8 | 10.2 | 10.2 | 26.5 | 1.8 | 1.9 |
| Incr Delay (d2), s/veh | 3.8 | 0.2 | 2.2 | 1.1 | 1.4 | 0.8 | 1.3 | 1.4 | 1.4 | 1.0 | 0.7 | 3.4 |
| 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 | 1.2 | 0.7 | 1.6 | 0.4 | 1.6 | 0.6 | 0.7 | 2.3 | 2.3 | 0.3 | 0.5 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 30.6 | 23.0 | 26.2 | 28.4 | 26.4 | 24.8 | 28.1 | 11.6 | 11.6 | 27.5 | 2.5 | 5.2 |
| LnGrp LOS | C | C | C | C | C | C | C | B | B | C | A | A |
| Approach Vol, veh/h | | 425 | | | 371 | | | 790 | | | 1605 | |
| Approach Delay, s/veh | | 27.0 | | | 26.5 | | | 13.9 | | | 4.0 | |
| Approach LOS | | C | | | C | | | B | | | A | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 7.1 | 32.5 | 7.8 | 12.6 | 8.7 | 30.9 | 9.2 | 11.2 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 16.5 | 5.0 | 16.5 | 5.0 | 16.5 | 5.0 | 16.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.7 | 9.4 | 3.1 | 6.6 | 3.8 | 5.5 | 4.8 | 6.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.1 | 0.0 | 0.7 | 0.0 | 6.1 | 0.0 | 1.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 12.1 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved pedestrian interval to be less than phase max green. | | | | | | | | | | | | |

Lanes, Volumes, Timings
1: Technology Dr. & Gerald Ford Dr.

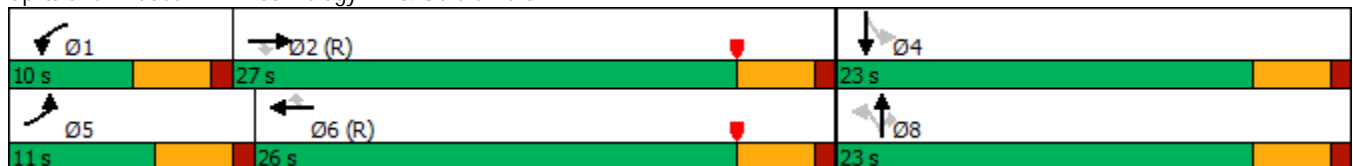
Existing (2022) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 37 | 510 | 15 | 10 | 405 | 37 | 58 | 18 | 45 | 69 | 15 | 46 |
| Future Volume (vph) | 37 | 510 | 15 | 10 | 405 | 37 | 58 | 18 | 45 | 69 | 15 | 46 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 185 | | 165 | 180 | | 120 | 102 | | 230 | 85 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 90 | | | 60 | | | 60 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | 35 | |
| Link Distance (ft) | | 549 | | | 936 | | | 343 | | | 642 | |
| Travel Time (s) | | 9.4 | | | 16.0 | | | 6.7 | | | 12.5 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 41 | 560 | 16 | 11 | 445 | 41 | 64 | 20 | 49 | 76 | 16 | 51 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 41 | 560 | 16 | 11 | 445 | 41 | 64 | 20 | 49 | 76 | 67 | 0 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.0 | 27.0 | 27.0 | 10.0 | 26.0 | 26.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 |
| Total Split (%) | 18.3% | 45.0% | 45.0% | 16.7% | 43.3% | 43.3% | 38.3% | 38.3% | 38.3% | 38.3% | 38.3% | 38.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | Max | Max | Max | Max | Max | Max |

Intersection Summary





























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 35 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Technology Dr. & Gerald Ford Dr.














HCM 6th Signalized Intersection Summary
 1: Technology Dr. & Gerald Ford Dr.

Existing (2022) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |    |  |  |    |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 37 | 510 | 15 | 10 | 405 | 37 | 58 | 18 | 45 | 69 | 15 | 46 |
| Future Volume (veh/h) | 37 | 510 | 15 | 10 | 405 | 37 | 58 | 18 | 45 | 69 | 15 | 46 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 41 | 560 | 16 | 11 | 445 | 41 | 64 | 20 | 49 | 76 | 16 | 51 |
| 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 | 73 | 2312 | 714 | 25 | 2172 | 670 | 490 | 577 | 486 | 519 | 121 | 385 |
| Arrive On Green | 0.04 | 0.45 | 0.45 | 0.01 | 0.43 | 0.43 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 5106 | 1576 | 1781 | 5106 | 1576 | 1329 | 1870 | 1577 | 1326 | 391 | 1247 |
| Grp Volume(v), veh/h | 41 | 560 | 16 | 11 | 445 | 41 | 64 | 20 | 49 | 76 | 0 | 67 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1576 | 1781 | 1702 | 1576 | 1329 | 1870 | 1577 | 1326 | 0 | 1639 |
| Q Serve(g_s), s | 1.4 | 4.0 | 0.3 | 0.4 | 3.3 | 0.9 | 2.2 | 0.4 | 1.3 | 2.6 | 0.0 | 1.8 |
| Cycle Q Clear(g_c), s | 1.4 | 4.0 | 0.3 | 0.4 | 3.3 | 0.9 | 4.0 | 0.4 | 1.3 | 3.0 | 0.0 | 1.8 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.76 |
| Lane Grp Cap(c), veh/h | 73 | 2312 | 714 | 25 | 2172 | 670 | 490 | 577 | 486 | 519 | 0 | 505 |
| V/C Ratio(X) | 0.56 | 0.24 | 0.02 | 0.44 | 0.20 | 0.06 | 0.13 | 0.03 | 0.10 | 0.15 | 0.00 | 0.13 |
| Avail Cap(c_a), veh/h | 193 | 2312 | 714 | 163 | 2172 | 670 | 490 | 577 | 486 | 519 | 0 | 505 |
| HCM Platoon Ratio | 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 | 0.92 | 0.92 | 0.92 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.2 | 10.1 | 9.1 | 29.3 | 10.9 | 10.2 | 16.4 | 14.5 | 14.8 | 15.6 | 0.0 | 15.0 |
| Incr Delay (d2), s/veh | 6.5 | 0.2 | 0.1 | 10.9 | 0.2 | 0.2 | 0.5 | 0.1 | 0.4 | 0.6 | 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 1.3 | 0.1 | 0.2 | 1.0 | 0.3 | 0.7 | 0.2 | 0.5 | 0.8 | 0.0 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.7 | 10.3 | 9.1 | 40.3 | 11.0 | 10.3 | 16.9 | 14.6 | 15.2 | 16.1 | 0.0 | 15.5 |
| LnGrp LOS | C | B | A | D | B | B | B | B | B | B | A | B |
| Approach Vol, veh/h | | 617 | | | 497 | | | 133 | | | 143 | |
| Approach Delay, s/veh | | 11.9 | | | 11.6 | | | 16.0 | | | 15.8 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 5.3 | 31.7 | | 23.0 | 7.0 | 30.0 | | 23.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.5 | 22.5 | | 18.5 | 6.5 | 21.5 | | 18.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.4 | 6.0 | | 5.0 | 3.4 | 5.3 | | 6.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.3 | | 0.4 | 0.0 | 2.6 | | 0.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 12.6 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

Lanes, Volumes, Timings
 2: Technology Dr. & The Village W. Dwy.

Existing (2022) PM Peak Hour

| |  |  |  |  |  |  |
|-----------------------------|---|---|---|---|---|---|
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  |  |  |  |
| Traffic Volume (vph) | 5 | 52 | 69 | 10 | 14 | 26 |
| Future Volume (vph) | 5 | 52 | 69 | 10 | 14 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | 0 | | 175 | 55 | |
| Storage Lanes | 1 | 0 | | 1 | 1 | |
| Taper Length (ft) | 90 | | | | 60 | |
| Link Speed (mph) | 30 | | 30 | | | 30 |
| Link Distance (ft) | 313 | | 338 | | | 343 |
| Travel Time (s) | 7.1 | | 7.7 | | | 7.8 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 5 | 55 | 73 | 11 | 15 | 28 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 60 | 0 | 73 | 11 | 15 | 28 |
| Sign Control | Stop | | Free | | | Free |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |
| Control Type: | Unsignalized | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.5 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↘ | | ↑ | ↗ | ↘ | ↑ |
| Traffic Vol, veh/h | 5 | 52 | 69 | 10 | 14 | 26 |
| Future Vol, veh/h | 5 | 52 | 69 | 10 | 14 | 26 |
| 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 | - | - | 175 | 55 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 5 | 55 | 73 | 11 | 15 | 28 |

| Major/Minor | Minor1 | Major1 | Major2 | | | |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 131 | 73 | 0 | 0 | 84 | 0 |
| Stage 1 | 73 | - | - | - | - | - |
| Stage 2 | 58 | - | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 | - |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 | - |
| Pot Cap-1 Maneuver | 863 | 989 | - | - | 1513 | - |
| Stage 1 | 950 | - | - | - | - | - |
| Stage 2 | 965 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 854 | 989 | - | - | 1513 | - |
| Mov Cap-2 Maneuver | 854 | - | - | - | - | - |
| Stage 1 | 950 | - | - | - | - | - |
| Stage 2 | 955 | - | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 8.9 | 0 | 2.6 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|------|
| Capacity (veh/h) | - | - | 975 | 1513 |
| HCM Lane V/C Ratio | - | - | 0.062 | 0.01 |
| HCM Control Delay (s) | - | - | 8.9 | 7.4 |
| HCM Lane LOS | - | - | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0 |

Lanes, Volumes, Timings
 3: College Dr. & Technology Dr.

Existing (2022) PM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 29 | 23 | 9 | 50 | 16 | 15 |
| Future Volume (vph) | 29 | 23 | 9 | 50 | 16 | 15 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 803 | 445 | | 338 | |
| Travel Time (s) | | 18.3 | 10.1 | | 7.7 | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 32 | 26 | 10 | 56 | 18 | 17 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 58 | 66 | 0 | 35 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 3.1 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 58 | 66 | 35 |
| Demand Flow Rate, veh/h | 60 | 67 | 35 |
| Vehicles Circulating, veh/h | 18 | 33 | 10 |
| Vehicles Exiting, veh/h | 27 | 45 | 90 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.1 | 3.1 | 2.8 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 60 | 67 | 35 |
| Cap Entry Lane, veh/h | 1355 | 1334 | 1366 |
| Entry HV Adj Factor | 0.975 | 0.982 | 1.000 |
| Flow Entry, veh/h | 58 | 66 | 35 |
| Cap Entry, veh/h | 1320 | 1310 | 1366 |
| V/C Ratio | 0.044 | 0.050 | 0.026 |
| Control Delay, s/veh | 3.1 | 3.1 | 2.8 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 0 | 0 |

Lanes, Volumes, Timings
4: University Dr. & College Dr.

Existing (2022) PM Peak Hour

| | → | ↘ | ↙ | ← | ↖ | ↗ |
|-----------------------------|--------------|------|------|------|------|------|
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | ↗ | ↖ | ↑ | ↖ | ↗ |
| Traffic Volume (vph) | 46 | 7 | 4 | 20 | 5 | 6 |
| Future Volume (vph) | 46 | 7 | 4 | 20 | 5 | 6 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 120 | 130 | | 100 | 0 |
| Storage Lanes | | 1 | 1 | | 1 | 1 |
| Taper Length (ft) | | | 65 | | 60 | |
| Link Speed (mph) | 30 | | | 30 | 30 | |
| Link Distance (ft) | 755 | | | 803 | 448 | |
| Travel Time (s) | 17.2 | | | 18.3 | 10.2 | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 49 | 7 | 4 | 21 | 5 | 6 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 49 | 7 | 4 | 21 | 5 | 6 |
| Sign Control | Free | | | Free | Stop | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |
| Control Type: | Unsignalized | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.4 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | ↗ | ↖ | ↑ | ↖ | ↗ |
| Traffic Vol, veh/h | 46 | 7 | 4 | 20 | 5 | 6 |
| Future Vol, veh/h | 46 | 7 | 4 | 20 | 5 | 6 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 120 | 130 | - | 100 | 0 |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 49 | 7 | 4 | 21 | 5 | 6 |

| Major/Minor | Major1 | Major2 | Minor1 | Minor2 | Minor3 |
|----------------------|--------|--------|--------|--------|--------|
| Conflicting Flow All | 0 | 0 | 56 | 0 | 78 |
| Stage 1 | - | - | - | - | 49 |
| Stage 2 | - | - | - | - | 29 |
| Critical Hdwy | - | - | 4.12 | - | 6.42 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 |
| Pot Cap-1 Maneuver | - | - | 1549 | - | 925 |
| Stage 1 | - | - | - | - | 973 |
| Stage 2 | - | - | - | - | 994 |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1549 | - | 922 |
| Mov Cap-2 Maneuver | - | - | - | - | 922 |
| Stage 1 | - | - | - | - | 973 |
| Stage 2 | - | - | - | - | 991 |

| Approach | EB | WB | NB |
|----------------------|----|-----|-----|
| HCM Control Delay, s | 0 | 1.2 | 8.7 |
| HCM LOS | | | A |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 922 | 1020 | - | - | 1549 | - |
| HCM Lane V/C Ratio | 0.006 | 0.006 | - | - | 0.003 | - |
| HCM Control Delay (s) | 8.9 | 8.6 | - | - | 7.3 | - |
| HCM Lane LOS | A | A | - | - | A | - |
| HCM 95th %tile Q(veh) | 0 | 0 | - | - | 0 | - |

Lanes, Volumes, Timings
5: College Dr. & Pacific Av.

Existing (2022) PM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 4 | 44 | 20 | 5 | 9 | 9 |
| Future Volume (vph) | 4 | 44 | 20 | 5 | 9 | 9 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 711 | 644 | | 595 | |
| Travel Time (s) | | 16.2 | 14.6 | | 13.5 | |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 4 | 49 | 22 | 6 | 10 | 10 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 53 | 28 | 0 | 20 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

















HCM 6th Roundabout
5: College Dr. & Pacific Av.

Existing (2022) PM Peak Hour

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 2.9 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 53 | 28 | 20 |
| Demand Flow Rate, veh/h | 54 | 28 | 20 |
| Vehicles Circulating, veh/h | 10 | 4 | 22 |
| Vehicles Exiting, veh/h | 32 | 60 | 10 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.0 | 2.8 | 2.8 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 54 | 28 | 20 |
| Cap Entry Lane, veh/h | 1366 | 1374 | 1349 |
| Entry HV Adj Factor | 0.982 | 0.985 | 1.000 |
| Flow Entry, veh/h | 53 | 28 | 20 |
| Cap Entry, veh/h | 1341 | 1353 | 1349 |
| V/C Ratio | 0.040 | 0.020 | 0.015 |
| Control Delay, s/veh | 3.0 | 2.8 | 2.8 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 0 | 0 |

Lanes, Volumes, Timings
6: College Dr. & University Park Dr.

Existing (2022) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (vph) | 4 | 6 | 1 | 21 | 12 | 55 | 1 | 18 | 16 | 27 | 34 | 2 |
| Future Volume (vph) | 4 | 6 | 1 | 21 | 12 | 55 | 1 | 18 | 16 | 27 | 34 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 974 | | | 473 | | | 829 | | | 921 | |
| Travel Time (s) | | 22.1 | | | 10.8 | | | 18.8 | | | 20.9 | |
| 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 |
| Adj. Flow (vph) | 5 | 7 | 1 | 25 | 14 | 66 | 1 | 22 | 19 | 33 | 41 | 2 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 13 | 0 | 0 | 105 | 0 | 0 | 42 | 0 | 0 | 76 | 0 |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

HCM 6th Roundabout
6: College Dr. & University Park Dr.

Existing (2022) PM Peak Hour

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 3.3 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 13 | 105 | 42 | 76 |
| Demand Flow Rate, veh/h | 13 | 107 | 42 | 78 |
| Vehicles Circulating, veh/h | 101 | 28 | 46 | 40 |
| Vehicles Exiting, veh/h | 17 | 60 | 68 | 94 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.0 | 3.4 | 3.0 | 3.3 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 13 | 107 | 42 | 78 |
| Cap Entry Lane, veh/h | 1245 | 1341 | 1317 | 1325 |
| Entry HV Adj Factor | 0.989 | 0.979 | 0.990 | 0.977 |
| Flow Entry, veh/h | 13 | 105 | 42 | 76 |
| Cap Entry, veh/h | 1232 | 1312 | 1303 | 1294 |
| V/C Ratio | 0.010 | 0.080 | 0.032 | 0.059 |
| Control Delay, s/veh | 3.0 | 3.4 | 3.0 | 3.3 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 0 | 0 | 0 | 0 |

Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

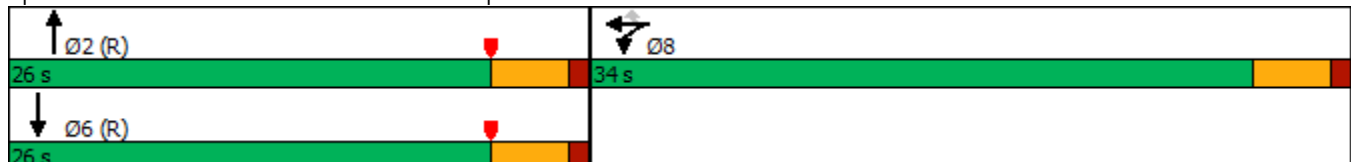
Existing (2022) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|-------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 408 | 0 | 68 | 0 | 342 | 599 | 0 | 242 | 68 |
| Future Volume (vph) | 0 | 0 | 0 | 408 | 0 | 68 | 0 | 342 | 599 | 0 | 242 | 68 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 12.8 | | | 11.3 | |
| 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 |
| Adj. Flow (vph) | 0 | 0 | 0 | 439 | 0 | 73 | 0 | 368 | 644 | 0 | 260 | 73 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 439 | 73 | 0 | 368 | 644 | 0 | 333 | 0 |
| Turn Type | | | | Split | NA | Perm | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | Free | | | |
| Detector Phase | | | | 8 | 8 | 8 | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | 5.0 | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 34.0 | 34.0 | 34.0 | | 26.0 | | | 26.0 | |
| Total Split (%) | | | | 56.7% | 56.7% | 56.7% | | 43.3% | | | 43.3% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | None | | C-Max | | | C-Max | |

Intersection Summary



















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 45
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

Existing (2022) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | |  |  | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 408 | 0 | 68 | 0 | 342 | 599 | 0 | 242 | 68 |
| Future Volume (veh/h) | 0 | 0 | 0 | 408 | 0 | 68 | 0 | 342 | 599 | 0 | 242 | 68 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 439 | 0 | 73 | 0 | 368 | 0 | 0 | 260 | 73 |
| Peak Hour Factor | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 542 | 0 | 483 | 0 | 1939 | | 0 | 2190 | 583 |
| Arrive On Green | | | | 0.30 | 0.00 | 0.30 | 0.00 | 0.91 | 0.00 | 0.00 | 0.55 | 0.55 |
| Sat Flow, veh/h | | | | 1781 | 0 | 1585 | 0 | 3647 | 1585 | 0 | 4182 | 1068 |
| Grp Volume(v), veh/h | | | | 439 | 0 | 73 | 0 | 368 | 0 | 0 | 218 | 115 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 0 | 1585 | 0 | 1777 | 1585 | 0 | 1702 | 1678 |
| Q Serve(g_s), s | | | | 13.6 | 0.0 | 2.0 | 0.0 | 0.7 | 0.0 | 0.0 | 1.9 | 2.0 |
| Cycle Q Clear(g_c), s | | | | 13.6 | 0.0 | 2.0 | 0.0 | 0.7 | 0.0 | 0.0 | 1.9 | 2.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 1.00 | 0.00 | | 0.64 |
| Lane Grp Cap(c), veh/h | | | | 542 | 0 | 483 | 0 | 1939 | | 0 | 1857 | 916 |
| V/C Ratio(X) | | | | 0.81 | 0.00 | 0.15 | 0.00 | 0.19 | | 0.00 | 0.12 | 0.13 |
| Avail Cap(c_a), veh/h | | | | 876 | 0 | 779 | 0 | 1939 | | 0 | 1857 | 916 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.67 | 1.67 | 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 | | | | 19.3 | 0.0 | 15.2 | 0.0 | 1.2 | 0.0 | 0.0 | 6.6 | 6.6 |
| Incr Delay (d2), s/veh | | | | 3.0 | 0.0 | 0.1 | 0.0 | 0.2 | 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 | | | | 5.5 | 0.0 | 0.7 | 0.0 | 0.2 | 0.0 | 0.0 | 0.6 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 22.2 | 0.0 | 15.4 | 0.0 | 1.4 | 0.0 | 0.0 | 6.7 | 6.9 |
| LnGrp LOS | | | | C | A | B | A | A | | A | A | A |
| Approach Vol, veh/h | | | | | 512 | | | 368 | | | 333 | |
| Approach Delay, s/veh | | | | | 21.3 | | | 1.4 | | | 6.8 | |
| Approach LOS | | | | | C | | | A | | | A | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 37.2 | | | | 37.2 | | 22.8 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 21.5 | | | | 21.5 | | 29.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.7 | | | | 4.0 | | 15.6 | | | | |
| Green Ext Time (p_c), s | | 2.3 | | | | 1.9 | | 2.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 11.3 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

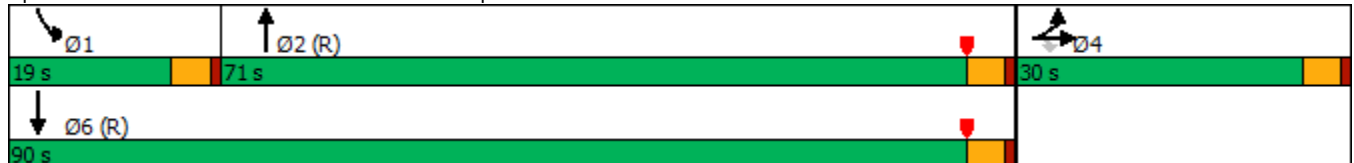
Existing (2022) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 75 | 1 | 448 | 0 | 0 | 0 | 0 | 866 | 844 | 74 | 576 | 0 |
| Future Volume (vph) | 75 | 1 | 448 | 0 | 0 | 0 | 0 | 866 | 844 | 74 | 576 | 0 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 0 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 0 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 17.3 | | | 12.8 | |
| 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 |
| Adj. Flow (vph) | 81 | 1 | 482 | 0 | 0 | 0 | 0 | 931 | 908 | 80 | 619 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 81 | 242 | 241 | 0 | 0 | 0 | 0 | 1839 | 0 | 80 | 619 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 30.0 | 30.0 | 30.0 | | | | | 71.0 | | 19.0 | 90.0 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | | | | | 59.2% | | 15.8% | 75.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary





















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

Existing (2022) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |  |  |  |  |  |
| Traffic Volume (veh/h) | 75 | 1 | 448 | 0 | 0 | 0 | 0 | 866 | 844 | 74 | 576 | 0 |
| Future Volume (veh/h) | 75 | 1 | 448 | 0 | 0 | 0 | 0 | 866 | 844 | 74 | 576 | 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 | 81 | 0 | 483 | | | | 0 | 931 | 908 | 80 | 619 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 312 | 0 | 555 | | | | 0 | 2232 | 1039 | 101 | 3829 | 0 |
| Arrive On Green | 0.18 | 0.00 | 0.18 | | | | 0.00 | 0.66 | 0.66 | 0.11 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 3572 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 81 | 0 | 483 | | | | 0 | 931 | 908 | 80 | 619 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 4.7 | 0.0 | 17.8 | | | | 0.0 | 15.6 | 55.4 | 5.2 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 4.7 | 0.0 | 17.8 | | | | 0.0 | 15.6 | 55.4 | 5.2 | 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 | 312 | 0 | 555 | | | | 0 | 2232 | 1039 | 101 | 3829 | 0 |
| V/C Ratio(X) | 0.26 | 0.00 | 0.87 | | | | 0.00 | 0.42 | 0.87 | 0.79 | 0.16 | 0.00 |
| Avail Cap(c_a), veh/h | 379 | 0 | 674 | | | | 0 | 2232 | 1039 | 215 | 3829 | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh | 42.8 | 0.0 | 48.2 | | | | 0.0 | 9.8 | 16.7 | 52.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 10.3 | | | | 0.0 | 0.6 | 10.2 | 12.7 | 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 | 2.1 | 0.0 | 7.8 | | | | 0.0 | 5.7 | 21.2 | 2.6 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.2 | 0.0 | 58.5 | | | | 0.0 | 10.4 | 26.8 | 65.2 | 0.1 | 0.0 |
| LnGrp LOS | D | A | E | | | | A | B | C | E | A | A |
| Approach Vol, veh/h | | 564 | | | | | | 1839 | | | 699 | |
| Approach Delay, s/veh | | 56.3 | | | | | | 18.5 | | | 7.5 | |
| Approach LOS | | E | | | | | | B | | | A | |
| Timer - Assigned Phs | 1 | 2 | 4 | 6 | | | | | | | | |
| Phs Duration (G+Y+Rc), s | 11.3 | 83.2 | 25.5 | 94.5 | | | | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | | |
| Max Green Setting (Gmax), s | 14.5 | 66.5 | 25.5 | 85.5 | | | | | | | | |
| Max Q Clear Time (g_c+I1), s | 7.2 | 57.4 | 19.8 | 2.0 | | | | | | | | |
| Green Ext Time (p_c), s | 0.1 | 7.4 | 1.2 | 5.0 | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 22.9 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |

Lanes, Volumes, Timings
9: Cook St. & Gerald Ford Dr.

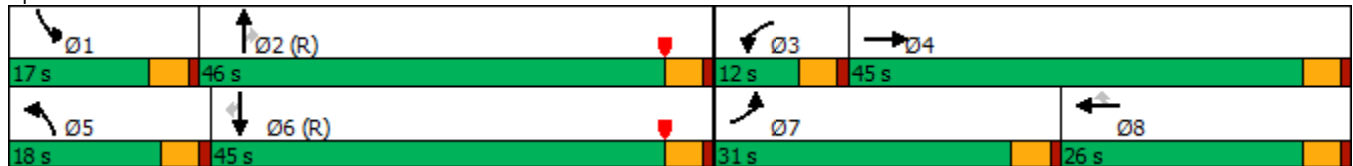
Existing (2022) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 392 | 212 | 98 | 58 | 166 | 150 | 156 | 945 | 25 | 154 | 633 | 160 |
| Future Volume (vph) | 392 | 212 | 98 | 58 | 166 | 150 | 156 | 945 | 25 | 154 | 633 | 160 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 225 | | 230 | 160 | | 200 | 210 | | 120 | 290 | | 360 |
| Storage Lanes | 2 | | 0 | 2 | | 1 | 2 | | 1 | 2 | | 1 |
| Taper Length (ft) | 130 | | | 160 | | | 140 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 936 | | | 424 | | | 1144 | | | 831 | |
| Travel Time (s) | | 16.0 | | | 5.8 | | | 14.2 | | | 10.3 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 417 | 226 | 104 | 62 | 177 | 160 | 166 | 1005 | 27 | 164 | 673 | 170 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 417 | 226 | 104 | 62 | 177 | 160 | 166 | 1005 | 27 | 164 | 673 | 170 |
| Turn Type | Prot | NA | Free | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 |
| Total Split (s) | 31.0 | 45.0 | | 12.0 | 26.0 | 26.0 | 18.0 | 46.0 | 46.0 | 17.0 | 45.0 | 45.0 |
| Total Split (%) | 25.8% | 37.5% | | 10.0% | 21.7% | 21.7% | 15.0% | 38.3% | 38.3% | 14.2% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |

Intersection Summary
































Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 9: Cook St. & Gerald Ford Dr.



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

Existing (2022) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |    |  |    | | |
| Traffic Volume (veh/h) | 392 | 212 | 98 | 58 | 166 | 150 | 156 | 945 | 25 | 154 | 633 | 160 |
| Future Volume (veh/h) | 392 | 212 | 98 | 58 | 166 | 150 | 156 | 945 | 25 | 154 | 633 | 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 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 417 | 226 | 0 | 62 | 177 | 160 | 166 | 1005 | 27 | 164 | 673 | 170 |
| 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 | 495 | 833 | | 126 | 453 | 200 | 226 | 2628 | 813 | 223 | 2624 | 812 |
| Arrive On Green | 0.14 | 0.23 | 0.00 | 0.04 | 0.13 | 0.13 | 0.07 | 0.51 | 0.51 | 0.06 | 0.51 | 0.51 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1566 | 3456 | 5106 | 1580 | 3456 | 5106 | 1580 |
| Grp Volume(v), veh/h | 417 | 226 | 0 | 62 | 177 | 160 | 166 | 1005 | 27 | 164 | 673 | 170 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1566 | 1728 | 1702 | 1580 | 1728 | 1702 | 1580 |
| Q Serve(g_s), s | 14.1 | 6.2 | 0.0 | 2.1 | 5.5 | 11.9 | 5.7 | 14.3 | 1.0 | 5.6 | 8.9 | 7.0 |
| Cycle Q Clear(g_c), s | 14.1 | 6.2 | 0.0 | 2.1 | 5.5 | 11.9 | 5.7 | 14.3 | 1.0 | 5.6 | 8.9 | 7.0 |
| 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 | 495 | 833 | | 126 | 453 | 200 | 226 | 2628 | 813 | 223 | 2624 | 812 |
| V/C Ratio(X) | 0.84 | 0.27 | | 0.49 | 0.39 | 0.80 | 0.73 | 0.38 | 0.03 | 0.73 | 0.26 | 0.21 |
| Avail Cap(c_a), veh/h | 763 | 1199 | | 216 | 637 | 281 | 389 | 2628 | 813 | 360 | 2624 | 812 |
| HCM Platoon Ratio | 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) | 0.99 | 0.99 | 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 | 50.1 | 37.6 | 0.0 | 56.7 | 48.1 | 50.9 | 55.1 | 17.6 | 14.4 | 55.1 | 16.3 | 15.9 |
| Incr Delay (d2), s/veh | 5.2 | 0.2 | 0.0 | 3.0 | 0.6 | 10.6 | 4.6 | 0.4 | 0.1 | 4.7 | 0.2 | 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 | 6.3 | 2.7 | 0.0 | 0.9 | 2.4 | 5.1 | 2.5 | 5.2 | 0.4 | 2.5 | 3.2 | 2.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.2 | 37.7 | 0.0 | 59.7 | 48.6 | 61.5 | 59.6 | 18.0 | 14.5 | 59.8 | 16.6 | 16.5 |
| LnGrp LOS | E | D | | E | D | E | E | B | B | E | B | B |
| Approach Vol, veh/h | | 643 | | | 399 | | | 1198 | | | 1007 | |
| Approach Delay, s/veh | | 49.1 | | | 55.5 | | | 23.7 | | | 23.6 | |
| Approach LOS | | D | | | E | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 12.2 | 66.3 | 8.9 | 32.6 | 12.3 | 66.2 | 21.7 | 19.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 12.5 | 41.5 | 7.5 | 40.5 | 13.5 | 40.5 | 26.5 | 21.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.6 | 16.3 | 4.1 | 8.2 | 7.7 | 10.9 | 16.1 | 13.9 | | | | |
| Green Ext Time (p_c), s | 0.2 | 6.7 | 0.0 | 1.4 | 0.2 | 4.8 | 1.1 | 0.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 32.6 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
10: Cook St. & University Park Dr./Berger Dr. W.

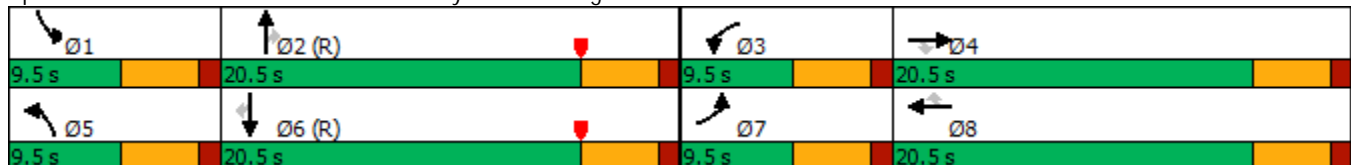
Existing (2022) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 47 | 4 | 30 | 16 | 6 | 56 | 41 | 1181 | 9 | 44 | 967 | 41 |
| Future Volume (vph) | 47 | 4 | 30 | 16 | 6 | 56 | 41 | 1181 | 9 | 44 | 967 | 41 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 180 | | 180 | 100 | | 0 | 140 | | 140 | 225 | | 295 |
| Storage Lanes | 1 | | 1 | 0 | | 1 | 1 | | 1 | 2 | | 0 |
| Taper Length (ft) | 90 | | | 0 | | | 160 | | | 165 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 473 | | | 452 | | | 1623 | | | 476 | |
| Travel Time (s) | | 10.8 | | | 10.3 | | | 36.9 | | | 10.8 | |
| 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 |
| Adj. Flow (vph) | 52 | 4 | 33 | 18 | 7 | 62 | 46 | 1312 | 10 | 49 | 1074 | 46 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 52 | 4 | 33 | 18 | 7 | 62 | 46 | 1312 | 10 | 49 | 1074 | 46 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 |
| Total Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 |
| Total Split (%) | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | 34.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |

Intersection Summary

























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Cook St. & University Park Dr./Berger Dr. W.



HCM 6th Signalized Intersection Summary
 10: Cook St. & University Park Dr./Berger Dr. W.

Existing (2022) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 47 | 4 | 30 | 16 | 6 | 56 | 41 | 1181 | 9 | 44 | 967 | 41 |
| Future Volume (veh/h) | 47 | 4 | 30 | 16 | 6 | 56 | 41 | 1181 | 9 | 44 | 967 | 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 | 52 | 4 | 33 | 18 | 7 | 0 | 46 | 1312 | 0 | 49 | 1074 | 46 |
| 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 | 86 | 130 | 110 | 38 | 80 | | 79 | 2871 | | 161 | 2880 | 894 |
| Arrive On Green | 0.05 | 0.07 | 0.07 | 0.02 | 0.04 | 0.00 | 0.09 | 1.00 | 0.00 | 0.05 | 0.56 | 0.56 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 52 | 4 | 33 | 18 | 7 | 0 | 46 | 1312 | 0 | 49 | 1074 | 46 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 1.7 | 0.1 | 1.2 | 0.6 | 0.2 | 0.0 | 1.5 | 0.0 | 0.0 | 0.8 | 7.0 | 0.8 |
| Cycle Q Clear(g_c), s | 1.7 | 0.1 | 1.2 | 0.6 | 0.2 | 0.0 | 1.5 | 0.0 | 0.0 | 0.8 | 7.0 | 0.8 |
| 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 | 86 | 130 | 110 | 38 | 80 | | 79 | 2871 | | 161 | 2880 | 894 |
| V/C Ratio(X) | 0.60 | 0.03 | 0.30 | 0.47 | 0.09 | | 0.58 | 0.46 | | 0.30 | 0.37 | 0.05 |
| Avail Cap(c_a), veh/h | 148 | 499 | 423 | 148 | 499 | | 148 | 2871 | | 288 | 2880 | 894 |
| 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 | 1.00 | 1.00 | 0.00 | 0.51 | 0.51 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.0 | 26.0 | 26.5 | 29.0 | 27.6 | 0.0 | 26.8 | 0.0 | 0.0 | 27.7 | 7.2 | 5.9 |
| Incr Delay (d2), s/veh | 6.7 | 0.1 | 1.5 | 8.6 | 0.5 | 0.0 | 3.4 | 0.3 | 0.0 | 1.1 | 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 | 0.9 | 0.1 | 0.5 | 0.3 | 0.1 | 0.0 | 0.7 | 0.1 | 0.0 | 0.3 | 2.1 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.6 | 26.1 | 28.0 | 37.6 | 28.0 | 0.0 | 30.1 | 0.3 | 0.0 | 28.7 | 7.6 | 6.0 |
| LnGrp LOS | C | C | C | D | C | | C | A | | C | A | A |
| Approach Vol, veh/h | | 89 | | | 25 | | | 1358 | | | 1169 | |
| Approach Delay, s/veh | | 31.8 | | | 34.9 | | | 1.3 | | | 8.4 | |
| Approach LOS | | C | | | C | | | A | | | A | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 7.3 | 38.2 | 5.8 | 8.7 | 7.2 | 38.3 | 7.4 | 7.1 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 16.0 | 5.0 | 16.0 | 5.0 | 16.0 | 5.0 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.8 | 2.0 | 2.6 | 3.2 | 3.5 | 9.0 | 3.7 | 2.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.8 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 5.8 | | | | | | | | | |
| HCM 6th LOS | | | A | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved pedestrian interval to be less than phase max green. | | | | | | | | | | | | |
| Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
11: Cook St. & Frank Sinatra Dr.

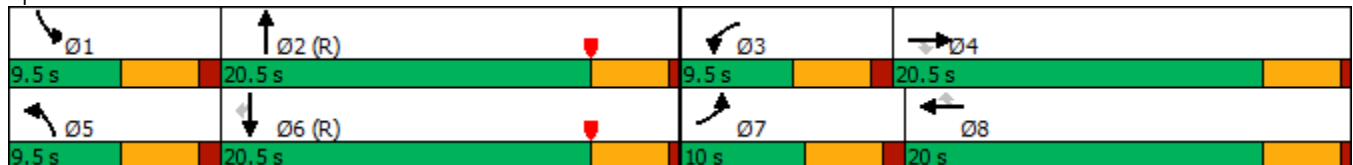
Existing (2022) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 332 | 257 | 136 | 42 | 163 | 39 | 119 | 882 | 74 | 75 | 747 | 183 |
| Future Volume (vph) | 332 | 257 | 136 | 42 | 163 | 39 | 119 | 882 | 74 | 75 | 747 | 183 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | | 135 | 135 | | 260 | 140 | | 0 | 210 | | 220 |
| Storage Lanes | 2 | | 1 | 2 | | 1 | 2 | | 0 | 2 | | 1 |
| Taper Length (ft) | 120 | | | 110 | | | 110 | | | 140 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1477 | | | 944 | | | 330 | | | 1623 | |
| Travel Time (s) | | 33.6 | | | 21.5 | | | 7.5 | | | 36.9 | |
| 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 |
| Adj. Flow (vph) | 361 | 279 | 148 | 46 | 177 | 42 | 129 | 959 | 80 | 82 | 812 | 199 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 361 | 279 | 148 | 46 | 177 | 42 | 129 | 1039 | 0 | 82 | 812 | 199 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | | 9.5 | 20.0 | 20.0 |
| Total Split (s) | 10.0 | 20.5 | 20.5 | 9.5 | 20.0 | 20.0 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (%) | 16.7% | 34.2% | 34.2% | 15.8% | 33.3% | 33.3% | 15.8% | 34.2% | | 15.8% | 34.2% | 34.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

































Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Cook St. & Frank Sinatra Dr.



HCM 6th Signalized Intersection Summary
11: Cook St. & Frank Sinatra Dr.

Existing (2022) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |   | |   |    |  |
| Traffic Volume (veh/h) | 332 | 257 | 136 | 42 | 163 | 39 | 119 | 882 | 74 | 75 | 747 | 183 |
| Future Volume (veh/h) | 332 | 257 | 136 | 42 | 163 | 39 | 119 | 882 | 74 | 75 | 747 | 183 |
| 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 | 361 | 279 | 148 | 46 | 177 | 42 | 129 | 959 | 80 | 82 | 812 | 199 |
| 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 | 317 | 522 | 233 | 154 | 355 | 158 | 254 | 1537 | 128 | 215 | 2305 | 716 |
| Arrive On Green | 0.09 | 0.15 | 0.15 | 0.04 | 0.10 | 0.10 | 0.07 | 0.46 | 0.46 | 0.12 | 0.90 | 0.90 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1585 | 3456 | 3320 | 277 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 361 | 279 | 148 | 46 | 177 | 42 | 129 | 513 | 526 | 82 | 812 | 199 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1585 | 1728 | 1777 | 1821 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 5.5 | 4.4 | 5.3 | 0.8 | 2.8 | 1.5 | 2.2 | 13.1 | 13.1 | 1.3 | 1.4 | 1.0 |
| Cycle Q Clear(g_c), s | 5.5 | 4.4 | 5.3 | 0.8 | 2.8 | 1.5 | 2.2 | 13.1 | 13.1 | 1.3 | 1.4 | 1.0 |
| 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 | 317 | 522 | 233 | 154 | 355 | 158 | 254 | 823 | 843 | 215 | 2305 | 716 |
| V/C Ratio(X) | 1.14 | 0.53 | 0.64 | 0.30 | 0.50 | 0.27 | 0.51 | 0.62 | 0.62 | 0.38 | 0.35 | 0.28 |
| Avail Cap(c_a), veh/h | 317 | 977 | 436 | 288 | 948 | 423 | 288 | 823 | 843 | 288 | 2305 | 716 |
| 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 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.96 | 0.96 | 0.96 |
| Uniform Delay (d), s/veh | 27.2 | 23.7 | 24.1 | 27.8 | 25.6 | 25.0 | 26.7 | 12.2 | 12.2 | 25.2 | 1.7 | 1.6 |
| Incr Delay (d2), s/veh | 93.9 | 0.9 | 2.9 | 1.1 | 1.1 | 0.9 | 1.6 | 3.6 | 3.5 | 1.1 | 0.4 | 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 | 6.3 | 1.8 | 2.0 | 0.3 | 1.2 | 0.6 | 0.9 | 5.2 | 5.3 | 0.5 | 0.4 | 0.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 121.1 | 24.5 | 26.9 | 28.8 | 26.7 | 25.8 | 28.3 | 15.7 | 15.6 | 26.3 | 2.1 | 2.6 |
| LnGrp LOS | F | C | C | C | C | C | C | B | B | C | A | A |
| Approach Vol, veh/h | | 788 | | | 265 | | | 1168 | | | 1093 | |
| Approach Delay, s/veh | | 69.2 | | | 26.9 | | | 17.1 | | | 4.0 | |
| Approach LOS | | E | | | C | | | B | | | A | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 8.2 | 31.8 | 7.2 | 12.8 | 8.9 | 31.1 | 10.0 | 10.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 16.5 | 5.0 | 16.5 | 5.0 | 16.5 | 5.5 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.3 | 15.1 | 2.8 | 7.3 | 4.2 | 3.4 | 7.5 | 4.8 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.9 | 0.0 | 1.5 | 0.0 | 5.2 | 0.0 | 0.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 25.9 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |

APPENDIX 3.3: TRAFFIC SIGNAL WARRANT ANALYSIS WORKSHEETS

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Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

| | | | | | |
|--|-----------|------------|-----------|---------------------------------------|----------------------|
| <u>DIST</u> | <u>CO</u> | <u>RTE</u> | <u>PM</u> | TRAFFIC CONDITIONS | EAP 2024 |
| Jurisdiction: <u>City of Palm Desert</u> | | | | CALC <u>JC</u> | DATE <u>10/24/22</u> |
| Major Street: <u>Technology Dr.</u> | | | | CHK _____ | DATE _____ |
| Minor Street: <u>E. Dwy. - The Village W. Dwy.</u> | | | | Critical Approach Speed (Major) _____ | <u>35</u> mph |
| | | | | Critical Approach Speed (Minor) _____ | <u>35</u> mph |

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 2,528 vpd Minor Street Future ADT = 919 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

| <u>URBAN</u> | <u>RURAL</u> | Minimum Requirements | | | |
|--|----------------------|----------------------------------|--------------|---|--------------|
| XX | | ADT | | | |
| CONDITION A - Minimum Vehicular Volume | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | (Total of Both Approaches) | | (One Direction Only) | |
| | XX | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| Number of lanes for moving traffic on each approach | | | | | |
| <u>Major Street</u> | <u>Minor Street</u> | | | | |
| 1 2,528 | 1 919 | 8,000 | 5,600 | 2,400 | 1,680 |
| 2 + | 1 | 9,600 | 6,720 | 2,400 | 1,680 |
| 2 + | 2 + | 9,600 | 6,720 | 3,200 | 2,240 |
| 1 | 2 + | 8,000 | 5,600 | 3,200 | 2,240 |
| CONDITION B - Interruption of Continuous Traffic | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | (Total of Both Approaches) | | (One Direction Only) | |
| | XX | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| Number of lanes for moving traffic on each approach | | | | | |
| <u>Major Street</u> | <u>Minor Street</u> | | | | |
| 1 2,528 | 1 919 | 12,000 | 8,400 | 1,200 | 850 |
| 2 + | 1 | 14,400 | 10,080 | 1,200 | 850 |
| 2 + | 2 + | 14,400 | 10,080 | 1,600 | 1,120 |
| 1 | 2 + | 12,000 | 8,400 | 1,600 | 1,120 |
| Combination of CONDITIONS A + B | | 2 CONDITIONS | | 2 CONDITIONS | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | 80% | | 80% | |
| No one condition satisfied, but following conditions fulfilled 80% of more | XX | | | | |
| | A | | | | |
| | 32% | | | | |
| | B | | | | |
| | 21% | | | | |

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

| | | | | | |
|--|-----------|------------|-----------|---------------------------------------|----------------------|
| <u>DIST</u> | <u>CO</u> | <u>RTE</u> | <u>PM</u> | TRAFFIC CONDITIONS | EAP 2024 |
| Jurisdiction: <u>City of Palm Desert</u> | | | | CALC <u>JC</u> | DATE <u>10/24/22</u> |
| Major Street: <u>College Dr.</u> | | | | CHK _____ | DATE _____ |
| Minor Street: <u>S. Dwy. - University Park Dr.</u> | | | | Critical Approach Speed (Major) _____ | <u>35</u> mph |
| | | | | Critical Approach Speed (Minor) _____ | <u>35</u> mph |

| | |
|---|--|
| Major Street Approach Lanes = <u>1</u> lane | Minor Street Approach Lanes: <u>1</u> lane |
| Major Street Future ADT = <u>1,551</u> vpd | Minor Street Future ADT = <u>510</u> vpd |

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

| <u>URBAN</u> | <u>RURAL</u> | Minimum Requirements | | | |
|--|---------------------|----------------------------------|--------------|---|--------------|
| XX | | ADT | | | |
| CONDITION A - Minimum Vehicular Volume | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | | <u>Not Satisfied</u> | | <u>(One Direction Only)</u> | |
| | | XX | | | |
| Number of lanes for moving traffic on each approach | | (Total of Both Approaches) | | (One Direction Only) | |
| <u>Major Street</u> | <u>Minor Street</u> | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| 1 1,551 | 1 510 | 8,000 | 5,600 | 2,400 | 1,680 |
| 2 + | 1 | 9,600 | 6,720 | 2,400 | 1,680 |
| 2 + | 2 + | 9,600 | 6,720 | 3,200 | 2,240 |
| 1 | 2 + | 8,000 | 5,600 | 3,200 | 2,240 |
| CONDITION B - Interruption of Continuous Traffic | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | | <u>Not Satisfied</u> | | <u>(One Direction Only)</u> | |
| | | XX | | | |
| Number of lanes for moving traffic on each approach | | (Total of Both Approaches) | | (One Direction Only) | |
| <u>Major Street</u> | <u>Minor Street</u> | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| 1 1,551 | 1 510 | 12,000 | 8,400 | 1,200 | 850 |
| 2 + | 1 | 14,400 | 10,080 | 1,200 | 850 |
| 2 + | 2 + | 14,400 | 10,080 | 1,600 | 1,120 |
| 1 | 2 + | 12,000 | 8,400 | 1,600 | 1,120 |
| Combination of CONDITIONS A + B | | 2 CONDITIONS | | 2 CONDITIONS | |
| <u>Satisfied</u> | | 80% | | 80% | |
| <u>Not Satisfied</u> | | | | | |
| XX | | | | | |
| No one condition satisfied, but following conditions fulfilled 80% of more | | | | | |
| | <u>A</u> | | | | |
| | 19% | | | | |
| | <u>B</u> | | | | |
| | 13% | | | | |

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

| | | | | | |
|--|-----------|------------|-----------|---------------------------------------|----------------------|
| <u>DIST</u> | <u>CO</u> | <u>RTE</u> | <u>PM</u> | TRAFFIC CONDITIONS | <u>EAPC 2024</u> |
| Jurisdiction: <u>City of Palm Desert</u> | | | | CALC <u>JC</u> | DATE <u>10/24/22</u> |
| Major Street: <u>Technology Dr.</u> | | | | CHK _____ | DATE _____ |
| Minor Street: <u>E. Dwy. - The Village W. Dwy.</u> | | | | Critical Approach Speed (Major) _____ | <u>35</u> mph |
| | | | | Critical Approach Speed (Minor) _____ | <u>35</u> mph |

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 5,124 vpd Minor Street Future ADT = 919 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

| <u>URBAN</u> | <u>RURAL</u> | Minimum Requirements | | | |
|---|---------------------|--|--------------|---|--------------|
| XX | | ADT | | | |
| CONDITION A - Minimum Vehicular Volume | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | | (Total of Both Approaches) | | (One Direction Only) | |
| <u>Not Satisfied</u> | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| Number of lanes for moving traffic on each approach | | 8,000 | 5,600 | 2,400 | 1,680 |
| <u>Major Street</u> | <u>Minor Street</u> | 9,600 | 6,720 | 2,400 | 1,680 |
| 1 5,124 | 1 919 | 9,600 | 6,720 | 3,200 | 2,240 |
| 2 + | 1 | 8,000 | 5,600 | 3,200 | 2,240 |
| 2 + | 2 + | CONDITION B - Interruption of Continuous Traffic | | | |
| 1 | 2 + | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | | (Total of Both Approaches) | | (One Direction Only) | |
| <u>Not Satisfied</u> | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| XX | | 12,000 | 8,400 | 1,200 | 850 |
| Number of lanes for moving traffic on each approach | | 14,400 | 10,080 | 1,200 | 850 |
| <u>Major Street</u> | <u>Minor Street</u> | 14,400 | 10,080 | 1,600 | 1,120 |
| 1 5,124 | 1 919 | 12,000 | 8,400 | 1,600 | 1,120 |
| 2 + | 1 | Combination of CONDITIONS A + B | | | |
| 2 + | 2 + | 2 CONDITIONS | | 2 CONDITIONS | |
| 1 | 2 + | 80% | | 80% | |
| <u>Satisfied</u> | | No one condition satisfied, but following conditions fulfilled 80% of more | | | |
| <u>Not Satisfied</u> | | | | | |
| XX | | <u>A</u> | | <u>B</u> | |
| | | 38% | | 43% | |

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

| | | | | | | |
|--|-----------|------------|-----------|-----------------------|---|----------------------|
| <u>DIST</u> | <u>CO</u> | <u>RTE</u> | <u>PM</u> | <u>CALC</u> <u>JC</u> | <u>TRAFFIC CONDITIONS</u> | <u>EAPC 2024</u> |
| Jurisdiction: <u>City of Palm Desert</u> | | | | CHK _____ | | DATE <u>10/24/22</u> |
| Major Street: <u>College Dr.</u> | | | | | Critical Approach Speed (Major) <u>35</u> mph | DATE _____ |
| Minor Street: <u>S. Dwy. - University Park Dr.</u> | | | | | Critical Approach Speed (Minor) <u>35</u> mph | |

| | |
|---|--|
| Major Street Approach Lanes = <u>1</u> lane | Minor Street Approach Lanes: <u>1</u> lane |
| Major Street Future ADT = <u>5,983</u> vpd | Minor Street Future ADT = <u>753</u> vpd |

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

| <u>URBAN</u> | <u>RURAL</u> | Minimum Requirements | | | |
|--|---------------------|----------------------------------|--------------|---|--------------|
| XX | | ADT | | | |
| CONDITION A - Minimum Vehicular Volume | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | | (Total of Both Approaches) | | (One Direction Only) | |
| <u>Not Satisfied</u> | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| XX | | | | | |
| Number of lanes for moving traffic on each approach | | | | | |
| <u>Major Street</u> | <u>Minor Street</u> | | | | |
| 1 5,983 | 1 753 | 8,000 | 5,600 | 2,400 | 1,680 |
| 2 + | 1 | 9,600 | 6,720 | 2,400 | 1,680 |
| 2 + | 2 + | 9,600 | 6,720 | 3,200 | 2,240 |
| 1 | 2 + | 8,000 | 5,600 | 3,200 | 2,240 |
| CONDITION B - Interruption of Continuous Traffic | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | | (Total of Both Approaches) | | (One Direction Only) | |
| <u>Not Satisfied</u> | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| XX | | | | | |
| Number of lanes for moving traffic on each approach | | | | | |
| <u>Major Street</u> | <u>Minor Street</u> | | | | |
| 1 5,983 | 1 753 | 12,000 | 8,400 | 1,200 | 850 |
| 2 + | 1 | 14,400 | 10,080 | 1,200 | 850 |
| 2 + | 2 + | 14,400 | 10,080 | 1,600 | 1,120 |
| 1 | 2 + | 12,000 | 8,400 | 1,600 | 1,120 |
| Combination of CONDITIONS A + B | | 2 CONDITIONS | | 2 CONDITIONS | |
| <u>Satisfied</u> | | 80% | | 80% | |
| <u>Not Satisfied</u> | | | | | |
| XX | | | | | |
| No one condition satisfied, but following conditions fulfilled 80% of more | | | | | |
| | <u>A</u> | | | | |
| | 31% | | | | |
| | <u>B</u> | | | | |
| | 50% | | | | |

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

| | | | | | |
|--|-----------|------------|-----------|---------------------------------------|----------------------|
| <u>DIST</u> | <u>CO</u> | <u>RTE</u> | <u>PM</u> | TRAFFIC CONDITIONS | 2040NP |
| Jurisdiction: <u>City of Palm Desert</u> | | | | CALC <u>JC</u> | DATE <u>10/24/22</u> |
| Major Street: <u>Technology Dr.</u> | | | | CHK _____ | DATE _____ |
| Minor Street: <u>E. Dwy. - The Village W. Dwy.</u> | | | | Critical Approach Speed (Major) _____ | <u>35</u> mph |
| | | | | Critical Approach Speed (Minor) _____ | <u>35</u> mph |

| | |
|---|--|
| Major Street Approach Lanes = <u>1</u> lane | Minor Street Approach Lanes: <u>1</u> lane |
| Major Street Future ADT = <u>5,594</u> vpd | Minor Street Future ADT = <u>644</u> vpd |

Speed limit or critical speed on major street traffic > 64 km/h (40 mph); or **URBAN (U)**

In built up area of isolated community of < 10,000 population

(Based on Estimated Average Daily Traffic - See Note)

| <u>URBAN</u> | <u>RURAL</u> | Minimum Requirements | | | |
|--|----------------------|----------------------------------|--------------|---|--------------|
| XX | | ADT | | | |
| CONDITION A - Minimum Vehicular Volume | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | (Total of Both Approaches) | | (One Direction Only) | |
| | XX | | | | |
| Number of lanes for moving traffic on each approach | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| <u>Major Street</u> | <u>Minor Street</u> | | | | |
| <u>1</u> 5,594 | <u>1</u> 644 | 8,000 | 5,600 | 2,400 | 1,680 |
| <u>2 +</u> | <u>1</u> | 9,600 | 6,720 | 2,400 | 1,680 |
| <u>2 +</u> | <u>2 +</u> | 9,600 | 6,720 | 3,200 | 2,240 |
| <u>1</u> | <u>2 +</u> | 8,000 | 5,600 | 3,200 | 2,240 |
| CONDITION B - Interruption of Continuous Traffic | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | (Total of Both Approaches) | | (One Direction Only) | |
| | XX | | | | |
| Number of lanes for moving traffic on each approach | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| <u>Major Street</u> | <u>Minor Street</u> | | | | |
| <u>1</u> 5,594 | <u>1</u> 644 | 12,000 | 8,400 | 1,200 | 850 |
| <u>2 +</u> | <u>1</u> | 14,400 | 10,080 | 1,200 | 850 |
| <u>2 +</u> | <u>2 +</u> | 14,400 | 10,080 | 1,600 | 1,120 |
| <u>1</u> | <u>2 +</u> | 12,000 | 8,400 | 1,600 | 1,120 |
| Combination of CONDITIONS A + B | | 2 CONDITIONS | | 2 CONDITIONS | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | 80% | | 80% | |
| No one condition satisfied, but following conditions fulfilled 80% of more | XX | | | | |
| | <u>A</u> | | | | |
| | 27% | | | | |
| | <u>B</u> | | | | |
| | 47% | | | | |

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

| | | | | | | |
|---|-----------|--------------|-----------|-------------------------------|---------------------------------|-----------------------------|
| <u>DIST</u> | <u>CO</u> | <u>RTE</u> | <u>PM</u> | <u>CALC</u> <u>JC</u> | <u>TRAFFIC CONDITIONS</u> | <u>2040NP</u> |
| Jurisdiction: <u>City of Palm Desert</u> | | | | <u>CHK</u> | | <u>DATE</u> <u>10/24/22</u> |
| Major Street: <u>College Dr.</u> | | | | | Critical Approach Speed (Major) | <u>35</u> mph |
| Minor Street: <u>S. Dwy. - University Park Dr.</u> | | | | | Critical Approach Speed (Minor) | <u>35</u> mph |
| Major Street Approach Lanes = | | <u>1</u> | lane | Minor Street Approach Lanes = | | <u>1</u> lane |
| Major Street Future ADT = | | <u>6,372</u> | vpd | Minor Street Future ADT = | | <u>903</u> vpd |
| Speed limit or critical speed on major street traffic > 64 km/h (40 mph); | | | | | <input type="text"/> | |
| | | | | | or | URBAN (U) |
| In built up area of isolated community of < 10,000 population | | | | | <input type="text"/> | |

(Based on Estimated Average Daily Traffic - See Note)

| <u>URBAN</u> | <u>RURAL</u> | Minimum Requirements | | | |
|--|----------------------|----------------------------------|--------------|---|--------------|
| XX | | ADT | | | |
| CONDITION A - Minimum Vehicular Volume | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | (Total of Both Approaches) | | (One Direction Only) | |
| | XX | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| Number of lanes for moving traffic on each approach | | | | | |
| <u>Major Street</u> | <u>Minor Street</u> | | | | |
| 1 6,372 | 1 903 | 8,000 | 5,600 | 2,400 | 1,680 |
| 2 + | 1 | 9,600 | 6,720 | 2,400 | 1,680 |
| 2 + | 2 + | 9,600 | 6,720 | 3,200 | 2,240 |
| 1 | 2 + | 8,000 | 5,600 | 3,200 | 2,240 |
| CONDITION B - Interruption of Continuous Traffic | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | (Total of Both Approaches) | | (One Direction Only) | |
| | XX | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| Number of lanes for moving traffic on each approach | | | | | |
| <u>Major Street</u> | <u>Minor Street</u> | | | | |
| 1 6,372 | 1 903 | 12,000 | 8,400 | 1,200 | 850 |
| 2 + | 1 | 14,400 | 10,080 | 1,200 | 850 |
| 2 + | 2 + | 14,400 | 10,080 | 1,600 | 1,120 |
| 1 | 2 + | 12,000 | 8,400 | 1,600 | 1,120 |
| Combination of CONDITIONS A + B | | 2 CONDITIONS | | 2 CONDITIONS | |
| <u>Satisfied</u> | <u>Not Satisfied</u> | 80% | | 80% | |
| No one condition satisfied, but following conditions fulfilled 80% of more | XX | | | | |
| | <u>A</u> | | | | |
| | 38% | | | | |
| | <u>B</u> | | | | |
| | 53% | | | | |

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

| | | | | | |
|--|-----------|------------|-----------|---------------------------------------|----------------------|
| <u>DIST</u> | <u>CO</u> | <u>RTE</u> | <u>PM</u> | TRAFFIC CONDITIONS | <u>2040WP</u> |
| Jurisdiction: <u>City of Palm Desert</u> | | | | CALC <u>JC</u> | DATE <u>10/24/22</u> |
| Major Street: <u>Technology Dr.</u> | | | | CHK _____ | DATE _____ |
| Minor Street: <u>E. Dwy. - The Village W. Dwy.</u> | | | | Critical Approach Speed (Major) _____ | <u>35</u> mph |
| | | | | Critical Approach Speed (Minor) _____ | <u>35</u> mph |

| | |
|---|--|
| Major Street Approach Lanes = <u>1</u> lane | Minor Street Approach Lanes: <u>1</u> lane |
| Major Street Future ADT = <u>6,512</u> vpd | Minor Street Future ADT = <u>919</u> vpd |

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

| <u>URBAN</u> | <u>RURAL</u> | Minimum Requirements | | | |
|---|---------------------|--|--------------|---|--------------|
| XX | | ADT | | | |
| CONDITION A - Minimum Vehicular Volume | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | | (Total of Both Approaches) | | (One Direction Only) | |
| <u>Not Satisfied</u> | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| Number of lanes for moving traffic on each approach | | 8,000 | 5,600 | 2,400 | 1,680 |
| <u>Major Street</u> | <u>Minor Street</u> | 9,600 | 6,720 | 2,400 | 1,680 |
| <u>1 6,512</u> | <u>1 919</u> | 9,600 | 6,720 | 3,200 | 2,240 |
| <u>2 +</u> | <u>1</u> | 8,000 | 5,600 | 3,200 | 2,240 |
| <u>2 +</u> | <u>2 +</u> | CONDITION B - Interruption of Continuous Traffic | | | |
| <u>1</u> | <u>2 +</u> | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | | (Total of Both Approaches) | | (One Direction Only) | |
| <u>Not Satisfied</u> | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| XX | | 12,000 | 8,400 | 1,200 | 850 |
| Number of lanes for moving traffic on each approach | | 14,400 | 10,080 | 1,200 | 850 |
| <u>Major Street</u> | <u>Minor Street</u> | 14,400 | 10,080 | 1,600 | 1,120 |
| <u>1 6,512</u> | <u>1 919</u> | 12,000 | 8,400 | 1,600 | 1,120 |
| <u>2 +</u> | <u>1</u> | Combination of CONDITIONS A + B | | | |
| <u>2 +</u> | <u>2 +</u> | 2 CONDITIONS | | 2 CONDITIONS | |
| <u>1</u> | <u>2 +</u> | 80% | | 80% | |
| <u>Satisfied</u> | | No one condition satisfied, but following conditions fulfilled 80% of more | | | |
| <u>Not Satisfied</u> | | XX | | | |
| | | <u>A</u> | | <u>B</u> | |
| | | 38% | | 54% | |

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-103 (CA). Traffic Signal Warrants Worksheet (Average Traffic Estimate Form)

| | | | | | |
|--|-----------|------------|-----------|---------------------------------------|----------------------|
| <u>DIST</u> | <u>CO</u> | <u>RTE</u> | <u>PM</u> | TRAFFIC CONDITIONS | 2040WP |
| Jurisdiction: <u>City of Palm Desert</u> | | | | CALC <u>JC</u> | DATE <u>10/24/22</u> |
| Major Street: <u>College Dr.</u> | | | | CHK _____ | DATE _____ |
| Minor Street: <u>S. Dwy. - University Park Dr.</u> | | | | Critical Approach Speed (Major) _____ | <u>35</u> mph |
| | | | | Critical Approach Speed (Minor) _____ | <u>35</u> mph |

Major Street Approach Lanes = 1 lane Minor Street Approach Lanes: 1 lane

Major Street Future ADT = 6,882 vpd Minor Street Future ADT = 903 vpd

Speed limit or critical speed on major street traffic > 64 km/h (40 mph);

or

In built up area of isolated community of < 10,000 population **URBAN (U)**

(Based on Estimated Average Daily Traffic - See Note)

| <u>URBAN</u> | <u>RURAL</u> | Minimum Requirements | | | |
|--|---------------------|----------------------------------|--------------|---|--------------|
| XX | | ADT | | | |
| CONDITION A - Minimum Vehicular Volume | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | | (Total of Both Approaches) | | (One Direction Only) | |
| <u>Not Satisfied</u> | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| XX | | | | | |
| Number of lanes for moving traffic on each approach | | | | | |
| <u>Major Street</u> | <u>Minor Street</u> | | | | |
| 1 6,882 | 1 903 | 8,000 | 5,600 | 2,400 | 1,680 |
| 2 + | 1 | 9,600 | 6,720 | 2,400 | 1,680 |
| 2 + | 2 + | 9,600 | 6,720 | 3,200 | 2,240 |
| 1 | 2 + | 8,000 | 5,600 | 3,200 | 2,240 |
| CONDITION B - Interruption of Continuous Traffic | | Vehicles Per Day on Major Street | | Vehicles Per Day on Higher-Volume Minor Street Approach | |
| <u>Satisfied</u> | | (Total of Both Approaches) | | (One Direction Only) | |
| <u>Not Satisfied</u> | | <u>Urban</u> | <u>Rural</u> | <u>Urban</u> | <u>Rural</u> |
| XX | | | | | |
| Number of lanes for moving traffic on each approach | | | | | |
| <u>Major Street</u> | <u>Minor Street</u> | | | | |
| 1 6,882 | 1 903 | 12,000 | 8,400 | 1,200 | 850 |
| 2 + | 1 | 14,400 | 10,080 | 1,200 | 850 |
| 2 + | 2 + | 14,400 | 10,080 | 1,600 | 1,120 |
| 1 | 2 + | 12,000 | 8,400 | 1,600 | 1,120 |
| Combination of CONDITIONS A + B | | 2 CONDITIONS | | 2 CONDITIONS | |
| <u>Satisfied</u> | | 80% | | 80% | |
| <u>Not Satisfied</u> | | | | | |
| XX | | | | | |
| No one condition satisfied, but following conditions fulfilled 80% of more | | | | | |
| | <u>A</u> | | | | |
| | 38% | | | | |
| | <u>B</u> | | | | |
| | 57% | | | | |

Note: To be used only for NEW INTERSECTIONS or other locations where it is not reasonable to count actual traffic volumes.

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2040WP AM PEAK HOUR WARRANTS**

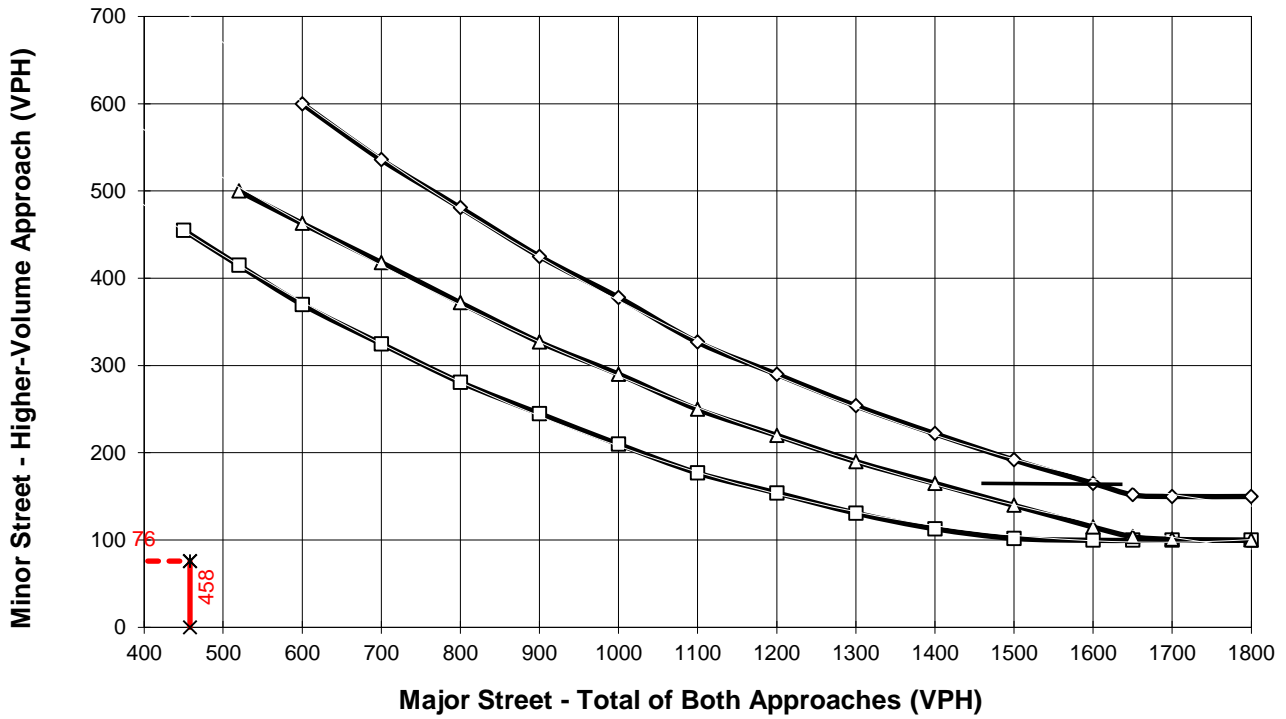
Major Street Name = **College Dr.**

Total of Both Approaches (VPH) = **458**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **S. Dwy. - University Park Dr.**

High Volume Approach (VPH) = **76**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- - -x- - - Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2040WP PM PEAK HOUR WARRANTS**

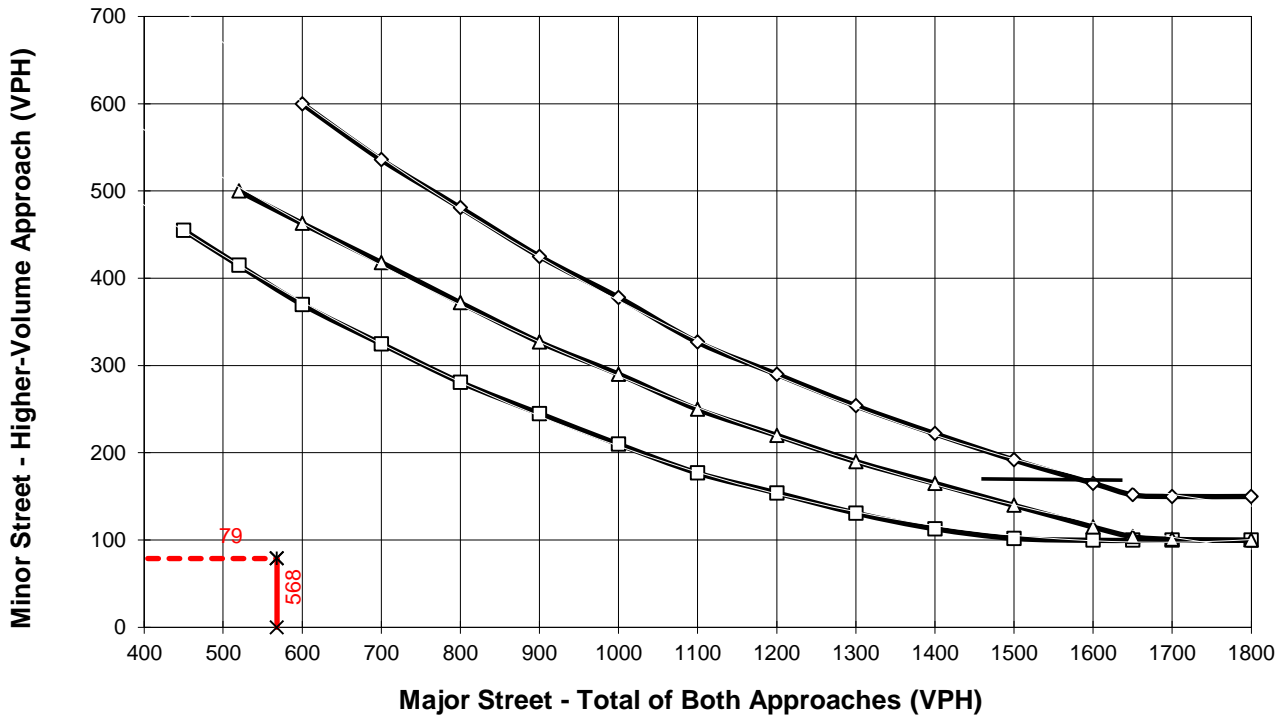
Major Street Name = **College Dr.**

Total of Both Approaches (VPH) = **568**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **S. Dwy. - University Park Dr.**

High Volume Approach (VPH) = **79**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- - -x- - - Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2040WP AM PEAK HOUR WARRANTS**

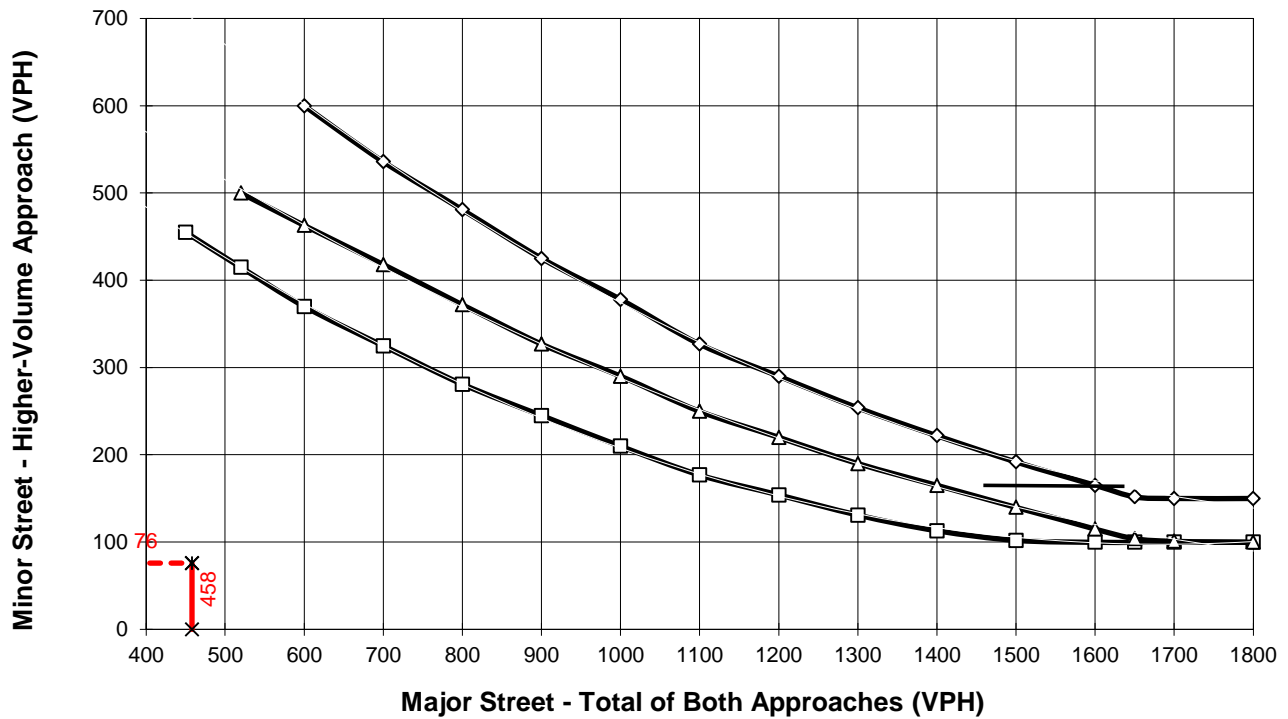
Major Street Name = **College Dr.**

Total of Both Approaches (VPH) = **458**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **S. Dwy. - University Park Dr.**

High Volume Approach (VPH) = **76**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- - -x- - - Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **2040WP PM PEAK HOUR WARRANTS**

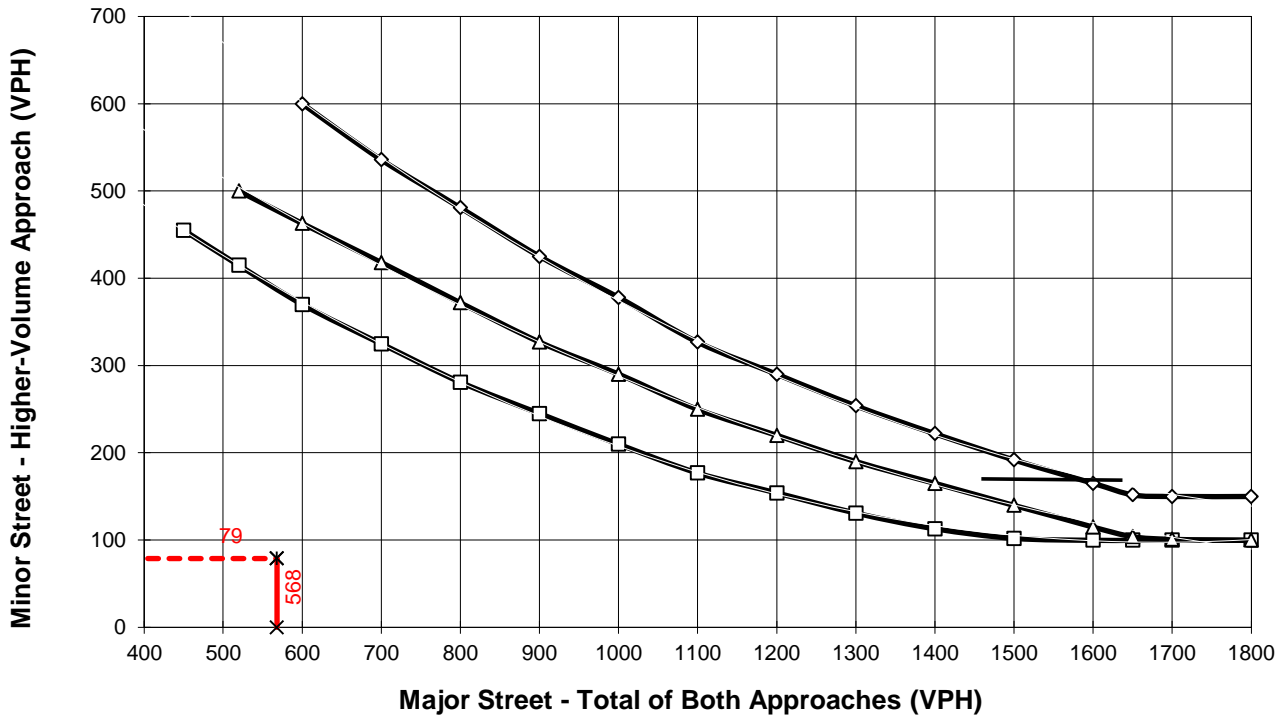
Major Street Name = **College Dr.**

Total of Both Approaches (VPH) = **568**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **S. Dwy. - University Park Dr.**

High Volume Approach (VPH) = **79**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- - -x- - - Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EXISTING (2022) AM PEAK HOUR WARRANTS**

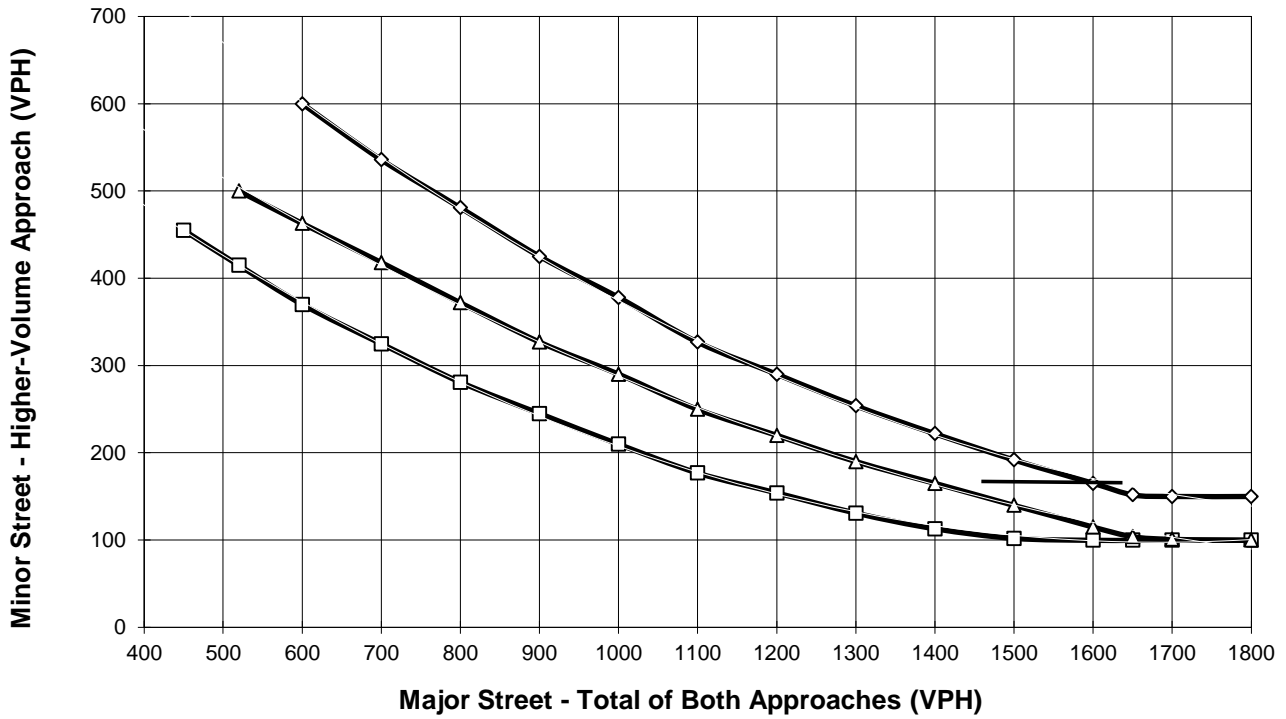
Major Street Name = **College Dr.**

Total of Both Approaches (VPH) = **67**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **S. Dwy. - University Park Dr.**

High Volume Approach (VPH) = **17**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- *— Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EXISTING (2022) PM PEAK HOUR WARRANTS**

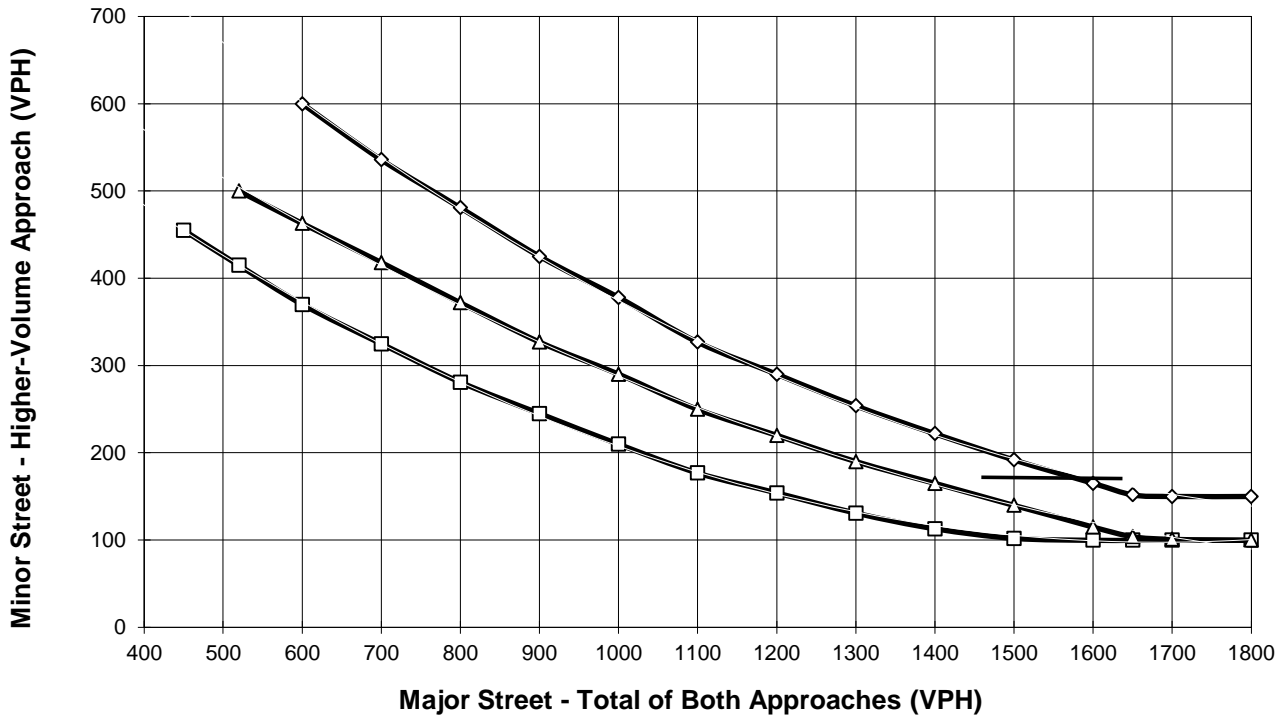
Major Street Name = **College Dr.**

Total of Both Approaches (VPH) = **77**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **S. Dwy. - University Park Dr.**

High Volume Approach (VPH) = **11**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- - -x- - - Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EXISTING (2022) AM PEAK HOUR WARRANTS**

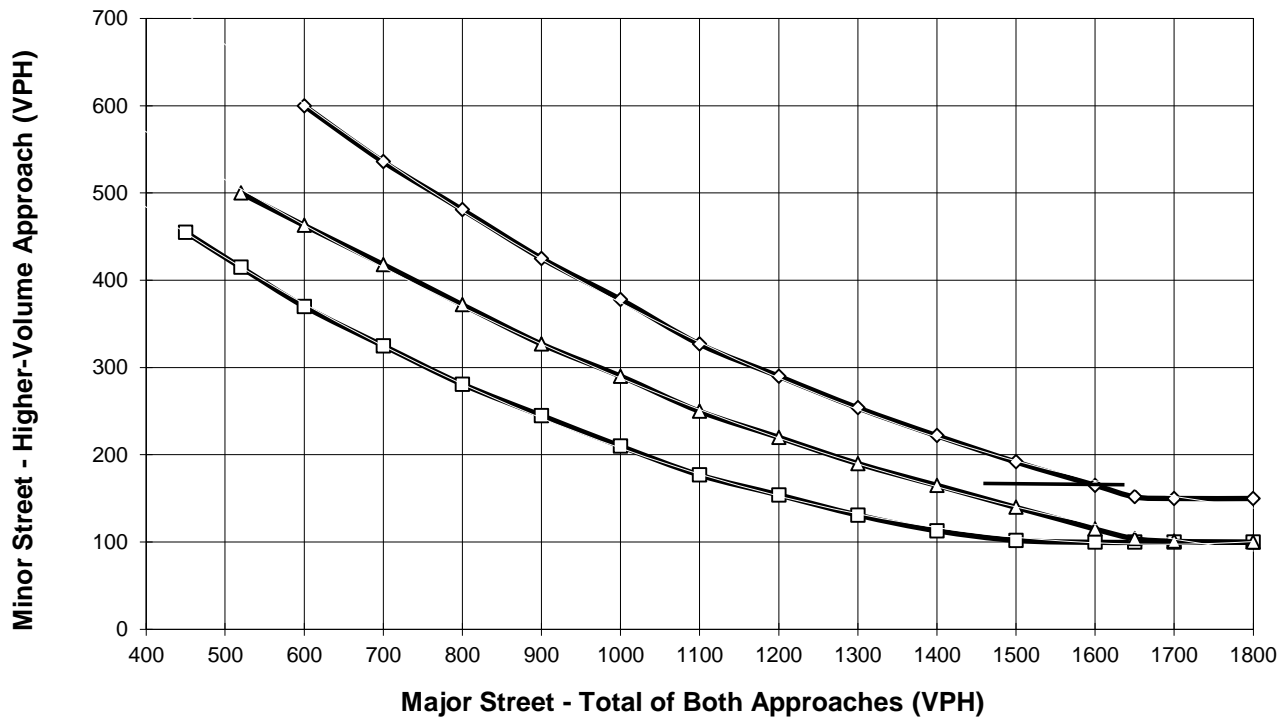
Major Street Name = **College Dr.**

Total of Both Approaches (VPH) = **67**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **S. Dwy. - University Park Dr.**

High Volume Approach (VPH) = **17**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- *— Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

Figure 4C-3. Warrant 3, Peak Hour

Traffic Conditions = **EXISTING (2022) PM PEAK HOUR WARRANTS**

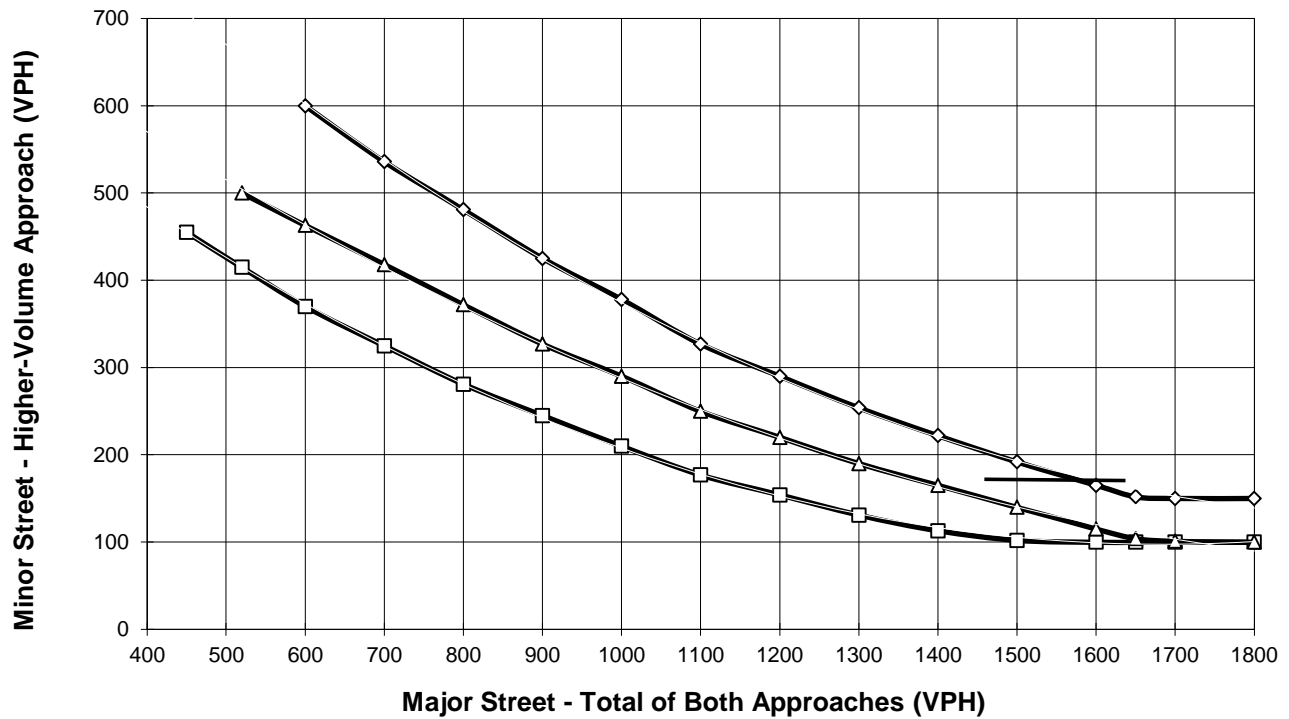
Major Street Name = **College Dr.**

Total of Both Approaches (VPH) = **77**
 Number of Approach Lanes on Major Street = **1**

Minor Street Name = **S. Dwy. - University Park Dr.**

High Volume Approach (VPH) = **11**
 Number of Approach Lanes On Minor Street = **1**

SIGNAL WARRANT NOT SATISFIED



- 1 Lane (Major) & 1 Lane (Minor)
- △— 2+ Lanes (Major) & 1 Lane (Minor) OR 1 Lane (Major) & 2+ Lanes (Minor)
- ◇— 2+ Lanes (Major) & 2+ Lanes (Minor)
- x— Major Street Approaches
- *— Minor Street Approaches

*Note: 150 vph applies as the lower threshold for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold for a minor-street approach with one lane

Intersection ID: #4

APPENDIX 5.1: EAP (2024) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lanes, Volumes, Timings
1: Technology Dr. & Gerald Ford Dr.

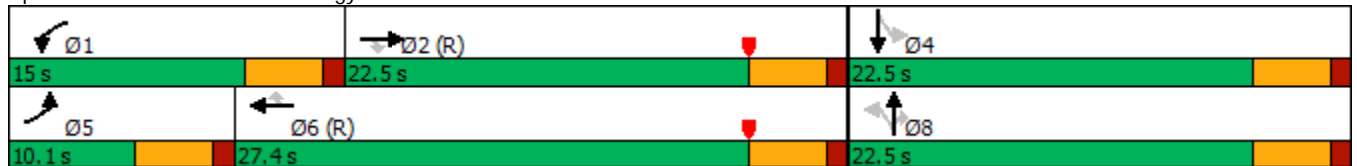
EAP (2024) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 32 | 354 | 28 | 170 | 634 | 44 | 21 | 23 | 31 | 62 | 18 | 33 |
| Future Volume (vph) | 32 | 354 | 28 | 170 | 634 | 44 | 21 | 23 | 31 | 62 | 18 | 33 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 185 | | 165 | 180 | | 120 | 102 | | 230 | 85 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 1 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 90 | | | 60 | | | 60 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | 35 | |
| Link Distance (ft) | | 549 | | | 936 | | | 343 | | | 642 | |
| Travel Time (s) | | 9.4 | | | 16.0 | | | 6.7 | | | 12.5 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 39 | 427 | 34 | 205 | 764 | 53 | 25 | 28 | 37 | 75 | 22 | 40 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 39 | 427 | 34 | 205 | 764 | 53 | 25 | 28 | 37 | 75 | 62 | 0 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 10.1 | 22.5 | 22.5 | 15.0 | 27.4 | 27.4 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (%) | 16.8% | 37.5% | 37.5% | 25.0% | 45.7% | 45.7% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | Max | Max | Max | Max | Max | Max |

Intersection Summary





























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 35 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Technology Dr. & Gerald Ford Dr.






















HCM 6th Signalized Intersection Summary
 1: Technology Dr. & Gerald Ford Dr.

EAP (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |    |  |  |    |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 32 | 354 | 28 | 170 | 634 | 44 | 21 | 23 | 31 | 62 | 18 | 33 |
| Future Volume (veh/h) | 32 | 354 | 28 | 170 | 634 | 44 | 21 | 23 | 31 | 62 | 18 | 33 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 427 | 34 | 205 | 764 | 53 | 25 | 28 | 37 | 75 | 22 | 40 |
| 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 | 71 | 1707 | 526 | 251 | 2222 | 686 | 484 | 561 | 473 | 505 | 178 | 323 |
| Arrive On Green | 0.04 | 0.33 | 0.33 | 0.19 | 0.58 | 0.58 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 5106 | 1573 | 1781 | 5106 | 1576 | 1334 | 1870 | 1577 | 1331 | 593 | 1077 |
| Grp Volume(v), veh/h | 39 | 427 | 34 | 205 | 764 | 53 | 25 | 28 | 37 | 75 | 0 | 62 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1573 | 1781 | 1702 | 1576 | 1334 | 1870 | 1577 | 1331 | 0 | 1670 |
| Q Serve(g_s), s | 1.3 | 3.6 | 0.9 | 6.6 | 4.7 | 0.9 | 0.8 | 0.6 | 1.0 | 2.5 | 0.0 | 1.6 |
| Cycle Q Clear(g_c), s | 1.3 | 3.6 | 0.9 | 6.6 | 4.7 | 0.9 | 2.5 | 0.6 | 1.0 | 3.2 | 0.0 | 1.6 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.65 |
| Lane Grp Cap(c), veh/h | 71 | 1707 | 526 | 251 | 2222 | 686 | 484 | 561 | 473 | 505 | 0 | 501 |
| V/C Ratio(X) | 0.55 | 0.25 | 0.06 | 0.82 | 0.34 | 0.08 | 0.05 | 0.05 | 0.08 | 0.15 | 0.00 | 0.12 |
| Avail Cap(c_a), veh/h | 166 | 1707 | 526 | 312 | 2222 | 686 | 484 | 561 | 473 | 505 | 0 | 501 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.76 | 0.76 | 0.76 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.3 | 14.5 | 13.6 | 23.6 | 8.1 | 7.3 | 16.2 | 14.9 | 15.1 | 16.1 | 0.0 | 15.3 |
| Incr Delay (d2), s/veh | 6.5 | 0.4 | 0.2 | 10.1 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.6 | 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.6 | 1.3 | 0.3 | 3.1 | 1.4 | 0.3 | 0.3 | 0.3 | 0.4 | 0.8 | 0.0 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.8 | 14.9 | 13.8 | 33.8 | 8.5 | 7.5 | 16.4 | 15.1 | 15.4 | 16.7 | 0.0 | 15.8 |
| LnGrp LOS | C | B | B | C | A | A | B | B | B | B | A | B |
| Approach Vol, veh/h | | 500 | | | 1022 | | | 90 | | | | 137 |
| Approach Delay, s/veh | | 16.3 | | | 13.5 | | | 15.6 | | | | 16.3 |
| Approach LOS | | B | | | B | | | B | | | | B |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 12.9 | 24.6 | | 22.5 | 6.9 | 30.6 | | 22.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | 18.0 | 5.6 | 22.9 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.6 | 5.6 | | 5.2 | 3.3 | 6.7 | | 4.5 | | | | |
| Green Ext Time (p_c), s | 0.1 | 2.2 | | 0.4 | 0.0 | 4.7 | | 0.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 14.6 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

Lanes, Volumes, Timings
 2: Technology Dr. & E. Dwy/The Village W. Dwy.

EAP (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | |  |  |  |  |  | |
| Traffic Volume (vph) | 15 | 1 | 4 | 2 | 1 | 22 | 28 | 38 | 4 | 21 | 40 | 155 |
| Future Volume (vph) | 15 | 1 | 4 | 2 | 1 | 22 | 28 | 38 | 4 | 21 | 40 | 155 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 150 | | 175 | 55 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 0 | 1 | | 1 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 60 | | | 60 | | |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | | 35 |
| Link Distance (ft) | | 216 | | | 313 | | | 338 | | | | 343 |
| Travel Time (s) | | 4.9 | | | 7.1 | | | 6.6 | | | | 6.7 |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 19 | 1 | 5 | 3 | 1 | 28 | 35 | 48 | 5 | 27 | 51 | 196 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 25 | 0 | 0 | 32 | 0 | 35 | 48 | 5 | 27 | 247 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM 6th TWSC
 2: Technology Dr. & E. Dwy/The Village W. Dwy.

EAP (2024) AM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.5 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↑ | ↑ | ↕ | ↕ | ↑ |
| Traffic Vol, veh/h | 15 | 1 | 4 | 2 | 1 | 22 | 28 | 38 | 4 | 21 | 40 | 155 |
| Future Vol, veh/h | 15 | 1 | 4 | 2 | 1 | 22 | 28 | 38 | 4 | 21 | 40 | 155 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 150 | - | 175 | 55 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 19 | 1 | 5 | 3 | 1 | 28 | 35 | 48 | 5 | 27 | 51 | 196 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|-------|--------|---|-------|---|---|
| Conflicting Flow All | 338 | 326 | 149 | 324 | 419 | 48 | 247 | 0 | 0 | 53 | 0 | 0 |
| Stage 1 | 203 | 203 | - | 118 | 118 | - | - | - | - | - | - | - |
| Stage 2 | 135 | 123 | - | 206 | 301 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 616 | 592 | 898 | 629 | 525 | 1021 | 1319 | - | - | 1553 | - | - |
| Stage 1 | 799 | 733 | - | 887 | 798 | - | - | - | - | - | - | - |
| Stage 2 | 868 | 794 | - | 796 | 665 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 578 | 566 | 898 | 604 | 502 | 1021 | 1319 | - | - | 1553 | - | - |
| Mov Cap-2 Maneuver | 578 | 566 | - | 604 | 502 | - | - | - | - | - | - | - |
| Stage 1 | 777 | 721 | - | 863 | 776 | - | - | - | - | - | - | - |
| Stage 2 | 821 | 773 | - | 776 | 654 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|----|--|----|--|-----|--|-----|--|
| HCM Control Delay, s | 11 | | 9 | | 3.1 | | 0.7 | |
| HCM LOS | B | | A | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h) | 1319 | - | - | 622 | 931 | 1553 | - |
| HCM Lane V/C Ratio | 0.027 | - | - | 0.041 | 0.034 | 0.017 | - |
| HCM Control Delay (s) | 7.8 | - | - | 11 | 9 | 7.4 | - |
| HCM Lane LOS | A | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.1 | 0.1 | 0.1 | - |

Lanes, Volumes, Timings
 3: College Dr. & Technology Dr.

EAP (2024) AM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | ↕ | ↔ | | ↕ | |
| Traffic Volume (vph) | 17 | 26 | 50 | 53 | 24 | 22 |
| Future Volume (vph) | 17 | 26 | 50 | 53 | 24 | 22 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 40 | 40 | | 35 | |
| Link Distance (ft) | | 803 | 445 | | 338 | |
| Travel Time (s) | | 13.7 | 7.6 | | 6.6 | |
| Peak Hour Factor | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 |
| Adj. Flow (vph) | 23 | 36 | 68 | 73 | 33 | 30 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 59 | 141 | 0 | 63 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary





















Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 3.4 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 59 | 141 | 63 |
| Demand Flow Rate, veh/h | 60 | 143 | 65 |
| Vehicles Circulating, veh/h | 34 | 23 | 69 |
| Vehicles Exiting, veh/h | 100 | 71 | 97 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.1 | 3.6 | 3.3 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 60 | 143 | 65 |
| Cap Entry Lane, veh/h | 1333 | 1348 | 1286 |
| Entry HV Adj Factor | 0.988 | 0.984 | 0.969 |
| Flow Entry, veh/h | 59 | 141 | 63 |
| Cap Entry, veh/h | 1317 | 1326 | 1247 |
| V/C Ratio | 0.045 | 0.106 | 0.051 |
| Control Delay, s/veh | 3.1 | 3.6 | 3.3 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 0 | 0 |

Lanes, Volumes, Timings
 4: University Dr./S. Dwy. & College Dr.

EAP (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  | | |  | |
| Traffic Volume (vph) | 28 | 32 | 8 | 4 | 26 | 42 | 15 | 1 | 3 | 8 | 1 | 11 |
| Future Volume (vph) | 28 | 32 | 8 | 4 | 26 | 42 | 15 | 1 | 3 | 8 | 1 | 11 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 150 | | 120 | 130 | | 0 | 100 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 0 | 0 | | 0 |
| Taper Length (ft) | 60 | | | 65 | | | 60 | | | 90 | | |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | | 30 |
| Link Distance (ft) | | 755 | | | 803 | | | 448 | | | | 197 |
| Travel Time (s) | | 12.9 | | | 13.7 | | | 8.7 | | | | 4.5 |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Adj. Flow (vph) | 37 | 42 | 11 | 5 | 34 | 55 | 20 | 1 | 4 | 11 | 1 | 14 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 37 | 42 | 11 | 5 | 89 | 0 | 20 | 5 | 0 | 0 | 26 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.4 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 28 | 32 | 8 | 4 | 26 | 42 | 15 | 1 | 3 | 8 | 1 | 11 |
| Future Vol, veh/h | 28 | 32 | 8 | 4 | 26 | 42 | 15 | 1 | 3 | 8 | 1 | 11 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | 120 | 130 | - | - | 100 | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 37 | 42 | 11 | 5 | 34 | 55 | 20 | 1 | 4 | 11 | 1 | 14 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 89 | 0 | 0 | 53 | 0 | 0 | 195 | 215 | 42 | 196 | 199 | 62 |
| Stage 1 | - | - | - | - | - | - | 116 | 116 | - | 72 | 72 | - |
| Stage 2 | - | - | - | - | - | - | 79 | 99 | - | 124 | 127 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1506 | - | - | 1553 | - | - | 764 | 683 | 1029 | 763 | 697 | 1003 |
| Stage 1 | - | - | - | - | - | - | 889 | 800 | - | 938 | 835 | - |
| Stage 2 | - | - | - | - | - | - | 930 | 813 | - | 880 | 791 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1506 | - | - | 1553 | - | - | 736 | 664 | 1029 | 743 | 677 | 1003 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 736 | 664 | - | 743 | 677 | - |
| Stage 1 | - | - | - | - | - | - | 867 | 780 | - | 915 | 832 | - |
| Stage 2 | - | - | - | - | - | - | 912 | 811 | - | 854 | 771 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|-----|--|--|-----|--|--|
| HCM Control Delay, s | 3.1 | | | 0.4 | | | 9.8 | | | 9.3 | | |
| HCM LOS | | | | | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 736 | 905 | 1506 | - | - | 1553 | - | - | 862 |
| HCM Lane V/C Ratio | 0.027 | 0.006 | 0.024 | - | - | 0.003 | - | - | 0.031 |
| HCM Control Delay (s) | 10 | 9 | 7.5 | - | - | 7.3 | - | - | 9.3 |
| HCM Lane LOS | B | A | A | - | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0.1 | 0 | 0.1 | - | - | 0 | - | - | 0.1 |

Lanes, Volumes, Timings
5: College Dr. & Pacific Av.

EAP (2024) AM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 10 | 63 | 46 | 7 | 5 | 23 |
| Future Volume (vph) | 10 | 63 | 46 | 7 | 5 | 23 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 40 | 40 | | 35 | |
| Link Distance (ft) | | 711 | 644 | | 595 | |
| Travel Time (s) | | 12.1 | 11.0 | | 11.6 | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 11 | 67 | 49 | 7 | 5 | 24 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 78 | 56 | 0 | 29 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

















Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 3.0 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 78 | 56 | 29 |
| Demand Flow Rate, veh/h | 79 | 57 | 29 |
| Vehicles Circulating, veh/h | 5 | 11 | 50 |
| Vehicles Exiting, veh/h | 74 | 73 | 18 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.1 | 3.0 | 2.9 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 79 | 57 | 29 |
| Cap Entry Lane, veh/h | 1373 | 1364 | 1311 |
| Entry HV Adj Factor | 0.983 | 0.983 | 1.000 |
| Flow Entry, veh/h | 78 | 56 | 29 |
| Cap Entry, veh/h | 1350 | 1341 | 1311 |
| V/C Ratio | 0.058 | 0.042 | 0.022 |
| Control Delay, s/veh | 3.1 | 3.0 | 2.9 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 0 | 0 |

Lanes, Volumes, Timings
6: College Dr. & University Park Dr.

EAP (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (vph) | 1 | 3 | 2 | 11 | 20 | 63 | 1 | 44 | 22 | 20 | 13 | 1 |
| Future Volume (vph) | 1 | 3 | 2 | 11 | 20 | 63 | 1 | 44 | 22 | 20 | 13 | 1 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Link Speed (mph) | | 35 | | | 35 | | | 40 | | | 40 | |
| Link Distance (ft) | | 974 | | | 473 | | | 829 | | | 921 | |
| Travel Time (s) | | 19.0 | | | 9.2 | | | 14.1 | | | 15.7 | |
| Peak Hour Factor | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 |
| Adj. Flow (vph) | 1 | 4 | 3 | 16 | 29 | 93 | 1 | 65 | 32 | 29 | 19 | 1 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 8 | 0 | 0 | 138 | 0 | 0 | 98 | 0 | 0 | 49 | 0 |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 3.5 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 8 | 138 | 98 | 49 |
| Demand Flow Rate, veh/h | 8 | 141 | 100 | 50 |
| Vehicles Circulating, veh/h | 65 | 68 | 35 | 47 |
| Vehicles Exiting, veh/h | 32 | 67 | 38 | 162 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 2.9 | 3.7 | 3.4 | 3.1 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 8 | 141 | 100 | 50 |
| Cap Entry Lane, veh/h | 1291 | 1287 | 1331 | 1315 |
| Entry HV Adj Factor | 0.990 | 0.982 | 0.977 | 0.973 |
| Flow Entry, veh/h | 8 | 138 | 98 | 49 |
| Cap Entry, veh/h | 1279 | 1264 | 1301 | 1279 |
| V/C Ratio | 0.006 | 0.110 | 0.075 | 0.038 |
| Control Delay, s/veh | 2.9 | 3.7 | 3.4 | 3.1 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 0 | 0 | 0 | 0 |

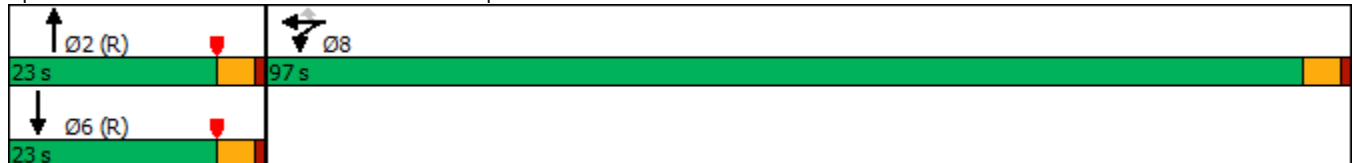
Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

EAP (2024) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|-------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 1261 | 0 | 136 | 0 | 362 | 323 | 0 | 433 | 61 |
| Future Volume (vph) | 0 | 0 | 0 | 1261 | 0 | 136 | 0 | 362 | 323 | 0 | 433 | 61 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 10.9 | | | 9.7 | |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 0 | 0 | 0 | 1596 | 0 | 172 | 0 | 458 | 409 | 0 | 548 | 77 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 1596 | 172 | 0 | 458 | 409 | 0 | 625 | 0 |
| Turn Type | | | | Split | NA | Perm | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | Free | | | |
| Detector Phase | | | | 8 | 8 | 8 | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | 5.0 | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 97.0 | 97.0 | 97.0 | | 23.0 | | | 23.0 | |
| Total Split (%) | | | | 80.8% | 80.8% | 80.8% | | 19.2% | | | 19.2% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | None | | C-Max | | | C-Max | |



















Intersection Summary
 Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

EAP (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | |  |  | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1261 | 0 | 136 | 0 | 362 | 323 | 0 | 433 | 61 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1261 | 0 | 136 | 0 | 362 | 323 | 0 | 433 | 61 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 1596 | 0 | 172 | 0 | 458 | 0 | 0 | 548 | 77 |
| Peak Hour Factor | | | | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 1373 | 0 | 1222 | 0 | 548 | | 0 | 699 | 97 |
| Arrive On Green | | | | 0.77 | 0.00 | 0.77 | 0.00 | 0.31 | 0.00 | 0.00 | 0.15 | 0.15 |
| Sat Flow, veh/h | | | | 1781 | 0 | 1585 | 0 | 3647 | 1585 | 0 | 4702 | 628 |
| Grp Volume(v), veh/h | | | | 1596 | 0 | 172 | 0 | 458 | 0 | 0 | 409 | 216 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 0 | 1585 | 0 | 1777 | 1585 | 0 | 1702 | 1757 |
| Q Serve(g_s), s | | | | 92.5 | 0.0 | 3.3 | 0.0 | 14.4 | 0.0 | 0.0 | 13.9 | 14.2 |
| Cycle Q Clear(g_c), s | | | | 92.5 | 0.0 | 3.3 | 0.0 | 14.4 | 0.0 | 0.0 | 13.9 | 14.2 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 1.00 | 0.00 | | 0.36 |
| Lane Grp Cap(c), veh/h | | | | 1373 | 0 | 1222 | 0 | 548 | | 0 | 525 | 271 |
| V/C Ratio(X) | | | | 1.16 | 0.00 | 0.14 | 0.00 | 0.84 | | 0.00 | 0.78 | 0.80 |
| Avail Cap(c_a), veh/h | | | | 1373 | 0 | 1222 | 0 | 548 | | 0 | 525 | 271 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 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 | | | | 13.8 | 0.0 | 3.5 | 0.0 | 40.1 | 0.0 | 0.0 | 48.8 | 48.9 |
| Incr Delay (d2), s/veh | | | | 81.5 | 0.0 | 0.1 | 0.0 | 12.1 | 0.0 | 0.0 | 11.0 | 21.1 |
| 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 | | | | 59.5 | 0.0 | 0.9 | 0.0 | 6.2 | 0.0 | 0.0 | 6.6 | 7.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 95.2 | 0.0 | 3.6 | 0.0 | 52.2 | 0.0 | 0.0 | 59.7 | 70.0 |
| LnGrp LOS | | | | F | A | A | A | D | | A | E | E |
| Approach Vol, veh/h | | | | | 1768 | | | 458 | | | 625 | |
| Approach Delay, s/veh | | | | | 86.3 | | | 52.2 | | | 63.3 | |
| Approach LOS | | | | | F | | | D | | | E | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 23.0 | | | | 23.0 | | 97.0 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 18.5 | | | | 18.5 | | 92.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 16.4 | | | | 16.2 | | 94.5 | | | | |
| Green Ext Time (p_c), s | | 0.6 | | | | 0.9 | | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 75.8 | | | | | | | | |
| HCM 6th LOS | | | | E | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
7: Cook St. & I-10 EB Ramps

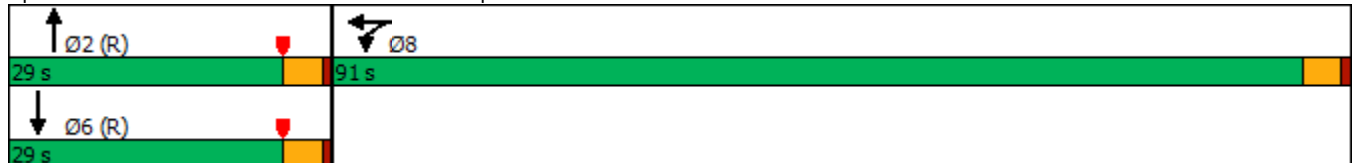
EAP (2024) AM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 1261 | 0 | 136 | 0 | 362 | 323 | 0 | 433 | 61 |
| Future Volume (vph) | 0 | 0 | 0 | 1261 | 0 | 136 | 0 | 362 | 323 | 0 | 433 | 61 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 1 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 10.9 | | | 9.7 | |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 0 | 0 | 0 | 1596 | 0 | 172 | 0 | 458 | 409 | 0 | 548 | 77 |
| Shared Lane Traffic (%) | | | | 44% | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 894 | 874 | 0 | 0 | 458 | 409 | 0 | 625 | 0 |
| Turn Type | | | | Split | NA | | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | Free | | | |
| Detector Phase | | | | 8 | 8 | | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 91.0 | 91.0 | | | 29.0 | | | 29.0 | |
| Total Split (%) | | | | 75.8% | 75.8% | | | 24.2% | | | 24.2% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | 4.5 | 4.5 | | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | | | C-Max | | | C-Max | |

Intersection Summary



















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
7: Cook St. & I-10 EB Ramps

EAP (2024) AM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  | | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1261 | 0 | 136 | 0 | 362 | 323 | 0 | 433 | 61 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1261 | 0 | 136 | 0 | 362 | 323 | 0 | 433 | 61 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 1757 | 0 | 0 | 0 | 458 | 0 | 0 | 548 | 77 |
| Peak Hour Factor | | | | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 1941 | 1019 | 0 | 0 | 1351 | | 0 | 1724 | 239 |
| Arrive On Green | | | | 0.54 | 0.00 | 0.00 | 0.00 | 0.76 | 0.00 | 0.00 | 0.38 | 0.38 |
| Sat Flow, veh/h | | | | 3563 | 1870 | 0 | 0 | 3647 | 1585 | 0 | 4702 | 628 |
| Grp Volume(v), veh/h | | | | 1757 | 0 | 0 | 0 | 458 | 0 | 0 | 409 | 216 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 1870 | 0 | 0 | 1777 | 1585 | 0 | 1702 | 1757 |
| Q Serve(g_s), s | | | | 53.2 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 10.2 | 10.4 |
| Cycle Q Clear(g_c), s | | | | 53.2 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 10.2 | 10.4 |
| Prop In Lane | | | | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 0.36 |
| Lane Grp Cap(c), veh/h | | | | 1941 | 1019 | 0 | 0 | 1351 | | 0 | 1294 | 668 |
| V/C Ratio(X) | | | | 0.91 | 0.00 | 0.00 | 0.00 | 0.34 | | 0.00 | 0.32 | 0.32 |
| Avail Cap(c_a), veh/h | | | | 2568 | 1348 | 0 | 0 | 1351 | | 0 | 1294 | 668 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 0.00 | 0.84 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 24.5 | 0.0 | 0.0 | 0.0 | 9.5 | 0.0 | 0.0 | 26.2 | 26.3 |
| Incr Delay (d2), s/veh | | | | 4.1 | 0.0 | 0.0 | 0.0 | 0.6 | 0.0 | 0.0 | 0.6 | 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 |
| %ile BackOfQ(50%),veh/ln | | | | 22.4 | 0.0 | 0.0 | 0.0 | 1.7 | 0.0 | 0.0 | 4.2 | 4.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 28.6 | 0.0 | 0.0 | 0.0 | 10.1 | 0.0 | 0.0 | 26.8 | 27.6 |
| LnGrp LOS | | | | C | A | A | A | B | | A | C | C |
| Approach Vol, veh/h | | | | | 1757 | | | 458 | | | 625 | |
| Approach Delay, s/veh | | | | | 28.6 | | | 10.1 | | | 27.1 | |
| Approach LOS | | | | | C | | | B | | | C | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 50.1 | | | | 50.1 | | 69.9 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 24.5 | | | | 24.5 | | 86.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 7.0 | | | | 12.4 | | 55.2 | | | | |
| Green Ext Time (p_c), s | | 2.7 | | | | 3.1 | | 10.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 25.3 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

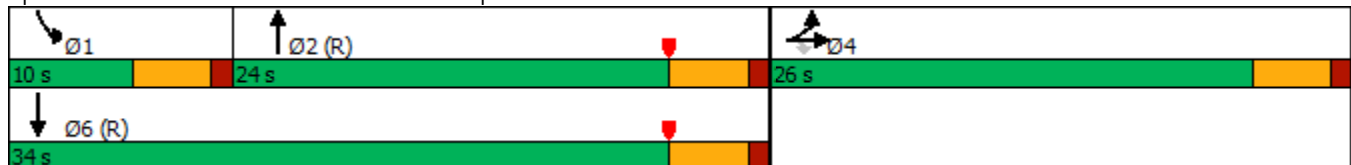
EAP (2024) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 117 | 1 | 817 | 0 | 0 | 0 | 0 | 568 | 352 | 88 | 1606 | 0 |
| Future Volume (vph) | 117 | 1 | 817 | 0 | 0 | 0 | 0 | 568 | 352 | 88 | 1606 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 0 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 0 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 14.8 | | | 10.9 | |
| 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 |
| Adj. Flow (vph) | 138 | 1 | 961 | 0 | 0 | 0 | 0 | 668 | 414 | 104 | 1889 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 138 | 482 | 480 | 0 | 0 | 0 | 0 | 1082 | 0 | 104 | 1889 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 26.0 | 26.0 | 26.0 | | | | | 24.0 | | 10.0 | 34.0 | |
| Total Split (%) | 43.3% | 43.3% | 43.3% | | | | | 40.0% | | 16.7% | 56.7% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary





















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

EAP (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |  |  |  |  |  |
| Traffic Volume (veh/h) | 117 | 1 | 817 | 0 | 0 | 0 | 0 | 568 | 352 | 88 | 1606 | 0 |
| Future Volume (veh/h) | 117 | 1 | 817 | 0 | 0 | 0 | 0 | 568 | 352 | 88 | 1606 | 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 | 138 | 0 | 962 | | | | 0 | 668 | 414 | 104 | 1889 | 0 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | | | | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 606 | 0 | 1079 | | | | 0 | 1225 | 571 | 133 | 2602 | 0 |
| Arrive On Green | 0.34 | 0.00 | 0.34 | | | | 0.00 | 0.36 | 0.36 | 0.07 | 0.51 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 3572 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 138 | 0 | 962 | | | | 0 | 668 | 414 | 104 | 1889 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 3.3 | 0.0 | 17.2 | | | | 0.0 | 9.4 | 13.6 | 3.4 | 17.3 | 0.0 |
| Cycle Q Clear(g_c), s | 3.3 | 0.0 | 17.2 | | | | 0.0 | 9.4 | 13.6 | 3.4 | 17.3 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 606 | 0 | 1079 | | | | 0 | 1225 | 571 | 133 | 2602 | 0 |
| V/C Ratio(X) | 0.23 | 0.00 | 0.89 | | | | 0.00 | 0.55 | 0.73 | 0.78 | 0.73 | 0.00 |
| Avail Cap(c_a), veh/h | 638 | 0 | 1136 | | | | 0 | 1225 | 571 | 163 | 2602 | 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 | 0.51 | 0.51 | 0.00 |
| Uniform Delay (d), s/veh | 14.2 | 0.0 | 18.7 | | | | 0.0 | 15.3 | 16.6 | 27.3 | 11.4 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 8.8 | | | | 0.0 | 1.7 | 7.8 | 9.7 | 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 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 0.0 | 6.9 | | | | 0.0 | 3.4 | 5.5 | 1.7 | 5.3 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 14.3 | 0.0 | 27.6 | | | | 0.0 | 17.0 | 24.5 | 37.0 | 12.4 | 0.0 |
| LnGrp LOS | B | A | C | | | | A | B | C | D | B | A |
| Approach Vol, veh/h | | 1100 | | | | | | 1082 | | | 1993 | |
| Approach Delay, s/veh | | 25.9 | | | | | | 19.9 | | | 13.7 | |
| Approach LOS | | C | | | | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | 4 | 6 | | | | | | | | |
| Phs Duration (G+Y+Rc), s | 9.0 | 26.1 | 24.9 | 35.1 | | | | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | | |
| Max Green Setting (Gmax), s | 5.5 | 19.5 | 21.5 | 29.5 | | | | | | | | |
| Max Q Clear Time (g_c+I1), s | 5.4 | 15.6 | 19.2 | 19.3 | | | | | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.4 | 1.2 | 8.0 | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 18.5 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |

Lanes, Volumes, Timings
9: Cook St. & Gerald Ford Dr.

EAP (2024) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 273 | 107 | 105 | 30 | 245 | 119 | 120 | 515 | 29 | 173 | 1350 | 501 |
| Future Volume (vph) | 273 | 107 | 105 | 30 | 245 | 119 | 120 | 515 | 29 | 173 | 1350 | 501 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 225 | | 230 | 160 | | 200 | 210 | | 120 | 290 | | 360 |
| Storage Lanes | 2 | | 0 | 2 | | 1 | 2 | | 1 | 2 | | 1 |
| Taper Length (ft) | 130 | | | 160 | | | 140 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 936 | | | 424 | | | 1144 | | | 831 | |
| Travel Time (s) | | 16.0 | | | 5.8 | | | 14.2 | | | 10.3 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Adj. Flow (vph) | 325 | 127 | 125 | 36 | 292 | 142 | 143 | 613 | 35 | 206 | 1607 | 596 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 325 | 127 | 125 | 36 | 292 | 142 | 143 | 613 | 35 | 206 | 1607 | 596 |
| Turn Type | Prot | NA | Free | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 |
| Total Split (s) | 23.0 | 36.0 | | 10.0 | 23.0 | 23.0 | 14.4 | 56.0 | 56.0 | 18.0 | 59.6 | 59.6 |
| Total Split (%) | 19.2% | 30.0% | | 8.3% | 19.2% | 19.2% | 12.0% | 46.7% | 46.7% | 15.0% | 49.7% | 49.7% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |

























Intersection Summary
 Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 9: Cook St. & Gerald Ford Dr.



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

EAP (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 273 | 107 | 105 | 30 | 245 | 119 | 120 | 515 | 29 | 173 | 1350 | 501 |
| Future Volume (veh/h) | 273 | 107 | 105 | 30 | 245 | 119 | 120 | 515 | 29 | 173 | 1350 | 501 |
| 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 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 325 | 127 | 0 | 36 | 292 | 142 | 143 | 613 | 35 | 206 | 1607 | 596 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 391 | 722 | | 101 | 424 | 187 | 199 | 2760 | 854 | 266 | 2859 | 885 |
| Arrive On Green | 0.11 | 0.20 | 0.00 | 0.03 | 0.12 | 0.12 | 0.06 | 0.54 | 0.54 | 0.08 | 0.56 | 0.56 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1565 | 3456 | 5106 | 1581 | 3456 | 5106 | 1581 |
| Grp Volume(v), veh/h | 325 | 127 | 0 | 36 | 292 | 142 | 143 | 613 | 35 | 206 | 1607 | 596 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1565 | 1728 | 1702 | 1581 | 1728 | 1702 | 1581 |
| Q Serve(g_s), s | 11.0 | 3.5 | 0.0 | 1.2 | 9.5 | 10.5 | 4.9 | 7.5 | 1.2 | 7.0 | 24.3 | 32.0 |
| Cycle Q Clear(g_c), s | 11.0 | 3.5 | 0.0 | 1.2 | 9.5 | 10.5 | 4.9 | 7.5 | 1.2 | 7.0 | 24.3 | 32.0 |
| 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 | 391 | 722 | | 101 | 424 | 187 | 199 | 2760 | 854 | 266 | 2859 | 885 |
| V/C Ratio(X) | 0.83 | 0.18 | | 0.36 | 0.69 | 0.76 | 0.72 | 0.22 | 0.04 | 0.77 | 0.56 | 0.67 |
| Avail Cap(c_a), veh/h | 533 | 933 | | 158 | 548 | 241 | 285 | 2760 | 854 | 389 | 2859 | 885 |
| HCM Platoon Ratio | 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) | 0.98 | 0.98 | 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 | 52.1 | 39.5 | 0.0 | 57.2 | 50.7 | 51.2 | 55.6 | 14.4 | 13.0 | 54.3 | 17.0 | 18.7 |
| Incr Delay (d2), s/veh | 7.8 | 0.1 | 0.0 | 2.1 | 2.5 | 10.0 | 4.8 | 0.2 | 0.1 | 5.7 | 0.8 | 4.1 |
| 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 | 5.1 | 1.5 | 0.0 | 0.5 | 4.2 | 4.5 | 2.2 | 2.7 | 0.4 | 3.1 | 8.5 | 11.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 59.9 | 39.6 | 0.0 | 59.3 | 53.2 | 61.2 | 60.4 | 14.6 | 13.0 | 60.1 | 17.8 | 22.7 |
| LnGrp LOS | E | D | | E | D | E | E | B | B | E | B | C |
| Approach Vol, veh/h | | 452 | | | 470 | | | 791 | | | 2409 | |
| Approach Delay, s/veh | | 54.2 | | | 56.1 | | | 22.8 | | | 22.6 | |
| Approach LOS | | D | | | E | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 13.8 | 69.4 | 8.0 | 28.9 | 11.4 | 71.7 | 18.1 | 18.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 13.5 | 51.5 | 5.5 | 31.5 | 9.9 | 55.1 | 18.5 | 18.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 9.0 | 9.5 | 3.2 | 5.5 | 6.9 | 34.0 | 13.0 | 12.5 | | | | |
| Green Ext Time (p_c), s | 0.2 | 4.1 | 0.0 | 0.7 | 0.1 | 13.3 | 0.5 | 1.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | | | | | | | | 29.9 | |
| 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. | | | | | | | | | | | | |

Lanes, Volumes, Timings
 10: Cook St. & University Park Dr./Berger Dr. W.

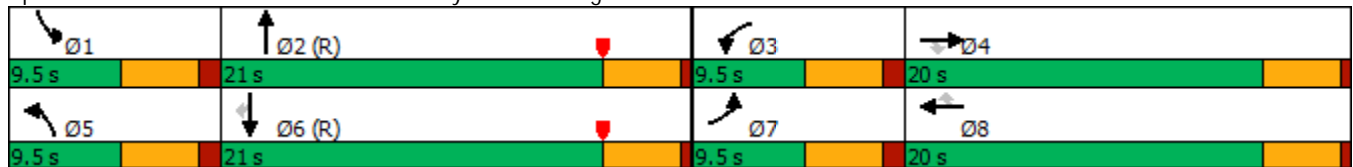
EAP (2024) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 32 | 1 | 26 | 3 | 2 | 10 | 66 | 736 | 10 | 49 | 1519 | 26 |
| Future Volume (vph) | 32 | 1 | 26 | 3 | 2 | 10 | 66 | 736 | 10 | 49 | 1519 | 26 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 180 | | 180 | 100 | | 0 | 140 | | 140 | 225 | | 295 |
| Storage Lanes | 1 | | 1 | 0 | | 1 | 1 | | 1 | 2 | | 0 |
| Taper Length (ft) | 90 | | | 0 | | | 160 | | | 165 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 35 | | | 35 | | | 55 | | | 55 | |
| Link Distance (ft) | | 473 | | | 452 | | | 1623 | | | 476 | |
| Travel Time (s) | | 9.2 | | | 8.8 | | | 20.1 | | | 5.9 | |
| 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 |
| Adj. Flow (vph) | 36 | 1 | 29 | 3 | 2 | 11 | 73 | 818 | 11 | 54 | 1688 | 29 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 36 | 1 | 29 | 3 | 2 | 11 | 73 | 818 | 11 | 54 | 1688 | 29 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Free | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | | 9.5 | 20.0 | 20.0 |
| Total Split (s) | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | 20.0 | 9.5 | 21.0 | | 9.5 | 21.0 | 21.0 |
| Total Split (%) | 15.8% | 33.3% | 33.3% | 15.8% | 33.3% | 33.3% | 15.8% | 35.0% | | 15.8% | 35.0% | 35.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Cook St. & University Park Dr./Berger Dr. W.



HCM 6th Signalized Intersection Summary
 10: Cook St. & University Park Dr./Berger Dr. W.

EAP (2024) AM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | ↖ | ↑ | ↗ | ↖ | ↑ | ↗ | ↖ | ↑↑↑ | ↗ | ↖↗ | ↑↑↑ | ↗ |
| Traffic Volume (veh/h) | 32 | 1 | 26 | 3 | 2 | 10 | 66 | 736 | 10 | 49 | 1519 | 26 |
| Future Volume (veh/h) | 32 | 1 | 26 | 3 | 2 | 10 | 66 | 736 | 10 | 49 | 1519 | 26 |
| 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 | 36 | 1 | 29 | 3 | 2 | 0 | 73 | 818 | 0 | 54 | 1688 | 29 |
| 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 | 67 | 118 | 100 | 7 | 55 | | 104 | 3064 | | 171 | 3017 | 937 |
| Arrive On Green | 0.04 | 0.06 | 0.06 | 0.00 | 0.03 | 0.00 | 0.12 | 1.00 | 0.00 | 0.05 | 0.59 | 0.59 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 36 | 1 | 29 | 3 | 2 | 0 | 73 | 818 | 0 | 54 | 1688 | 29 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 1.2 | 0.0 | 1.0 | 0.1 | 0.1 | 0.0 | 2.4 | 0.0 | 0.0 | 0.9 | 12.1 | 0.5 |
| Cycle Q Clear(g_c), s | 1.2 | 0.0 | 1.0 | 0.1 | 0.1 | 0.0 | 2.4 | 0.0 | 0.0 | 0.9 | 12.1 | 0.5 |
| 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 | 67 | 118 | 100 | 7 | 55 | | 104 | 3064 | | 171 | 3017 | 937 |
| V/C Ratio(X) | 0.54 | 0.01 | 0.29 | 0.41 | 0.04 | | 0.70 | 0.27 | | 0.32 | 0.56 | 0.03 |
| Avail Cap(c_a), veh/h | 148 | 499 | 423 | 148 | 499 | | 148 | 3064 | | 288 | 3017 | 937 |
| 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 | 1.00 | 1.00 | 0.00 | 0.86 | 0.86 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.4 | 26.4 | 26.8 | 29.8 | 28.3 | 0.0 | 26.0 | 0.0 | 0.0 | 27.5 | 7.5 | 5.1 |
| Incr Delay (d2), s/veh | 6.5 | 0.0 | 1.6 | 33.7 | 0.3 | 0.0 | 7.1 | 0.2 | 0.0 | 1.0 | 0.8 | 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 | 0.6 | 0.0 | 0.4 | 0.1 | 0.0 | 0.0 | 1.0 | 0.1 | 0.0 | 0.3 | 2.6 | 0.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.9 | 26.4 | 28.4 | 63.5 | 28.6 | 0.0 | 33.0 | 0.2 | 0.0 | 28.6 | 8.3 | 5.2 |
| LnGrp LOS | C | C | C | E | C | | C | A | | C | A | A |
| Approach Vol, veh/h | | 66 | | | 5 | | | 891 | | | 1771 | |
| Approach Delay, s/veh | | 31.9 | | | 49.5 | | | 2.9 | | | 8.8 | |
| Approach LOS | | C | | | D | | | A | | | A | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 7.5 | 40.0 | 4.7 | 7.8 | 8.0 | 39.5 | 6.8 | 5.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 17.0 | 5.0 | 16.0 | 5.0 | 17.0 | 5.0 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 2.0 | 2.1 | 3.0 | 4.4 | 14.1 | 3.2 | 2.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.3 | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | | | | |

Intersection Summary

| | |
|--------------------|-----|
| HCM 6th Ctrl Delay | 7.5 |
| HCM 6th LOS | A |

Notes

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

Lanes, Volumes, Timings
11: Cook St. & Frank Sinatra Dr.

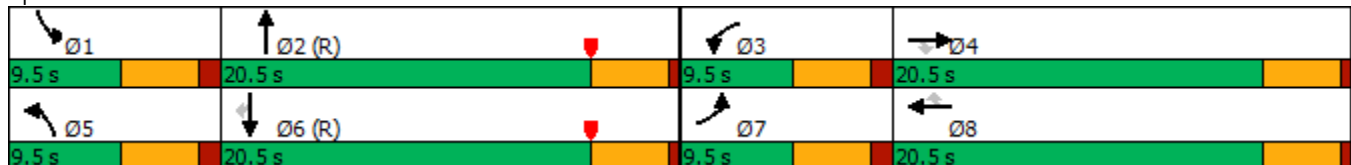
EAP (2024) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 174 | 120 | 123 | 59 | 242 | 63 | 104 | 621 | 51 | 47 | 1085 | 405 |
| Future Volume (vph) | 174 | 120 | 123 | 59 | 242 | 63 | 104 | 621 | 51 | 47 | 1085 | 405 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | | 135 | 135 | | 260 | 140 | | 0 | 210 | | 220 |
| Storage Lanes | 2 | | 1 | 2 | | 1 | 2 | | 0 | 2 | | 1 |
| Taper Length (ft) | 120 | | | 110 | | | 110 | | | 140 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 50 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 1477 | | | 944 | | | 330 | | | 1623 | |
| Travel Time (s) | | 20.1 | | | 12.9 | | | 4.1 | | | 20.1 | |
| 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 |
| Adj. Flow (vph) | 191 | 132 | 135 | 65 | 266 | 69 | 114 | 682 | 56 | 52 | 1192 | 445 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 191 | 132 | 135 | 65 | 266 | 69 | 114 | 738 | 0 | 52 | 1192 | 445 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (%) | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | | 15.8% | 34.2% | 34.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0.5 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Cook St. & Frank Sinatra Dr.



HCM 6th Signalized Intersection Summary
 11: Cook St. & Frank Sinatra Dr.

EAP (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 174 | 120 | 123 | 59 | 242 | 63 | 104 | 621 | 51 | 47 | 1085 | 405 |
| Future Volume (veh/h) | 174 | 120 | 123 | 59 | 242 | 63 | 104 | 621 | 51 | 47 | 1085 | 405 |
| 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 | 132 | 135 | 65 | 266 | 69 | 114 | 682 | 56 | 52 | 1192 | 445 |
| 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 | 288 | 540 | 241 | 191 | 440 | 196 | 245 | 1534 | 126 | 167 | 2240 | 695 |
| Arrive On Green | 0.08 | 0.15 | 0.15 | 0.06 | 0.12 | 0.12 | 0.07 | 0.46 | 0.46 | 0.10 | 0.88 | 0.88 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1585 | 3456 | 3325 | 273 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 191 | 132 | 135 | 65 | 266 | 69 | 114 | 364 | 374 | 52 | 1192 | 445 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1585 | 1728 | 1777 | 1821 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 3.2 | 2.0 | 4.7 | 1.1 | 4.3 | 2.4 | 1.9 | 8.3 | 8.3 | 0.8 | 3.2 | 4.7 |
| Cycle Q Clear(g_c), s | 3.2 | 2.0 | 4.7 | 1.1 | 4.3 | 2.4 | 1.9 | 8.3 | 8.3 | 0.8 | 3.2 | 4.7 |
| 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 | 288 | 540 | 241 | 191 | 440 | 196 | 245 | 820 | 840 | 167 | 2240 | 695 |
| V/C Ratio(X) | 0.66 | 0.24 | 0.56 | 0.34 | 0.60 | 0.35 | 0.47 | 0.44 | 0.44 | 0.31 | 0.53 | 0.64 |
| Avail Cap(c_a), veh/h | 288 | 977 | 436 | 288 | 977 | 436 | 288 | 820 | 840 | 288 | 2240 | 695 |
| 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 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.87 | 0.87 | 0.87 |
| Uniform Delay (d), s/veh | 26.7 | 22.4 | 23.6 | 27.3 | 24.9 | 24.1 | 26.8 | 11.0 | 11.0 | 26.2 | 2.3 | 2.4 |
| Incr Delay (d2), s/veh | 5.6 | 0.2 | 2.0 | 1.1 | 1.3 | 1.1 | 1.4 | 1.7 | 1.7 | 0.9 | 0.8 | 3.9 |
| 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 | 1.4 | 0.7 | 1.7 | 0.4 | 1.6 | 0.8 | 0.7 | 2.7 | 2.7 | 0.3 | 0.7 | 1.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 32.3 | 22.6 | 25.6 | 28.4 | 26.2 | 25.2 | 28.2 | 12.7 | 12.7 | 27.1 | 3.1 | 6.3 |
| LnGrp LOS | C | C | C | C | C | C | C | B | B | C | A | A |
| Approach Vol, veh/h | | 458 | | | 400 | | | 852 | | | 1689 | |
| Approach Delay, s/veh | | 27.5 | | | 26.4 | | | 14.7 | | | 4.6 | |
| Approach LOS | | C | | | C | | | B | | | A | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 7.4 | 31.7 | 7.8 | 13.1 | 8.8 | 30.3 | 9.5 | 11.4 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 16.5 | 5.0 | 16.5 | 5.0 | 16.5 | 5.0 | 16.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.8 | 10.3 | 3.1 | 6.7 | 3.9 | 6.7 | 5.2 | 6.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 2.0 | 0.0 | 0.7 | 0.0 | 5.9 | 0.0 | 1.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 12.8 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved pedestrian interval to be less than phase max green. | | | | | | | | | | | | |

Lanes, Volumes, Timings
 12: Main Dwy. & Gerald Ford Dr.

EAP (2024) AM Peak Hour

| | → | ↘ | ↙ | ← | ↖ | ↗ |
|-----------------------------|--------------|------|------|------|------|------|
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑↑ | ↑ | | ↑↑↑ | | ↑ |
| Traffic Volume (vph) | 376 | 28 | 0 | 688 | 0 | 38 |
| Future Volume (vph) | 376 | 28 | 0 | 688 | 0 | 38 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 150 | 0 | | 0 | 0 |
| Storage Lanes | | 1 | 0 | | 0 | 1 |
| Taper Length (ft) | | | 90 | | 90 | |
| Link Speed (mph) | 40 | | | 40 | 30 | |
| Link Distance (ft) | 1749 | | | 549 | 252 | |
| Travel Time (s) | 29.8 | | | 9.4 | 5.7 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 409 | 30 | 0 | 748 | 0 | 41 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 409 | 30 | 0 | 748 | 0 | 41 |
| Sign Control | Free | | | Free | Stop | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |
| Control Type: | Unsignalized | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.4 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑↑ | ↑ | | ↑↑↑ | | ↑ |
| Traffic Vol, veh/h | 376 | 28 | 0 | 688 | 0 | 38 |
| Future Vol, veh/h | 376 | 28 | 0 | 688 | 0 | 38 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 150 | - | - | - | 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 | 409 | 30 | 0 | 748 | 0 | 41 |

| Major/Minor | Major1 | Major2 | Minor1 | | | |
|----------------------|--------|--------|--------|---|---|------|
| Conflicting Flow All | 0 | 0 | - | - | - | 205 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 7.14 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.92 |
| Pot Cap-1 Maneuver | - | - | 0 | - | 0 | 682 |
| Stage 1 | - | - | 0 | - | 0 | - |
| Stage 2 | - | - | 0 | - | 0 | - |
| Platoon blocked, % | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | - | - | - | 682 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|----|------|
| HCM Control Delay, s | 0 | 0 | 10.6 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|-----------------------|-------|-----|-----|-----|
| Capacity (veh/h) | 682 | - | - | - |
| HCM Lane V/C Ratio | 0.061 | - | - | - |
| HCM Control Delay (s) | 10.6 | - | - | - |
| HCM Lane LOS | B | - | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | - |

Lanes, Volumes, Timings
1: Technology Dr. & Gerald Ford Dr.

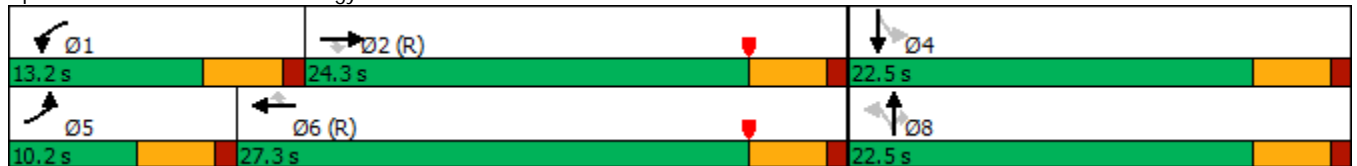
EAP (2024) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 38 | 689 | 16 | 85 | 422 | 38 | 76 | 19 | 94 | 72 | 16 | 48 |
| Future Volume (vph) | 38 | 689 | 16 | 85 | 422 | 38 | 76 | 19 | 94 | 72 | 16 | 48 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 185 | | 165 | 180 | | 120 | 102 | | 230 | 85 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 1 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 90 | | | 60 | | | 60 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | 35 | |
| Link Distance (ft) | | 549 | | | 936 | | | 343 | | | 642 | |
| Travel Time (s) | | 9.4 | | | 16.0 | | | 6.7 | | | 12.5 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 42 | 757 | 18 | 93 | 464 | 42 | 84 | 21 | 103 | 79 | 18 | 53 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 42 | 757 | 18 | 93 | 464 | 42 | 84 | 21 | 103 | 79 | 71 | 0 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 10.2 | 24.3 | 24.3 | 13.2 | 27.3 | 27.3 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (%) | 17.0% | 40.5% | 40.5% | 22.0% | 45.5% | 45.5% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | Max | Max | Max | Max | Max | Max |

Intersection Summary





























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 35 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Technology Dr. & Gerald Ford Dr.























HCM 6th Signalized Intersection Summary
1: Technology Dr. & Gerald Ford Dr.

EAP (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |    |  |  |    |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 38 | 689 | 16 | 85 | 422 | 38 | 76 | 19 | 94 | 72 | 16 | 48 |
| Future Volume (veh/h) | 38 | 689 | 16 | 85 | 422 | 38 | 76 | 19 | 94 | 72 | 16 | 48 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 757 | 18 | 93 | 464 | 42 | 84 | 21 | 103 | 79 | 18 | 53 |
| 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 | 75 | 2081 | 642 | 120 | 2211 | 682 | 475 | 561 | 473 | 488 | 125 | 368 |
| Arrive On Green | 0.04 | 0.41 | 0.41 | 0.07 | 0.43 | 0.43 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 5106 | 1575 | 1781 | 5106 | 1576 | 1324 | 1870 | 1577 | 1262 | 416 | 1226 |
| Grp Volume(v), veh/h | 42 | 757 | 18 | 93 | 464 | 42 | 84 | 21 | 103 | 79 | 0 | 71 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1575 | 1781 | 1702 | 1576 | 1324 | 1870 | 1577 | 1262 | 0 | 1642 |
| Q Serve(g_s), s | 1.4 | 6.2 | 0.4 | 3.1 | 3.4 | 0.9 | 3.0 | 0.5 | 2.9 | 2.8 | 0.0 | 1.9 |
| Cycle Q Clear(g_c), s | 1.4 | 6.2 | 0.4 | 3.1 | 3.4 | 0.9 | 4.9 | 0.5 | 2.9 | 3.3 | 0.0 | 1.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.75 |
| Lane Grp Cap(c), veh/h | 75 | 2081 | 642 | 120 | 2211 | 682 | 475 | 561 | 473 | 488 | 0 | 493 |
| V/C Ratio(X) | 0.56 | 0.36 | 0.03 | 0.77 | 0.21 | 0.06 | 0.18 | 0.04 | 0.22 | 0.16 | 0.00 | 0.14 |
| Avail Cap(c_a), veh/h | 169 | 2081 | 642 | 258 | 2211 | 682 | 475 | 561 | 473 | 488 | 0 | 493 |
| HCM Platoon Ratio | 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 | 0.90 | 0.90 | 0.90 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.2 | 12.4 | 10.7 | 27.5 | 10.6 | 9.9 | 17.1 | 14.9 | 15.7 | 16.0 | 0.0 | 15.4 |
| Incr Delay (d2), s/veh | 6.5 | 0.5 | 0.1 | 9.2 | 0.2 | 0.2 | 0.8 | 0.1 | 1.1 | 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 0.7 | 2.0 | 0.1 | 1.5 | 1.1 | 0.3 | 0.9 | 0.2 | 1.1 | 0.8 | 0.0 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.7 | 12.9 | 10.7 | 36.7 | 10.8 | 10.1 | 18.0 | 15.0 | 16.8 | 16.7 | 0.0 | 16.0 |
| LnGrp LOS | C | B | B | D | B | B | B | B | B | B | A | B |
| Approach Vol, veh/h | | 817 | | | 599 | | | 208 | | | 150 | |
| Approach Delay, s/veh | | 13.9 | | | 14.8 | | | 17.1 | | | 16.4 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 8.5 | 29.0 | | 22.5 | 7.0 | 30.5 | | 22.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 8.7 | 19.8 | | 18.0 | 5.7 | 22.8 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.1 | 8.2 | | 5.3 | 3.4 | 5.4 | | 6.9 | | | | |
| Green Ext Time (p_c), s | 0.1 | 3.8 | | 0.4 | 0.0 | 2.8 | | 0.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 14.8 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

Lanes, Volumes, Timings
 2: Technology Dr. & E. Dwy/The Village W. Dwy.

EAP (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | |  |  |  |  |  |  |
| Traffic Volume (vph) | 63 | 1 | 16 | 6 | 1 | 54 | 14 | 72 | 10 | 15 | 27 | 75 |
| Future Volume (vph) | 63 | 1 | 16 | 6 | 1 | 54 | 14 | 72 | 10 | 15 | 27 | 75 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 150 | | 175 | 55 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 0 | 1 | | 1 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 60 | | | 60 | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | | 30 |
| Link Distance (ft) | | 216 | | | 313 | | | 338 | | | | 343 |
| Travel Time (s) | | 4.9 | | | 7.1 | | | 7.7 | | | | 7.8 |
| 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 |
| Adj. Flow (vph) | 67 | 1 | 17 | 6 | 1 | 57 | 15 | 77 | 11 | 16 | 29 | 80 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 85 | 0 | 0 | 64 | 0 | 15 | 77 | 11 | 16 | 109 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM 6th TWSC
 2: Technology Dr. & E. Dwy/The Village W. Dwy.

EAP (2024) PM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↑ | ↑ | ↕ | ↕ | ↑ |
| Traffic Vol, veh/h | 63 | 1 | 16 | 6 | 1 | 54 | 14 | 72 | 10 | 15 | 27 | 75 |
| Future Vol, veh/h | 63 | 1 | 16 | 6 | 1 | 54 | 14 | 72 | 10 | 15 | 27 | 75 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 150 | - | 175 | 55 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 67 | 1 | 17 | 6 | 1 | 57 | 15 | 77 | 11 | 16 | 29 | 80 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 243 | 219 | 69 | 217 | 248 | 77 | 109 | 0 | 0 | 88 | 0 | 0 |
| Stage 1 | 101 | 101 | - | 107 | 107 | - | - | - | - | - | - | - |
| Stage 2 | 142 | 118 | - | 110 | 141 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 711 | 679 | 994 | 739 | 655 | 984 | 1481 | - | - | 1508 | - | - |
| Stage 1 | 905 | 811 | - | 898 | 807 | - | - | - | - | - | - | - |
| Stage 2 | 861 | 798 | - | 895 | 780 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 658 | 665 | 994 | 714 | 641 | 984 | 1481 | - | - | 1508 | - | - |
| Mov Cap-2 Maneuver | 658 | 665 | - | 714 | 641 | - | - | - | - | - | - | - |
| Stage 1 | 896 | 802 | - | 889 | 799 | - | - | - | - | - | - | - |
| Stage 2 | 801 | 790 | - | 869 | 771 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|-----|--|-----|--|----|--|
| HCM Control Delay, s | 10.8 | | 9.1 | | 1.1 | | 1 | |
| HCM LOS | B | | A | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h) | 1481 | - | - | 706 | 941 | 1508 | - |
| HCM Lane V/C Ratio | 0.01 | - | - | 0.121 | 0.069 | 0.011 | - |
| HCM Control Delay (s) | 7.5 | - | - | 10.8 | 9.1 | 7.4 | - |
| HCM Lane LOS | A | - | - | B | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.4 | 0.2 | 0 | - |

Lanes, Volumes, Timings
 3: College Dr. & Technology Dr.

EAP (2024) PM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 30 | 56 | 29 | 66 | 33 | 16 |
| Future Volume (vph) | 30 | 56 | 29 | 66 | 33 | 16 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 803 | 445 | | 338 | |
| Travel Time (s) | | 18.3 | 10.1 | | 7.7 | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 33 | 62 | 32 | 73 | 37 | 18 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 95 | 105 | 0 | 55 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary





















Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 3.3 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 95 | 105 | 55 |
| Demand Flow Rate, veh/h | 97 | 107 | 56 |
| Vehicles Circulating, veh/h | 38 | 34 | 33 |
| Vehicles Exiting, veh/h | 51 | 101 | 108 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.4 | 3.4 | 3.1 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 97 | 107 | 56 |
| Cap Entry Lane, veh/h | 1327 | 1333 | 1334 |
| Entry HV Adj Factor | 0.977 | 0.985 | 0.982 |
| Flow Entry, veh/h | 95 | 105 | 55 |
| Cap Entry, veh/h | 1297 | 1312 | 1310 |
| V/C Ratio | 0.073 | 0.080 | 0.042 |
| Control Delay, s/veh | 3.4 | 3.4 | 3.1 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 0 | 0 |

Lanes, Volumes, Timings
 4: University Dr./S. Dwy. & College Dr.

EAP (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  | | |  | |
| Traffic Volume (vph) | 14 | 48 | 7 | 4 | 21 | 20 | 5 | 1 | 6 | 32 | 1 | 47 |
| Future Volume (vph) | 14 | 48 | 7 | 4 | 21 | 20 | 5 | 1 | 6 | 32 | 1 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 150 | | 120 | 130 | | 0 | 100 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 0 | 0 | | 0 |
| Taper Length (ft) | 60 | | | 65 | | | 60 | | | 90 | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | | 30 |
| Link Distance (ft) | | 755 | | | 803 | | | 448 | | | | 197 |
| Travel Time (s) | | 17.2 | | | 18.3 | | | 10.2 | | | | 4.5 |
| 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 |
| Adj. Flow (vph) | 15 | 51 | 7 | 4 | 22 | 21 | 5 | 1 | 6 | 34 | 1 | 50 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 15 | 51 | 7 | 4 | 43 | 0 | 5 | 7 | 0 | 0 | 85 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | | Stop |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.8 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↖ | ↑ | ↗ | ↖ | ↑ | | ↖ | ↗ | | | ↕ | |
| Traffic Vol, veh/h | 14 | 48 | 7 | 4 | 21 | 20 | 5 | 1 | 6 | 32 | 1 | 47 |
| Future Vol, veh/h | 14 | 48 | 7 | 4 | 21 | 20 | 5 | 1 | 6 | 32 | 1 | 47 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | 120 | 130 | - | - | 100 | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 15 | 51 | 7 | 4 | 22 | 21 | 5 | 1 | 6 | 34 | 1 | 50 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 43 | 0 | 0 | 58 | 0 | 0 | 147 | 132 | 51 | 129 | 129 | 33 |
| Stage 1 | - | - | - | - | - | - | 81 | 81 | - | 41 | 41 | - |
| Stage 2 | - | - | - | - | - | - | 66 | 51 | - | 88 | 88 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1566 | - | - | 1546 | - | - | 821 | 759 | 1017 | 844 | 762 | 1041 |
| Stage 1 | - | - | - | - | - | - | 927 | 828 | - | 974 | 861 | - |
| Stage 2 | - | - | - | - | - | - | 945 | 852 | - | 920 | 822 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1566 | - | - | 1546 | - | - | 773 | 749 | 1017 | 830 | 752 | 1041 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 773 | 749 | - | 830 | 752 | - |
| Stage 1 | - | - | - | - | - | - | 918 | 820 | - | 964 | 858 | - |
| Stage 2 | - | - | - | - | - | - | 896 | 849 | - | 904 | 814 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|-----|--|--|-----|--|--|
| HCM Control Delay, s | 1.5 | | | 0.7 | | | 9.1 | | | 9.2 | | |
| HCM LOS | | | | | | | A | | | A | | |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 773 | 968 | 1566 | - | - | 1546 | - | - | 941 |
| HCM Lane V/C Ratio | 0.007 | 0.008 | 0.01 | - | - | 0.003 | - | - | 0.09 |
| HCM Control Delay (s) | 9.7 | 8.7 | 7.3 | - | - | 7.3 | - | - | 9.2 |
| HCM Lane LOS | A | A | A | - | - | A | - | - | A |
| HCM 95th %tile Q(veh) | 0 | 0 | 0 | - | - | 0 | - | - | 0.3 |

Lanes, Volumes, Timings
5: College Dr. & Pacific Av.

EAP (2024) PM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 4 | 60 | 53 | 21 | 9 | 9 |
| Future Volume (vph) | 4 | 60 | 53 | 21 | 9 | 9 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 711 | 644 | | 595 | |
| Travel Time (s) | | 16.2 | 14.6 | | 13.5 | |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 4 | 67 | 60 | 24 | 10 | 10 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 71 | 84 | 0 | 20 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

















Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 3.1 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 71 | 84 | 20 |
| Demand Flow Rate, veh/h | 72 | 85 | 20 |
| Vehicles Circulating, veh/h | 10 | 4 | 61 |
| Vehicles Exiting, veh/h | 71 | 78 | 28 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.1 | 3.1 | 2.9 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 72 | 85 | 20 |
| Cap Entry Lane, veh/h | 1366 | 1374 | 1297 |
| Entry HV Adj Factor | 0.981 | 0.986 | 1.000 |
| Flow Entry, veh/h | 71 | 84 | 20 |
| Cap Entry, veh/h | 1341 | 1355 | 1297 |
| V/C Ratio | 0.053 | 0.062 | 0.015 |
| Control Delay, s/veh | 3.1 | 3.1 | 2.9 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 0 | 0 |

Lanes, Volumes, Timings
6: College Dr. & University Park Dr.

EAP (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (vph) | 4 | 6 | 1 | 22 | 12 | 85 | 1 | 26 | 17 | 60 | 51 | 2 |
| Future Volume (vph) | 4 | 6 | 1 | 22 | 12 | 85 | 1 | 26 | 17 | 60 | 51 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 974 | | | 473 | | | 829 | | | 921 | |
| Travel Time (s) | | 22.1 | | | 10.8 | | | 18.8 | | | 20.9 | |
| 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 |
| Adj. Flow (vph) | 5 | 7 | 1 | 27 | 14 | 102 | 1 | 31 | 20 | 72 | 61 | 2 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 13 | 0 | 0 | 143 | 0 | 0 | 52 | 0 | 0 | 135 | 0 |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 3.6 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 13 | 143 | 52 | 135 |
| Demand Flow Rate, veh/h | 13 | 146 | 53 | 137 |
| Vehicles Circulating, veh/h | 163 | 38 | 85 | 43 |
| Vehicles Exiting, veh/h | 17 | 100 | 91 | 141 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 3.2 | 3.7 | 3.2 | 3.6 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 13 | 146 | 53 | 137 |
| Cap Entry Lane, veh/h | 1169 | 1327 | 1265 | 1321 |
| Entry HV Adj Factor | 0.989 | 0.978 | 0.988 | 0.984 |
| Flow Entry, veh/h | 13 | 143 | 52 | 135 |
| Cap Entry, veh/h | 1156 | 1298 | 1250 | 1299 |
| V/C Ratio | 0.011 | 0.110 | 0.042 | 0.104 |
| Control Delay, s/veh | 3.2 | 3.7 | 3.2 | 3.6 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 0 | 0 | 0 | 0 |

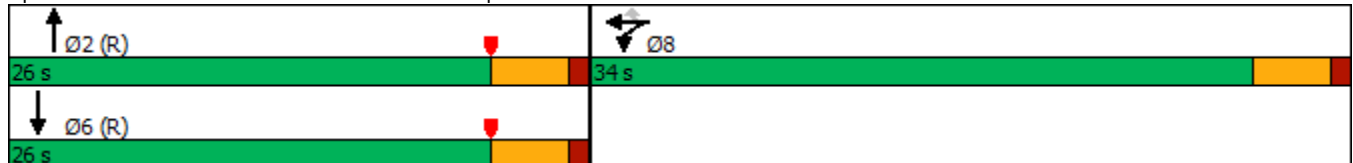
Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

EAP (2024) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|-------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 451 | 0 | 71 | 0 | 372 | 702 | 0 | 259 | 71 |
| Future Volume (vph) | 0 | 0 | 0 | 451 | 0 | 71 | 0 | 372 | 702 | 0 | 259 | 71 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 12.8 | | | 11.3 | |
| 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 |
| Adj. Flow (vph) | 0 | 0 | 0 | 485 | 0 | 76 | 0 | 400 | 755 | 0 | 278 | 76 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 485 | 76 | 0 | 400 | 755 | 0 | 354 | 0 |
| Turn Type | | | | Split | NA | Perm | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | Free | | | |
| Detector Phase | | | | 8 | 8 | 8 | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | 5.0 | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 34.0 | 34.0 | 34.0 | | 26.0 | | | 26.0 | |
| Total Split (%) | | | | 56.7% | 56.7% | 56.7% | | 43.3% | | | 43.3% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | None | | C-Max | | | C-Max | |



















Intersection Summary
 Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

EAP (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | |  |  | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 451 | 0 | 71 | 0 | 372 | 702 | 0 | 259 | 71 |
| Future Volume (veh/h) | 0 | 0 | 0 | 451 | 0 | 71 | 0 | 372 | 702 | 0 | 259 | 71 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 485 | 0 | 76 | 0 | 400 | 0 | 0 | 278 | 76 |
| Peak Hour Factor | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 589 | 0 | 524 | 0 | 1847 | | 0 | 2097 | 545 |
| Arrive On Green | | | | 0.33 | 0.00 | 0.33 | 0.00 | 0.87 | 0.00 | 0.00 | 0.52 | 0.52 |
| Sat Flow, veh/h | | | | 1781 | 0 | 1585 | 0 | 3647 | 1585 | 0 | 4204 | 1049 |
| Grp Volume(v), veh/h | | | | 485 | 0 | 76 | 0 | 400 | 0 | 0 | 232 | 122 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 0 | 1585 | 0 | 1777 | 1585 | 0 | 1702 | 1681 |
| Q Serve(g_s), s | | | | 15.0 | 0.0 | 2.0 | 0.0 | 1.1 | 0.0 | 0.0 | 2.1 | 2.3 |
| Cycle Q Clear(g_c), s | | | | 15.0 | 0.0 | 2.0 | 0.0 | 1.1 | 0.0 | 0.0 | 2.1 | 2.3 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 1.00 | 0.00 | | 0.62 |
| Lane Grp Cap(c), veh/h | | | | 589 | 0 | 524 | 0 | 1847 | | 0 | 1769 | 874 |
| V/C Ratio(X) | | | | 0.82 | 0.00 | 0.15 | 0.00 | 0.22 | | 0.00 | 0.13 | 0.14 |
| Avail Cap(c_a), veh/h | | | | 876 | 0 | 779 | 0 | 1847 | | 0 | 1769 | 874 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.00 | 0.77 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 18.5 | 0.0 | 14.1 | 0.0 | 2.0 | 0.0 | 0.0 | 7.4 | 7.5 |
| Incr Delay (d2), s/veh | | | | 4.1 | 0.0 | 0.1 | 0.0 | 0.2 | 0.0 | 0.0 | 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 | | | | 6.2 | 0.0 | 0.7 | 0.0 | 0.3 | 0.0 | 0.0 | 0.7 | 0.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 22.6 | 0.0 | 14.3 | 0.0 | 2.2 | 0.0 | 0.0 | 7.6 | 7.8 |
| LnGrp LOS | | | | C | A | B | A | A | | A | A | A |
| Approach Vol, veh/h | | | | | 561 | | | 400 | | | 354 | |
| Approach Delay, s/veh | | | | | 21.4 | | | 2.2 | | | 7.7 | |
| Approach LOS | | | | | C | | | A | | | A | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 35.7 | | | | 35.7 | | 24.3 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 21.5 | | | | 21.5 | | 29.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 3.1 | | | | 4.3 | | 17.0 | | | | |
| Green Ext Time (p_c), s | | 2.5 | | | | 2.0 | | 2.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 11.9 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
7: Cook St. & I-10 EB Ramps

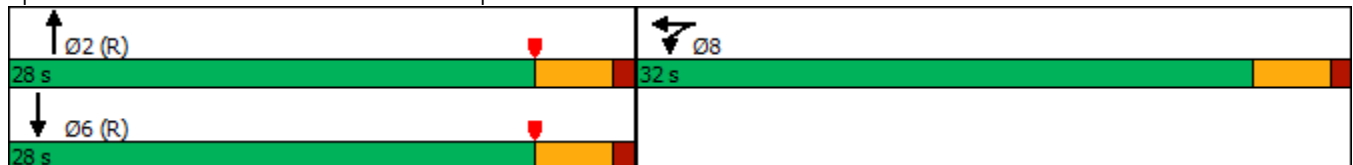
EAP (2024) PM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|------|------|-------|------|------|------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 451 | 0 | 71 | 0 | 372 | 702 | 0 | 259 | 71 |
| Future Volume (vph) | 0 | 0 | 0 | 451 | 0 | 71 | 0 | 372 | 702 | 0 | 259 | 71 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 1 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | | 30 |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | | 497 |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 12.8 | | | | 11.3 |
| 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 |
| Adj. Flow (vph) | 0 | 0 | 0 | 485 | 0 | 76 | 0 | 400 | 755 | 0 | 278 | 76 |
| Shared Lane Traffic (%) | | | | 41% | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 286 | 275 | 0 | 0 | 400 | 755 | 0 | 354 | 0 |
| Turn Type | | | | Split | NA | | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | | 6 |
| Permitted Phases | | | | | | | | | Free | | | |
| Detector Phase | | | | 8 | 8 | | | 2 | | | | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | | | 5.0 | | | | 5.0 |
| Minimum Split (s) | | | | 22.5 | 22.5 | | | 22.5 | | | | 22.5 |
| Total Split (s) | | | | 32.0 | 32.0 | | | 28.0 | | | | 28.0 |
| Total Split (%) | | | | 53.3% | 53.3% | | | 46.7% | | | | 46.7% |
| Yellow Time (s) | | | | 3.5 | 3.5 | | | 3.5 | | | | 3.5 |
| All-Red Time (s) | | | | 1.0 | 1.0 | | | 1.0 | | | | 1.0 |
| Lost Time Adjust (s) | | | | 0.0 | 0.0 | | | 0.0 | | | | 0.0 |
| Total Lost Time (s) | | | | 4.5 | 4.5 | | | 4.5 | | | | 4.5 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | | | C-Max | | | | C-Max |

Intersection Summary



















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 45
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
7: Cook St. & I-10 EB Ramps

EAP (2024) PM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  | | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 451 | 0 | 71 | 0 | 372 | 702 | 0 | 259 | 71 |
| Future Volume (veh/h) | 0 | 0 | 0 | 451 | 0 | 71 | 0 | 372 | 702 | 0 | 259 | 71 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 556 | 0 | 0 | 0 | 400 | 0 | 0 | 278 | 76 |
| Peak Hour Factor | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 752 | 395 | 0 | 0 | 2270 | | 0 | 2578 | 670 |
| Arrive On Green | | | | 0.21 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.64 | 0.64 |
| Sat Flow, veh/h | | | | 3563 | 1870 | 0 | 0 | 3647 | 1585 | 0 | 4204 | 1049 |
| Grp Volume(v), veh/h | | | | 556 | 0 | 0 | 0 | 400 | 0 | 0 | 232 | 122 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 1870 | 0 | 0 | 1777 | 1585 | 0 | 1702 | 1681 |
| Q Serve(g_s), s | | | | 8.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.7 |
| Cycle Q Clear(g_c), s | | | | 8.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.7 |
| Prop In Lane | | | | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 0.62 |
| Lane Grp Cap(c), veh/h | | | | 752 | 395 | 0 | 0 | 2270 | | 0 | 2175 | 1074 |
| V/C Ratio(X) | | | | 0.74 | 0.00 | 0.00 | 0.00 | 0.18 | | 0.00 | 0.11 | 0.11 |
| Avail Cap(c_a), veh/h | | | | 1633 | 857 | 0 | 0 | 2270 | | 0 | 2175 | 1074 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 0.00 | 0.77 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 22.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.2 | 4.2 |
| Incr Delay (d2), s/veh | | | | 1.4 | 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 | | | | 3.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.4 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 23.6 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 4.3 | 4.4 |
| LnGrp LOS | | | | C | A | A | A | A | | A | A | A |
| Approach Vol, veh/h | | | | | 556 | | | 400 | | | 354 | |
| Approach Delay, s/veh | | | | | 23.6 | | | 0.1 | | | 4.3 | |
| Approach LOS | | | | | C | | | A | | | A | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 42.8 | | | | 42.8 | | 17.2 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 23.5 | | | | 23.5 | | 27.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.0 | | | | 3.7 | | 10.8 | | | | |
| Green Ext Time (p_c), s | | 2.6 | | | | 2.1 | | 1.9 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 11.2 |
| HCM 6th LOS | B |

Notes

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

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

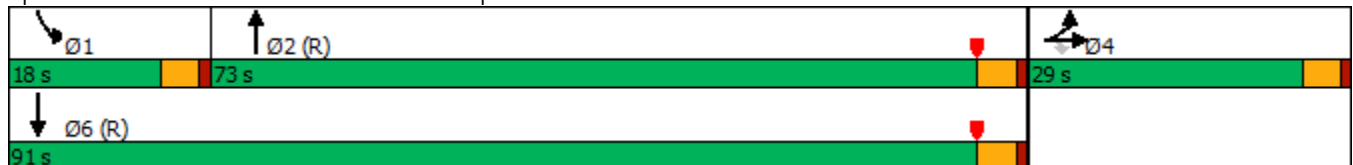
EAP (2024) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 78 | 1 | 500 | 0 | 0 | 0 | 0 | 996 | 941 | 77 | 633 | 0 |
| Future Volume (vph) | 78 | 1 | 500 | 0 | 0 | 0 | 0 | 996 | 941 | 77 | 633 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 0 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 0 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 17.3 | | | 12.8 | |
| 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 |
| Adj. Flow (vph) | 84 | 1 | 538 | 0 | 0 | 0 | 0 | 1071 | 1012 | 83 | 681 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 84 | 270 | 269 | 0 | 0 | 0 | 0 | 2083 | 0 | 83 | 681 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 29.0 | 29.0 | 29.0 | | | | | 73.0 | | 18.0 | 91.0 | |
| Total Split (%) | 24.2% | 24.2% | 24.2% | | | | | 60.8% | | 15.0% | 75.8% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

EAP (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |    | |  |    | |
| Traffic Volume (veh/h) | 78 | 1 | 500 | 0 | 0 | 0 | 0 | 996 | 941 | 77 | 633 | 0 |
| Future Volume (veh/h) | 78 | 1 | 500 | 0 | 0 | 0 | 0 | 996 | 941 | 77 | 633 | 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 | 84 | 0 | 539 | | | | 0 | 1071 | 1012 | 83 | 681 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 336 | 0 | 599 | | | | 0 | 2178 | 1014 | 105 | 3759 | 0 |
| Arrive On Green | 0.19 | 0.00 | 0.19 | | | | 0.00 | 0.64 | 0.64 | 0.12 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 3572 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 84 | 0 | 539 | | | | 0 | 1071 | 1012 | 83 | 681 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 4.8 | 0.0 | 19.9 | | | | 0.0 | 19.8 | 76.3 | 5.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 4.8 | 0.0 | 19.9 | | | | 0.0 | 19.8 | 76.3 | 5.4 | 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 | 336 | 0 | 599 | | | | 0 | 2178 | 1014 | 105 | 3759 | 0 |
| V/C Ratio(X) | 0.25 | 0.00 | 0.90 | | | | 0.00 | 0.49 | 1.00 | 0.79 | 0.18 | 0.00 |
| Avail Cap(c_a), veh/h | 364 | 0 | 647 | | | | 0 | 2178 | 1014 | 200 | 3759 | 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 | 1.00 | 1.00 | 0.99 | 0.99 | 0.00 |
| Uniform Delay (d), s/veh | 41.4 | 0.0 | 47.6 | | | | 0.0 | 11.4 | 21.5 | 52.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.4 | 0.0 | 15.0 | | | | 0.0 | 0.8 | 27.7 | 12.5 | 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 | 2.2 | 0.0 | 9.1 | | | | 0.0 | 7.4 | 33.4 | 2.7 | 0.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.8 | 0.0 | 62.5 | | | | 0.0 | 12.1 | 49.2 | 64.7 | 0.1 | 0.0 |
| LnGrp LOS | D | A | E | | | | A | B | D | E | A | A |
| Approach Vol, veh/h | | 623 | | | | | | 2083 | | | 764 | |
| Approach Delay, s/veh | | 59.7 | | | | | | 30.2 | | | 7.1 | |
| Approach LOS | | E | | | | | | C | | | A | |
| Timer - Assigned Phs | 1 | 2 | 4 | 6 | | | | | | | | |
| Phs Duration (G+Y+Rc), s | 11.5 | 81.3 | 27.2 | 92.8 | | | | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | | |
| Max Green Setting (Gmax), s | 13.5 | 68.5 | 24.5 | 86.5 | | | | | | | | |
| Max Q Clear Time (g_c+I1), s | 7.4 | 78.3 | 21.9 | 2.0 | | | | | | | | |
| Green Ext Time (p_c), s | 0.1 | 0.0 | 0.7 | 5.7 | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 30.4 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |

Lanes, Volumes, Timings
9: Cook St. & Gerald Ford Dr.

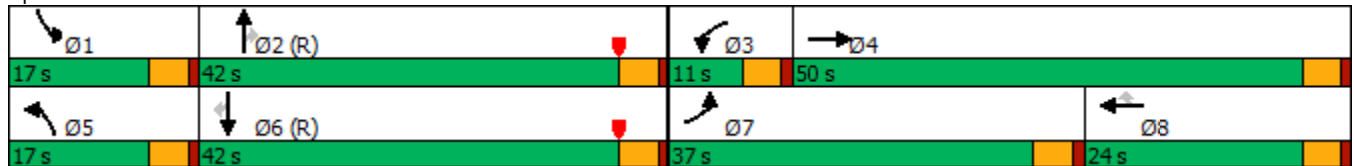
EAP (2024) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 566 | 237 | 134 | 60 | 180 | 156 | 162 | 983 | 26 | 160 | 659 | 234 |
| Future Volume (vph) | 566 | 237 | 134 | 60 | 180 | 156 | 162 | 983 | 26 | 160 | 659 | 234 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 225 | | 230 | 160 | | 200 | 210 | | 120 | 290 | | 360 |
| Storage Lanes | 2 | | 0 | 2 | | 1 | 2 | | 1 | 2 | | 1 |
| Taper Length (ft) | 130 | | | 160 | | | 140 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 936 | | | 424 | | | 1144 | | | 831 | |
| Travel Time (s) | | 16.0 | | | 5.8 | | | 14.2 | | | 10.3 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 602 | 252 | 143 | 64 | 191 | 166 | 172 | 1046 | 28 | 170 | 701 | 249 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 602 | 252 | 143 | 64 | 191 | 166 | 172 | 1046 | 28 | 170 | 701 | 249 |
| Turn Type | Prot | NA | Free | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 |
| Total Split (s) | 37.0 | 50.0 | | 11.0 | 24.0 | 24.0 | 17.0 | 42.0 | 42.0 | 17.0 | 42.0 | 42.0 |
| Total Split (%) | 30.8% | 41.7% | | 9.2% | 20.0% | 20.0% | 14.2% | 35.0% | 35.0% | 14.2% | 35.0% | 35.0% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |

Intersection Summary



































Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated

Splits and Phases: 9: Cook St. & Gerald Ford Dr.



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

EAP (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |    |  |   |    |  |
| Traffic Volume (veh/h) | 566 | 237 | 134 | 60 | 180 | 156 | 162 | 983 | 26 | 160 | 659 | 234 |
| Future Volume (veh/h) | 566 | 237 | 134 | 60 | 180 | 156 | 162 | 983 | 26 | 160 | 659 | 234 |
| 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 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 602 | 252 | 0 | 64 | 191 | 166 | 172 | 1046 | 28 | 170 | 701 | 249 |
| 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 | 678 | 1027 | | 127 | 460 | 203 | 231 | 2338 | 723 | 229 | 2335 | 723 |
| Arrive On Green | 0.33 | 0.48 | 0.00 | 0.04 | 0.13 | 0.13 | 0.07 | 0.46 | 0.46 | 0.07 | 0.46 | 0.46 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1567 | 3456 | 5106 | 1580 | 3456 | 5106 | 1580 |
| Grp Volume(v), veh/h | 602 | 252 | 0 | 64 | 191 | 166 | 172 | 1046 | 28 | 170 | 701 | 249 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1567 | 1728 | 1702 | 1580 | 1728 | 1702 | 1580 |
| Q Serve(g_s), s | 19.8 | 5.0 | 0.0 | 2.2 | 5.9 | 12.4 | 5.9 | 16.8 | 1.2 | 5.8 | 10.4 | 12.2 |
| Cycle Q Clear(g_c), s | 19.8 | 5.0 | 0.0 | 2.2 | 5.9 | 12.4 | 5.9 | 16.8 | 1.2 | 5.8 | 10.4 | 12.2 |
| 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 | 678 | 1027 | | 127 | 460 | 203 | 231 | 2338 | 723 | 229 | 2335 | 723 |
| V/C Ratio(X) | 0.89 | 0.25 | | 0.50 | 0.41 | 0.82 | 0.74 | 0.45 | 0.04 | 0.74 | 0.30 | 0.34 |
| Avail Cap(c_a), veh/h | 936 | 1347 | | 187 | 577 | 255 | 360 | 2338 | 723 | 360 | 2335 | 723 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.94 | 0.94 | 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 | 39.1 | 23.4 | 0.0 | 56.7 | 48.0 | 50.8 | 55.0 | 22.2 | 17.9 | 55.0 | 20.5 | 21.0 |
| Incr Delay (d2), s/veh | 7.6 | 0.1 | 0.0 | 3.1 | 0.6 | 15.3 | 4.7 | 0.6 | 0.1 | 4.7 | 0.3 | 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 | 7.9 | 2.0 | 0.0 | 1.0 | 2.6 | 5.5 | 2.6 | 6.3 | 0.4 | 2.6 | 3.9 | 4.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 46.7 | 23.5 | 0.0 | 59.8 | 48.6 | 66.1 | 59.7 | 22.8 | 18.0 | 59.7 | 20.8 | 22.3 |
| LnGrp LOS | D | C | | E | D | E | E | C | B | E | C | C |
| Approach Vol, veh/h | | 854 | | | 421 | | | 1246 | | | 1120 | |
| Approach Delay, s/veh | | 39.8 | | | 57.2 | | | 27.8 | | | 27.0 | |
| Approach LOS | | D | | | E | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 12.5 | 59.5 | 8.9 | 39.2 | 12.5 | 59.4 | 28.0 | 20.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 12.5 | 37.5 | 6.5 | 45.5 | 12.5 | 37.5 | 32.5 | 19.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.8 | 18.8 | 4.2 | 7.0 | 7.9 | 14.2 | 21.8 | 14.4 | | | | |
| Green Ext Time (p_c), s | 0.2 | 6.3 | 0.0 | 1.6 | 0.2 | 5.1 | 1.7 | 0.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 33.8 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
 10: Cook St. & University Park Dr./Berger Dr. W.

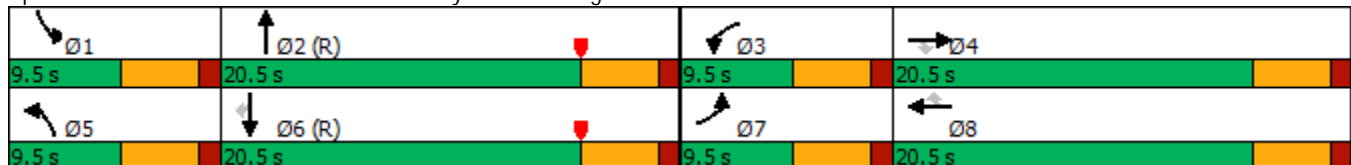
EAP (2024) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 49 | 4 | 63 | 17 | 6 | 58 | 70 | 1229 | 9 | 46 | 1038 | 43 |
| Future Volume (vph) | 49 | 4 | 63 | 17 | 6 | 58 | 70 | 1229 | 9 | 46 | 1038 | 43 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 180 | | 180 | 100 | | 0 | 140 | | 140 | 225 | | 295 |
| Storage Lanes | 1 | | 1 | 0 | | 1 | 1 | | 1 | 2 | | 0 |
| Taper Length (ft) | 90 | | | 0 | | | 160 | | | 165 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 473 | | | 452 | | | 1623 | | | 476 | |
| Travel Time (s) | | 10.8 | | | 10.3 | | | 36.9 | | | 10.8 | |
| 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 |
| Adj. Flow (vph) | 54 | 4 | 70 | 19 | 7 | 64 | 78 | 1366 | 10 | 51 | 1153 | 48 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 54 | 4 | 70 | 19 | 7 | 64 | 78 | 1366 | 10 | 51 | 1153 | 48 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Free | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (%) | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | | 15.8% | 34.2% | 34.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Cook St. & University Park Dr./Berger Dr. W.



HCM 6th Signalized Intersection Summary
 10: Cook St. & University Park Dr./Berger Dr. W.

EAP (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 49 | 4 | 63 | 17 | 6 | 58 | 70 | 1229 | 9 | 46 | 1038 | 43 |
| Future Volume (veh/h) | 49 | 4 | 63 | 17 | 6 | 58 | 70 | 1229 | 9 | 46 | 1038 | 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 | 54 | 4 | 70 | 19 | 7 | 0 | 78 | 1366 | 0 | 51 | 1153 | 48 |
| 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 | 88 | 151 | 128 | 40 | 101 | | 108 | 2802 | | 165 | 2736 | 849 |
| Arrive On Green | 0.05 | 0.08 | 0.08 | 0.02 | 0.05 | 0.00 | 0.12 | 1.00 | 0.00 | 0.05 | 0.54 | 0.54 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 54 | 4 | 70 | 19 | 7 | 0 | 78 | 1366 | 0 | 51 | 1153 | 48 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 1.8 | 0.1 | 2.5 | 0.6 | 0.2 | 0.0 | 2.5 | 0.0 | 0.0 | 0.9 | 8.1 | 0.9 |
| Cycle Q Clear(g_c), s | 1.8 | 0.1 | 2.5 | 0.6 | 0.2 | 0.0 | 2.5 | 0.0 | 0.0 | 0.9 | 8.1 | 0.9 |
| 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 | 88 | 151 | 128 | 40 | 101 | | 108 | 2802 | | 165 | 2736 | 849 |
| V/C Ratio(X) | 0.61 | 0.03 | 0.55 | 0.47 | 0.07 | | 0.72 | 0.49 | | 0.31 | 0.42 | 0.06 |
| Avail Cap(c_a), veh/h | 148 | 499 | 423 | 148 | 499 | | 148 | 2802 | | 288 | 2736 | 849 |
| 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 | 1.00 | 1.00 | 0.00 | 0.33 | 0.33 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 28.0 | 25.4 | 26.5 | 29.0 | 26.9 | 0.0 | 25.9 | 0.0 | 0.0 | 27.6 | 8.3 | 6.7 |
| Incr Delay (d2), s/veh | 6.7 | 0.1 | 3.6 | 8.3 | 0.3 | 0.0 | 3.6 | 0.2 | 0.0 | 1.1 | 0.5 | 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 | 0.9 | 0.1 | 1.0 | 0.4 | 0.1 | 0.0 | 1.1 | 0.1 | 0.0 | 0.4 | 2.5 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 34.7 | 25.5 | 30.1 | 37.3 | 27.2 | 0.0 | 29.4 | 0.2 | 0.0 | 28.7 | 8.8 | 6.8 |
| LnGrp LOS | C | C | C | D | C | | C | A | | C | A | A |
| Approach Vol, veh/h | | 128 | | | 26 | | | 1444 | | | 1252 | |
| Approach Delay, s/veh | | 31.9 | | | 34.6 | | | 1.8 | | | 9.6 | |
| Approach LOS | | C | | | C | | | A | | | A | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 7.4 | 37.4 | 5.9 | 9.4 | 8.1 | 36.7 | 7.5 | 7.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 16.0 | 5.0 | 16.0 | 5.0 | 16.0 | 5.0 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 2.9 | 2.0 | 2.6 | 4.5 | 4.5 | 10.1 | 3.8 | 2.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 8.1 | 0.0 | 0.1 | 0.0 | 3.7 | 0.0 | 0.0 | | | | |

Intersection Summary

| | |
|--------------------|-----|
| HCM 6th Ctrl Delay | 6.8 |
| HCM 6th LOS | A |

Notes

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

Lanes, Volumes, Timings
11: Cook St. & Frank Sinatra Dr.

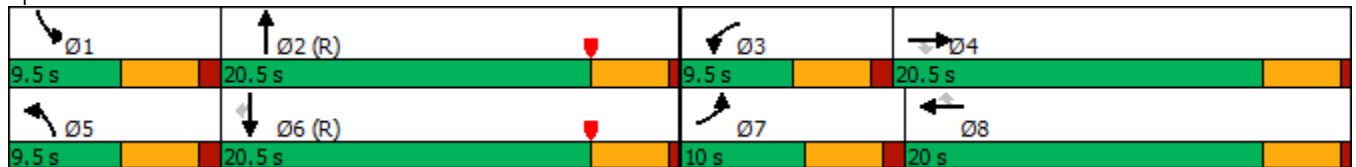
EAP (2024) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 352 | 267 | 141 | 44 | 170 | 48 | 124 | 932 | 77 | 94 | 809 | 206 |
| Future Volume (vph) | 352 | 267 | 141 | 44 | 170 | 48 | 124 | 932 | 77 | 94 | 809 | 206 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 220 | | 135 | 135 | | 260 | 140 | | 0 | 210 | | 220 |
| Storage Lanes | 2 | | 1 | 2 | | 1 | 2 | | 0 | 2 | | 1 |
| Taper Length (ft) | 120 | | | 110 | | | 110 | | | 140 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1477 | | | 944 | | | 330 | | | 1623 | |
| Travel Time (s) | | 33.6 | | | 21.5 | | | 7.5 | | | 36.9 | |
| 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 |
| Adj. Flow (vph) | 383 | 290 | 153 | 48 | 185 | 52 | 135 | 1013 | 84 | 102 | 879 | 224 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 383 | 290 | 153 | 48 | 185 | 52 | 135 | 1097 | 0 | 102 | 879 | 224 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | | 9.5 | 20.0 | 20.0 |
| Total Split (s) | 10.0 | 20.5 | 20.5 | 9.5 | 20.0 | 20.0 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (%) | 16.7% | 34.2% | 34.2% | 15.8% | 33.3% | 33.3% | 15.8% | 34.2% | | 15.8% | 34.2% | 34.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary






























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Cook St. & Frank Sinatra Dr.



HCM 6th Signalized Intersection Summary
 11: Cook St. & Frank Sinatra Dr.

EAP (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|--|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |   | |   |  | |
| Traffic Volume (veh/h) | 352 | 267 | 141 | 44 | 170 | 48 | 124 | 932 | 77 | 94 | 809 | 206 |
| Future Volume (veh/h) | 352 | 267 | 141 | 44 | 170 | 48 | 124 | 932 | 77 | 94 | 809 | 206 |
| 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 | 383 | 290 | 153 | 48 | 185 | 52 | 135 | 1013 | 84 | 102 | 879 | 224 |
| 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 | 317 | 536 | 239 | 159 | 373 | 166 | 258 | 1502 | 124 | 235 | 2275 | 706 |
| Arrive On Green | 0.09 | 0.15 | 0.15 | 0.05 | 0.10 | 0.10 | 0.07 | 0.45 | 0.45 | 0.14 | 0.89 | 0.89 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1585 | 3456 | 3322 | 275 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 383 | 290 | 153 | 48 | 185 | 52 | 135 | 542 | 555 | 102 | 879 | 224 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1585 | 1728 | 1777 | 1821 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 5.5 | 4.5 | 5.4 | 0.8 | 2.9 | 1.8 | 2.3 | 14.4 | 14.4 | 1.6 | 1.7 | 1.3 |
| Cycle Q Clear(g_c), s | 5.5 | 4.5 | 5.4 | 0.8 | 2.9 | 1.8 | 2.3 | 14.4 | 14.4 | 1.6 | 1.7 | 1.3 |
| 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 | 317 | 536 | 239 | 159 | 373 | 166 | 258 | 803 | 823 | 235 | 2275 | 706 |
| V/C Ratio(X) | 1.21 | 0.54 | 0.64 | 0.30 | 0.50 | 0.31 | 0.52 | 0.67 | 0.67 | 0.43 | 0.39 | 0.32 |
| Avail Cap(c_a), veh/h | 317 | 977 | 436 | 288 | 948 | 423 | 288 | 803 | 823 | 288 | 2275 | 706 |
| 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 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.93 | 0.93 | 0.93 |
| Uniform Delay (d), s/veh | 27.2 | 23.6 | 24.0 | 27.7 | 25.4 | 24.9 | 26.7 | 13.0 | 13.0 | 24.9 | 1.9 | 1.9 |
| Incr Delay (d2), s/veh | 119.9 | 0.9 | 2.9 | 1.1 | 1.0 | 1.1 | 1.6 | 4.5 | 4.4 | 1.2 | 0.5 | 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 | 7.4 | 1.8 | 2.1 | 0.3 | 1.2 | 0.7 | 0.9 | 5.9 | 6.0 | 0.7 | 0.5 | 0.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 147.1 | 24.4 | 26.8 | 28.8 | 26.4 | 25.9 | 28.4 | 17.5 | 17.4 | 26.0 | 2.4 | 3.0 |
| LnGrp LOS | F | C | C | C | C | C | C | B | B | C | A | A |
| Approach Vol, veh/h | | 826 | | | 285 | | | 1232 | | | 1205 | |
| Approach Delay, s/veh | | 81.8 | | | 26.7 | | | 18.6 | | | 4.5 | |
| Approach LOS | | F | | | C | | | B | | | A | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 8.6 | 31.1 | 7.3 | 13.0 | 9.0 | 30.7 | 10.0 | 10.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 16.5 | 5.0 | 16.5 | 5.0 | 16.5 | 5.5 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.6 | 16.4 | 2.8 | 7.4 | 4.3 | 3.7 | 7.5 | 4.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 1.6 | 0.0 | 5.6 | 0.0 | 0.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 29.2 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |

Lanes, Volumes, Timings
 12: Main Dwy. & Gerald Ford Dr.

EAP (2024) PM Peak Hour

| | → | ↘ | ↙ | ← | ↖ | ↗ |
|-----------------------------|--------------|------|------|------|------|------|
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑↑ | ↗ | | ↑↑↑ | | ↗ |
| Traffic Volume (vph) | 585 | 14 | 0 | 546 | 0 | 158 |
| Future Volume (vph) | 585 | 14 | 0 | 546 | 0 | 158 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 150 | 0 | | 0 | 0 |
| Storage Lanes | | 1 | 0 | | 0 | 1 |
| Taper Length (ft) | | | 90 | | 90 | |
| Link Speed (mph) | 30 | | | 30 | 30 | |
| Link Distance (ft) | 1749 | | | 549 | 252 | |
| Travel Time (s) | 39.8 | | | 12.5 | 5.7 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 636 | 15 | 0 | 593 | 0 | 172 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 636 | 15 | 0 | 593 | 0 | 172 |
| Sign Control | Free | | | Free | Stop | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |
| Control Type: | Unsignalized | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.7 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑↑ | ↑ | | ↑↑↑ | | ↑ |
| Traffic Vol, veh/h | 585 | 14 | 0 | 546 | 0 | 158 |
| Future Vol, veh/h | 585 | 14 | 0 | 546 | 0 | 158 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 150 | - | - | - | 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 | 636 | 15 | 0 | 593 | 0 | 172 |

| Major/Minor | Major1 | Major2 | Minor1 | | | |
|----------------------|--------|--------|--------|---|---|------|
| Conflicting Flow All | 0 | 0 | - | - | - | 318 |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | - | 7.14 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | - | 3.92 |
| Pot Cap-1 Maneuver | - | - | 0 | - | 0 | 578 |
| Stage 1 | - | - | 0 | - | 0 | - |
| Stage 2 | - | - | 0 | - | 0 | - |
| Platoon blocked, % | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | - | - | - | 578 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - |
| Stage 1 | - | - | - | - | - | - |
| Stage 2 | - | - | - | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|----|------|
| HCM Control Delay, s | 0 | 0 | 13.8 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|-----------------------|-------|-----|-----|-----|
| Capacity (veh/h) | 578 | - | - | - |
| HCM Lane V/C Ratio | 0.297 | - | - | - |
| HCM Control Delay (s) | 13.8 | - | - | - |
| HCM Lane LOS | B | - | - | - |
| HCM 95th %tile Q(veh) | 1.2 | - | - | - |

APPENDIX 6.1: EAPC (2024) CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS

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Lanes, Volumes, Timings
1: Technology Dr. & Gerald Ford Dr.

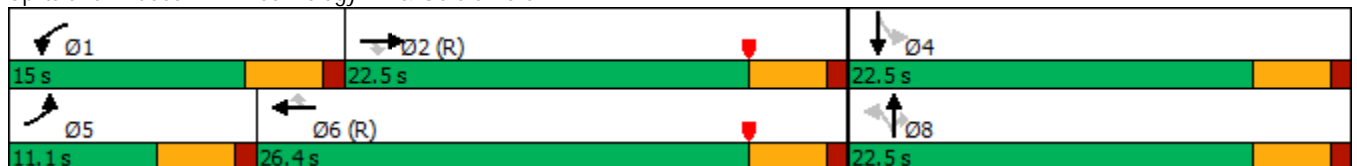
EAPC (2024) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 57 | 586 | 49 | 185 | 776 | 89 | 41 | 45 | 74 | 110 | 34 | 55 |
| Future Volume (vph) | 57 | 586 | 49 | 185 | 776 | 89 | 41 | 45 | 74 | 110 | 34 | 55 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 185 | | 165 | 180 | | 120 | 102 | | 230 | 85 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 1 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 90 | | | 60 | | | 60 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | 35 | |
| Link Distance (ft) | | 549 | | | 936 | | | 343 | | | 642 | |
| Travel Time (s) | | 9.4 | | | 16.0 | | | 6.7 | | | 12.5 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 69 | 706 | 59 | 223 | 935 | 107 | 49 | 54 | 89 | 133 | 41 | 66 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 69 | 706 | 59 | 223 | 935 | 107 | 49 | 54 | 89 | 133 | 107 | 0 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.1 | 22.5 | 22.5 | 15.0 | 26.4 | 26.4 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (%) | 18.5% | 37.5% | 37.5% | 25.0% | 44.0% | 44.0% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | Max | Max | Max | Max | Max | Max |

Intersection Summary





























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 35 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Technology Dr. & Gerald Ford Dr.






















HCM 6th Signalized Intersection Summary
 1: Technology Dr. & Gerald Ford Dr.

EAPC (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |    |  |  |    |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 57 | 586 | 49 | 185 | 776 | 89 | 41 | 45 | 74 | 110 | 34 | 55 |
| Future Volume (veh/h) | 57 | 586 | 49 | 185 | 776 | 89 | 41 | 45 | 74 | 110 | 34 | 55 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 706 | 59 | 223 | 935 | 107 | 49 | 54 | 89 | 133 | 41 | 66 |
| 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 | 101 | 1654 | 510 | 269 | 2135 | 659 | 443 | 561 | 473 | 466 | 193 | 310 |
| Arrive On Green | 0.06 | 0.32 | 0.32 | 0.20 | 0.56 | 0.56 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 5106 | 1573 | 1781 | 5106 | 1576 | 1282 | 1870 | 1577 | 1240 | 643 | 1035 |
| Grp Volume(v), veh/h | 69 | 706 | 59 | 223 | 935 | 107 | 49 | 54 | 89 | 133 | 0 | 107 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1573 | 1781 | 1702 | 1576 | 1282 | 1870 | 1577 | 1240 | 0 | 1678 |
| Q Serve(g_s), s | 2.3 | 6.5 | 1.6 | 7.2 | 6.4 | 2.0 | 1.8 | 1.2 | 2.5 | 5.2 | 0.0 | 2.9 |
| Cycle Q Clear(g_c), s | 2.3 | 6.5 | 1.6 | 7.2 | 6.4 | 2.0 | 4.6 | 1.2 | 2.5 | 6.4 | 0.0 | 2.9 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.62 |
| Lane Grp Cap(c), veh/h | 101 | 1654 | 510 | 269 | 2135 | 659 | 443 | 561 | 473 | 466 | 0 | 503 |
| V/C Ratio(X) | 0.68 | 0.43 | 0.12 | 0.83 | 0.44 | 0.16 | 0.11 | 0.10 | 0.19 | 0.29 | 0.00 | 0.21 |
| Avail Cap(c_a), veh/h | 196 | 1654 | 510 | 312 | 2135 | 659 | 443 | 561 | 473 | 466 | 0 | 503 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 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 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.8 | 15.9 | 14.2 | 23.2 | 9.2 | 8.2 | 17.4 | 15.1 | 15.6 | 17.5 | 0.0 | 15.7 |
| Incr Delay (d2), s/veh | 7.7 | 0.8 | 0.5 | 9.4 | 0.4 | 0.3 | 0.5 | 0.3 | 0.9 | 1.5 | 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 2.3 | 0.6 | 3.3 | 1.8 | 0.6 | 0.5 | 0.5 | 0.9 | 1.5 | 0.0 | 1.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 35.5 | 16.7 | 14.7 | 32.7 | 9.6 | 8.5 | 17.9 | 15.5 | 16.5 | 19.0 | 0.0 | 16.7 |
| LnGrp LOS | D | B | B | C | A | A | B | B | B | B | A | B |
| Approach Vol, veh/h | | 834 | | | 1265 | | | 192 | | | 240 | |
| Approach Delay, s/veh | | 18.1 | | | 13.6 | | | 16.6 | | | 18.0 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 13.6 | 23.9 | | 22.5 | 7.9 | 29.6 | | 22.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | 18.0 | 6.6 | 21.9 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 9.2 | 8.5 | | 8.4 | 4.3 | 8.4 | | 6.6 | | | | |
| Green Ext Time (p_c), s | 0.1 | 3.3 | | 0.7 | 0.0 | 5.4 | | 0.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 15.7 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

Lanes, Volumes, Timings
 2: Technology Dr. & E. Dwy/The Village W. Dwy.

EAPC (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | |  |  |  |  |  | |
| Traffic Volume (vph) | 15 | 1 | 4 | 6 | 1 | 32 | 28 | 112 | 4 | 23 | 90 | 155 |
| Future Volume (vph) | 15 | 1 | 4 | 6 | 1 | 32 | 28 | 112 | 4 | 23 | 90 | 155 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 150 | | 175 | 55 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 0 | 1 | | 1 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 60 | | | 60 | | |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 216 | | | 313 | | | 338 | | | 343 | |
| Travel Time (s) | | 4.9 | | | 7.1 | | | 6.6 | | | 6.7 | |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 19 | 1 | 5 | 8 | 1 | 41 | 35 | 142 | 5 | 29 | 114 | 196 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 25 | 0 | 0 | 50 | 0 | 35 | 142 | 5 | 29 | 310 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM 6th TWSC
 2: Technology Dr. & E. Dwy/The Village W. Dwy.

EAPC (2024) AM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↑ | ↑ | ↕ | ↕ | ↑ |
| Traffic Vol, veh/h | 15 | 1 | 4 | 6 | 1 | 32 | 28 | 112 | 4 | 23 | 90 | 155 |
| Future Vol, veh/h | 15 | 1 | 4 | 6 | 1 | 32 | 28 | 112 | 4 | 23 | 90 | 155 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 150 | - | 175 | 55 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 19 | 1 | 5 | 8 | 1 | 41 | 35 | 142 | 5 | 29 | 114 | 196 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 506 | 487 | 212 | 485 | 580 | 142 | 310 | 0 | 0 | 147 | 0 | 0 |
| Stage 1 | 270 | 270 | - | 212 | 212 | - | - | - | - | - | - | - |
| Stage 2 | 236 | 217 | - | 273 | 368 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 477 | 481 | 828 | 492 | 426 | 906 | 1250 | - | - | 1435 | - | - |
| Stage 1 | 736 | 686 | - | 790 | 727 | - | - | - | - | - | - | - |
| Stage 2 | 767 | 723 | - | 733 | 621 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 438 | 458 | 828 | 470 | 406 | 906 | 1250 | - | - | 1435 | - | - |
| Mov Cap-2 Maneuver | 438 | 458 | - | 470 | 406 | - | - | - | - | - | - | - |
| Stage 1 | 715 | 672 | - | 768 | 707 | - | - | - | - | - | - | - |
| Stage 2 | 711 | 703 | - | 712 | 609 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|------|----|-----|-----|
| HCM Control Delay, s | 12.8 | 10 | 1.5 | 0.6 |
| HCM LOS | B | B | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------|-------|------|-----|
| Capacity (veh/h) | 1250 | - | - | 485 | 772 | 1435 | - |
| HCM Lane V/C Ratio | 0.028 | - | - | 0.052 | 0.064 | 0.02 | - |
| HCM Control Delay (s) | 8 | - | - | 12.8 | 10 | 7.6 | - |
| HCM Lane LOS | A | - | - | B | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.2 | 0.2 | 0.1 | - |

Lanes, Volumes, Timings
 3: College Dr. & Technology Dr.

EAPC (2024) AM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | ↕ | ↔ | | ↙ | |
| Traffic Volume (vph) | 71 | 137 | 123 | 74 | 54 | 45 |
| Future Volume (vph) | 71 | 137 | 123 | 74 | 54 | 45 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 40 | 40 | | 35 | |
| Link Distance (ft) | | 803 | 445 | | 338 | |
| Travel Time (s) | | 13.7 | 7.6 | | 6.6 | |
| Peak Hour Factor | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 |
| Adj. Flow (vph) | 97 | 188 | 168 | 101 | 74 | 62 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 285 | 269 | 0 | 136 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary






















Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 4.7 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 285 | 269 | 136 |
| Demand Flow Rate, veh/h | 291 | 274 | 138 |
| Vehicles Circulating, veh/h | 75 | 99 | 171 |
| Vehicles Exiting, veh/h | 234 | 267 | 202 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.9 | 4.9 | 4.2 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 291 | 274 | 138 |
| Cap Entry Lane, veh/h | 1278 | 1247 | 1159 |
| Entry HV Adj Factor | 0.980 | 0.980 | 0.986 |
| Flow Entry, veh/h | 285 | 269 | 136 |
| Cap Entry, veh/h | 1253 | 1223 | 1142 |
| V/C Ratio | 0.228 | 0.220 | 0.119 |
| Control Delay, s/veh | 4.9 | 4.9 | 4.2 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 0 |

Lanes, Volumes, Timings
 4: University Dr./S. Dwy. & College Dr.

EAPC (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  | | |  |  |
| Traffic Volume (vph) | 28 | 182 | 32 | 10 | 116 | 42 | 50 | 1 | 18 | 8 | 1 | 11 |
| Future Volume (vph) | 28 | 182 | 32 | 10 | 116 | 42 | 50 | 1 | 18 | 8 | 1 | 11 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 150 | | 120 | 130 | | 0 | 100 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 0 | 0 | | 0 |
| Taper Length (ft) | 60 | | | 65 | | | 60 | | | 90 | | |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | | 30 |
| Link Distance (ft) | | 755 | | | 803 | | | 448 | | | | 197 |
| Travel Time (s) | | 12.9 | | | 13.7 | | | 8.7 | | | | 4.5 |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Adj. Flow (vph) | 37 | 239 | 42 | 13 | 153 | 55 | 66 | 1 | 24 | 11 | 1 | 14 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 37 | 239 | 42 | 13 | 208 | 0 | 66 | 25 | 0 | 0 | 26 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 28 | 182 | 32 | 10 | 116 | 42 | 50 | 1 | 18 | 8 | 1 | 11 |
| Future Vol, veh/h | 28 | 182 | 32 | 10 | 116 | 42 | 50 | 1 | 18 | 8 | 1 | 11 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | 120 | 130 | - | - | 100 | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 37 | 239 | 42 | 13 | 153 | 55 | 66 | 1 | 24 | 11 | 1 | 14 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 208 | 0 | 0 | 281 | 0 | 0 | 527 | 547 | 239 | 554 | 562 | 181 |
| Stage 1 | - | - | - | - | - | - | 313 | 313 | - | 207 | 207 | - |
| Stage 2 | - | - | - | - | - | - | 214 | 234 | - | 347 | 355 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1363 | - | - | 1282 | - | - | 462 | 445 | 800 | 443 | 436 | 862 |
| Stage 1 | - | - | - | - | - | - | 698 | 657 | - | 795 | 731 | - |
| Stage 2 | - | - | - | - | - | - | 788 | 711 | - | 669 | 630 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1363 | - | - | 1282 | - | - | 440 | 429 | 800 | 417 | 420 | 862 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 440 | 429 | - | 417 | 420 | - |
| Stage 1 | - | - | - | - | - | - | 679 | 639 | - | 774 | 724 | - |
| Stage 2 | - | - | - | - | - | - | 766 | 704 | - | 630 | 613 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.9 | | | 0.5 | | | 13.3 | | | 11.5 | | |
| HCM LOS | | | | | | | B | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|------|-----|-----|-------|
| Capacity (veh/h) | 440 | 765 | 1363 | - | - | 1282 | - | - | 583 |
| HCM Lane V/C Ratio | 0.15 | 0.033 | 0.027 | - | - | 0.01 | - | - | 0.045 |
| HCM Control Delay (s) | 14.6 | 9.9 | 7.7 | - | - | 7.8 | - | - | 11.5 |
| HCM Lane LOS | B | A | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.5 | 0.1 | 0.1 | - | - | 0 | - | - | 0.1 |

Lanes, Volumes, Timings
5: College Dr. & Pacific Av.

EAPC (2024) AM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 13 | 148 | 147 | 53 | 68 | 31 |
| Future Volume (vph) | 13 | 148 | 147 | 53 | 68 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 40 | 40 | | 35 | |
| Link Distance (ft) | | 711 | 644 | | 595 | |
| Travel Time (s) | | 12.1 | 11.0 | | 11.6 | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 14 | 157 | 156 | 56 | 72 | 33 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 171 | 212 | 0 | 105 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

















HCM 6th Roundabout
5: College Dr. & Pacific Av.

EAPC (2024) AM Peak Hour

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 4.0 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 171 | 212 | 105 |
| Demand Flow Rate, veh/h | 174 | 216 | 107 |
| Vehicles Circulating, veh/h | 73 | 14 | 159 |
| Vehicles Exiting, veh/h | 193 | 233 | 71 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.0 | 4.0 | 3.9 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 174 | 216 | 107 |
| Cap Entry Lane, veh/h | 1281 | 1360 | 1173 |
| Entry HV Adj Factor | 0.982 | 0.981 | 0.981 |
| Flow Entry, veh/h | 171 | 212 | 105 |
| Cap Entry, veh/h | 1258 | 1334 | 1151 |
| V/C Ratio | 0.136 | 0.159 | 0.091 |
| Control Delay, s/veh | 4.0 | 4.0 | 3.9 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 1 | 0 |

Lanes, Volumes, Timings
6: College Dr. & University Park Dr.

EAPC (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (vph) | 4 | 45 | 13 | 14 | 36 | 113 | 5 | 79 | 30 | 99 | 51 | 2 |
| Future Volume (vph) | 4 | 45 | 13 | 14 | 36 | 113 | 5 | 79 | 30 | 99 | 51 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Link Speed (mph) | | 35 | | | 35 | | | 40 | | | 40 | |
| Link Distance (ft) | | 974 | | | 473 | | | 829 | | | 921 | |
| Travel Time (s) | | 19.0 | | | 9.2 | | | 14.1 | | | 15.7 | |
| Peak Hour Factor | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 |
| Adj. Flow (vph) | 6 | 66 | 19 | 21 | 53 | 166 | 7 | 116 | 44 | 146 | 75 | 3 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 91 | 0 | 0 | 240 | 0 | 0 | 167 | 0 | 0 | 224 | 0 |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 4.6 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 91 | 240 | 167 | 224 |
| Demand Flow Rate, veh/h | 92 | 244 | 170 | 228 |
| Vehicles Circulating, veh/h | 246 | 131 | 222 | 82 |
| Vehicles Exiting, veh/h | 64 | 261 | 116 | 293 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.1 | 4.8 | 4.7 | 4.4 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 92 | 244 | 170 | 228 |
| Cap Entry Lane, veh/h | 1074 | 1207 | 1100 | 1269 |
| Entry HV Adj Factor | 0.986 | 0.983 | 0.981 | 0.980 |
| Flow Entry, veh/h | 91 | 240 | 167 | 224 |
| Cap Entry, veh/h | 1058 | 1187 | 1079 | 1244 |
| V/C Ratio | 0.086 | 0.202 | 0.155 | 0.180 |
| Control Delay, s/veh | 4.1 | 4.8 | 4.7 | 4.4 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 0 | 1 | 1 | 1 |

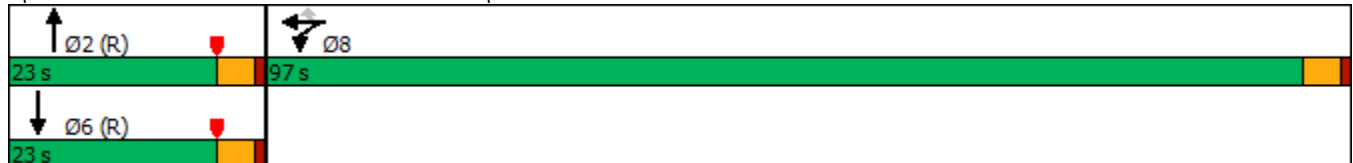
Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

EAPC (2024) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|-------|------|-------|------|------|------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 1369 | 0 | 136 | 0 | 391 | 499 | 0 | 451 | 61 |
| Future Volume (vph) | 0 | 0 | 0 | 1369 | 0 | 136 | 0 | 391 | 499 | 0 | 451 | 61 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | | 35 |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | | 497 |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 10.9 | | | | 9.7 |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 0 | 0 | 0 | 1733 | 0 | 172 | 0 | 495 | 632 | 0 | 571 | 77 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 1733 | 172 | 0 | 495 | 632 | 0 | 648 | 0 |
| Turn Type | | | | Split | NA | Perm | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | | 6 |
| Permitted Phases | | | | | | 8 | | | Free | | | |
| Detector Phase | | | | 8 | 8 | 8 | | 2 | | | | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | 5.0 | | 5.0 | | | | 5.0 |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | | 22.5 | | | | 22.5 |
| Total Split (s) | | | | 97.0 | 97.0 | 97.0 | | 23.0 | | | | 23.0 |
| Total Split (%) | | | | 80.8% | 80.8% | 80.8% | | 19.2% | | | | 19.2% |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | | 3.5 | | | | 3.5 |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | | 1.0 | | | | 1.0 |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | | 0.0 | | | | 0.0 |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | | 4.5 | | | | 4.5 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | None | | C-Max | | | | C-Max |



















Intersection Summary
 Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

EAPC (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | |  |  | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1369 | 0 | 136 | 0 | 391 | 499 | 0 | 451 | 61 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1369 | 0 | 136 | 0 | 391 | 499 | 0 | 451 | 61 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 1733 | 0 | 172 | 0 | 495 | 0 | 0 | 571 | 77 |
| Peak Hour Factor | | | | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 1373 | 0 | 1222 | 0 | 548 | | 0 | 703 | 93 |
| Arrive On Green | | | | 0.77 | 0.00 | 0.77 | 0.00 | 0.26 | 0.00 | 0.00 | 0.15 | 0.15 |
| Sat Flow, veh/h | | | | 1781 | 0 | 1585 | 0 | 3647 | 1585 | 0 | 4727 | 606 |
| Grp Volume(v), veh/h | | | | 1733 | 0 | 172 | 0 | 495 | 0 | 0 | 424 | 224 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 0 | 1585 | 0 | 1777 | 1585 | 0 | 1702 | 1761 |
| Q Serve(g_s), s | | | | 92.5 | 0.0 | 3.3 | 0.0 | 16.2 | 0.0 | 0.0 | 14.5 | 14.8 |
| Cycle Q Clear(g_c), s | | | | 92.5 | 0.0 | 3.3 | 0.0 | 16.2 | 0.0 | 0.0 | 14.5 | 14.8 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 1.00 | 0.00 | | 0.34 |
| Lane Grp Cap(c), veh/h | | | | 1373 | 0 | 1222 | 0 | 548 | | 0 | 525 | 272 |
| V/C Ratio(X) | | | | 1.26 | 0.00 | 0.14 | 0.00 | 0.90 | | 0.00 | 0.81 | 0.82 |
| Avail Cap(c_a), veh/h | | | | 1373 | 0 | 1222 | 0 | 548 | | 0 | 525 | 272 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.67 | 1.67 | 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 | | | | 13.8 | 0.0 | 3.5 | 0.0 | 43.7 | 0.0 | 0.0 | 49.0 | 49.2 |
| Incr Delay (d2), s/veh | | | | 124.0 | 0.0 | 0.1 | 0.0 | 13.6 | 0.0 | 0.0 | 12.6 | 23.8 |
| 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 | | | | 75.7 | 0.0 | 0.9 | 0.0 | 7.3 | 0.0 | 0.0 | 7.0 | 8.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 137.7 | 0.0 | 3.6 | 0.0 | 57.3 | 0.0 | 0.0 | 61.7 | 73.0 |
| LnGrp LOS | | | | F | A | A | A | E | | A | E | E |
| Approach Vol, veh/h | | | | | 1905 | | | 495 | | | 648 | |
| Approach Delay, s/veh | | | | | 125.6 | | | 57.3 | | | 65.6 | |
| Approach LOS | | | | | F | | | E | | | E | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 23.0 | | | | 23.0 | | 97.0 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 18.5 | | | | 18.5 | | 92.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 18.2 | | | | 16.8 | | 94.5 | | | | |
| Green Ext Time (p_c), s | | 0.1 | | | | 0.7 | | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 101.7 | | | | | | | | |
| HCM 6th LOS | | | | F | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

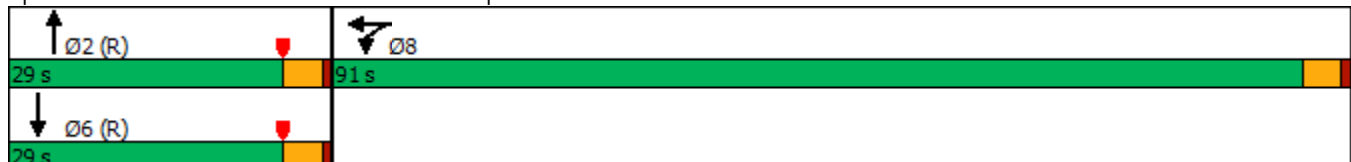
EAPC (2024) AM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 1369 | 0 | 136 | 0 | 391 | 499 | 0 | 451 | 61 |
| Future Volume (vph) | 0 | 0 | 0 | 1369 | 0 | 136 | 0 | 391 | 499 | 0 | 451 | 61 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 1 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | | 35 |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | | 497 |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 10.9 | | | | 9.7 |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 0 | 0 | 0 | 1733 | 0 | 172 | 0 | 495 | 632 | 0 | 571 | 77 |
| Shared Lane Traffic (%) | | | | 44% | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 970 | 935 | 0 | 0 | 495 | 632 | 0 | 648 | 0 |
| Turn Type | | | | Split | NA | | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | Free | | | |
| Detector Phase | | | | 8 | 8 | | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 91.0 | 91.0 | | | 29.0 | | | 29.0 | |
| Total Split (%) | | | | 75.8% | 75.8% | | | 24.2% | | | 24.2% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | 4.5 | 4.5 | | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | | | C-Max | | | C-Max | |

Intersection Summary



















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

EAPC (2024) AM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  | | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1369 | 0 | 136 | 0 | 391 | 499 | 0 | 451 | 61 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1369 | 0 | 136 | 0 | 391 | 499 | 0 | 451 | 61 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 1894 | 0 | 0 | 0 | 495 | 0 | 0 | 571 | 77 |
| Peak Hour Factor | | | | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 2077 | 1090 | 0 | 0 | 1216 | | 0 | 1560 | 207 |
| Arrive On Green | | | | 0.58 | 0.00 | 0.00 | 0.00 | 0.57 | 0.00 | 0.00 | 0.34 | 0.34 |
| Sat Flow, veh/h | | | | 3563 | 1870 | 0 | 0 | 3647 | 1585 | 0 | 4727 | 606 |
| Grp Volume(v), veh/h | | | | 1894 | 0 | 0 | 0 | 495 | 0 | 0 | 424 | 224 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 1870 | 0 | 0 | 1777 | 1585 | 0 | 1702 | 1761 |
| Q Serve(g_s), s | | | | 56.8 | 0.0 | 0.0 | 0.0 | 9.3 | 0.0 | 0.0 | 11.2 | 11.5 |
| Cycle Q Clear(g_c), s | | | | 56.8 | 0.0 | 0.0 | 0.0 | 9.3 | 0.0 | 0.0 | 11.2 | 11.5 |
| Prop In Lane | | | | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 0.34 |
| Lane Grp Cap(c), veh/h | | | | 2077 | 1090 | 0 | 0 | 1216 | | 0 | 1165 | 603 |
| V/C Ratio(X) | | | | 0.91 | 0.00 | 0.00 | 0.00 | 0.41 | | 0.00 | 0.36 | 0.37 |
| Avail Cap(c_a), veh/h | | | | 2568 | 1348 | 0 | 0 | 1216 | | 0 | 1165 | 603 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 0.00 | 0.87 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 22.3 | 0.0 | 0.0 | 0.0 | 18.9 | 0.0 | 0.0 | 29.7 | 29.7 |
| Incr Delay (d2), s/veh | | | | 4.7 | 0.0 | 0.0 | 0.0 | 0.9 | 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 | | | | 23.6 | 0.0 | 0.0 | 0.0 | 3.5 | 0.0 | 0.0 | 4.7 | 5.1 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 27.0 | 0.0 | 0.0 | 0.0 | 19.8 | 0.0 | 0.0 | 30.6 | 31.5 |
| LnGrp LOS | | | | C | A | A | A | B | | A | C | C |
| Approach Vol, veh/h | | | | | 1894 | | | 495 | | | 648 | |
| Approach Delay, s/veh | | | | | 27.0 | | | 19.8 | | | 30.9 | |
| Approach LOS | | | | | C | | | B | | | C | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 45.6 | | | | 45.6 | | 74.4 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 24.5 | | | | 24.5 | | 86.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 11.3 | | | | 13.5 | | 58.8 | | | | |
| Green Ext Time (p_c), s | | 2.6 | | | | 3.0 | | 11.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 26.7 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

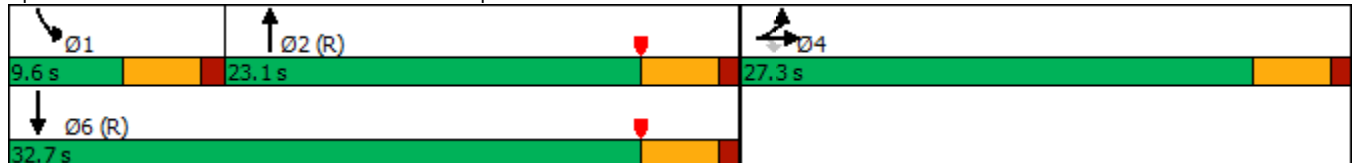
EAPC (2024) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 117 | 1 | 1038 | 0 | 0 | 0 | 0 | 774 | 459 | 88 | 1732 | 0 |
| Future Volume (vph) | 117 | 1 | 1038 | 0 | 0 | 0 | 0 | 774 | 459 | 88 | 1732 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 0 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 0 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 14.8 | | | 10.9 | |
| 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 |
| Adj. Flow (vph) | 138 | 1 | 1221 | 0 | 0 | 0 | 0 | 911 | 540 | 104 | 2038 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 138 | 612 | 610 | 0 | 0 | 0 | 0 | 1451 | 0 | 104 | 2038 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 27.3 | 27.3 | 27.3 | | | | | 23.1 | | 9.6 | 32.7 | |
| Total Split (%) | 45.5% | 45.5% | 45.5% | | | | | 38.5% | | 16.0% | 54.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary





















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 75
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

EAPC (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |  |  |  |  |  |
| Traffic Volume (veh/h) | 117 | 1 | 1038 | 0 | 0 | 0 | 0 | 774 | 459 | 88 | 1732 | 0 |
| Future Volume (veh/h) | 117 | 1 | 1038 | 0 | 0 | 0 | 0 | 774 | 459 | 88 | 1732 | 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 | 138 | 0 | 1222 | | | | 0 | 911 | 540 | 104 | 2038 | 0 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | | | | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 677 | 0 | 1205 | | | | 0 | 1089 | 507 | 134 | 2400 | 0 |
| Arrive On Green | 0.38 | 0.00 | 0.38 | | | | 0.00 | 0.32 | 0.32 | 0.05 | 0.31 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 3572 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 138 | 0 | 1222 | | | | 0 | 911 | 540 | 104 | 2038 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 3.1 | 0.0 | 22.8 | | | | 0.0 | 14.9 | 19.2 | 3.5 | 22.4 | 0.0 |
| Cycle Q Clear(g_c), s | 3.1 | 0.0 | 22.8 | | | | 0.0 | 14.9 | 19.2 | 3.5 | 22.4 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 677 | 0 | 1205 | | | | 0 | 1089 | 507 | 134 | 2400 | 0 |
| V/C Ratio(X) | 0.20 | 0.00 | 1.01 | | | | 0.00 | 0.84 | 1.06 | 0.78 | 0.85 | 0.00 |
| Avail Cap(c_a), veh/h | 677 | 0 | 1205 | | | | 0 | 1089 | 507 | 151 | 2400 | 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 | 1.00 | 1.00 | 0.45 | 0.45 | 0.00 |
| Uniform Delay (d), s/veh | 12.5 | 0.0 | 18.6 | | | | 0.0 | 18.9 | 20.4 | 28.0 | 18.6 | 0.0 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 29.6 | | | | 0.0 | 7.6 | 58.2 | 9.9 | 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 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 12.2 | | | | 0.0 | 6.3 | 14.3 | 1.8 | 9.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.6 | 0.0 | 48.2 | | | | 0.0 | 26.6 | 78.6 | 37.9 | 20.4 | 0.0 |
| LnGrp LOS | B | A | F | | | | A | C | F | D | C | A |
| Approach Vol, veh/h | | 1360 | | | | | | 1451 | | | 2142 | |
| Approach Delay, s/veh | | 44.6 | | | | | | 45.9 | | | 21.3 | |
| Approach LOS | | D | | | | | | D | | | C | |
| Timer - Assigned Phs | 1 | 2 | 4 | 6 | | | | | | | | |
| Phs Duration (G+Y+Rc), s | 9.0 | 23.7 | 27.3 | 32.7 | | | | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | | |
| Max Green Setting (Gmax), s | 5.1 | 18.6 | 22.8 | 28.2 | | | | | | | | |
| Max Q Clear Time (g_c+I1), s | 5.5 | 21.2 | 24.8 | 24.4 | | | | | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 3.4 | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 34.9 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

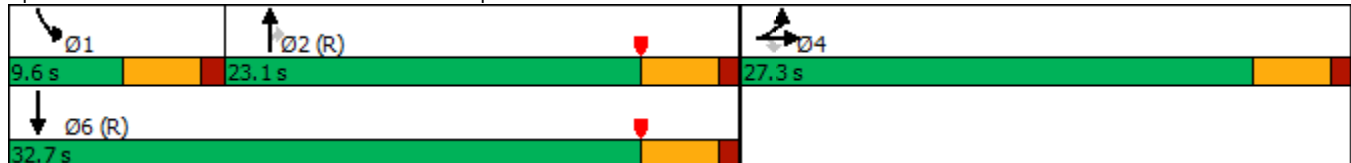
EAPC (2024) AM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|-------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 117 | 1 | 1038 | 0 | 0 | 0 | 0 | 774 | 459 | 88 | 1732 | 0 |
| Future Volume (vph) | 117 | 1 | 1038 | 0 | 0 | 0 | 0 | 774 | 459 | 88 | 1732 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 0 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 1 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 14.8 | | | 10.9 | |
| 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 |
| Adj. Flow (vph) | 138 | 1 | 1221 | 0 | 0 | 0 | 0 | 911 | 540 | 104 | 2038 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 138 | 612 | 610 | 0 | 0 | 0 | 0 | 911 | 540 | 104 | 2038 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | Perm | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | 2 | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | 22.5 | 9.5 | 22.5 | |
| Total Split (s) | 27.3 | 27.3 | 27.3 | | | | | 23.1 | 23.1 | 9.6 | 32.7 | |
| Total Split (%) | 45.5% | 45.5% | 45.5% | | | | | 38.5% | 38.5% | 16.0% | 54.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | C-Max | None | C-Max | |

Intersection Summary

























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

EAPC (2024) AM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |    |  |  |    |  |
| Traffic Volume (veh/h) | 117 | 1 | 1038 | 0 | 0 | 0 | 0 | 774 | 459 | 88 | 1732 | 0 |
| Future Volume (veh/h) | 117 | 1 | 1038 | 0 | 0 | 0 | 0 | 774 | 459 | 88 | 1732 | 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 | 138 | 0 | 1222 | | | | 0 | 911 | 540 | 104 | 2038 | 0 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | | | | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 677 | 0 | 1205 | | | | 0 | 1636 | 508 | 133 | 2400 | 0 |
| Arrive On Green | 0.38 | 0.00 | 0.38 | | | | 0.00 | 0.32 | 0.32 | 0.07 | 0.47 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 5274 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 138 | 0 | 1222 | | | | 0 | 911 | 540 | 104 | 2038 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 3.1 | 0.0 | 22.8 | | | | 0.0 | 8.9 | 19.2 | 3.4 | 21.1 | 0.0 |
| Cycle Q Clear(g_c), s | 3.1 | 0.0 | 22.8 | | | | 0.0 | 8.9 | 19.2 | 3.4 | 21.1 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 677 | 0 | 1205 | | | | 0 | 1636 | 508 | 133 | 2400 | 0 |
| V/C Ratio(X) | 0.20 | 0.00 | 1.01 | | | | 0.00 | 0.56 | 1.06 | 0.78 | 0.85 | 0.00 |
| Avail Cap(c_a), veh/h | 677 | 0 | 1205 | | | | 0 | 1636 | 508 | 151 | 2400 | 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 | 0.62 | 0.62 | 0.00 |
| Uniform Delay (d), s/veh | 12.5 | 0.0 | 18.6 | | | | 0.0 | 16.9 | 20.4 | 27.3 | 14.0 | 0.0 |
| Incr Delay (d2), s/veh | 0.1 | 0.0 | 29.6 | | | | 0.0 | 1.4 | 57.9 | 13.5 | 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 |
| %ile BackOfQ(50%),veh/ln | 1.1 | 0.0 | 12.2 | | | | 0.0 | 3.2 | 14.3 | 1.9 | 7.0 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 12.6 | 0.0 | 48.2 | | | | 0.0 | 18.2 | 78.3 | 40.7 | 16.5 | 0.0 |
| LnGrp LOS | B | A | F | | | | A | B | F | D | B | A |
| Approach Vol, veh/h | | 1360 | | | | | | 1451 | | | 2142 | |
| Approach Delay, s/veh | | 44.6 | | | | | | 40.6 | | | 17.7 | |
| Approach LOS | | D | | | | | | D | | | B | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | | | 6 | | | | |
| Phs Duration (G+Y+Rc), s | 9.0 | 23.7 | | 27.3 | | | | 32.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | | | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.1 | 18.6 | | 22.8 | | | | 28.2 | | | | |
| Max Q Clear Time (g_c+I1), s | 5.4 | 21.2 | | 24.8 | | | | 23.1 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | | | | 4.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 31.8 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |

Lanes, Volumes, Timings
9: Cook St. & Gerald Ford Dr.

EAPC (2024) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 465 | 179 | 172 | 35 | 296 | 133 | 165 | 622 | 29 | 178 | 1586 | 607 |
| Future Volume (vph) | 465 | 179 | 172 | 35 | 296 | 133 | 165 | 622 | 29 | 178 | 1586 | 607 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 225 | | 230 | 160 | | 200 | 210 | | 120 | 290 | | 360 |
| Storage Lanes | 2 | | 0 | 2 | | 1 | 2 | | 1 | 2 | | 1 |
| Taper Length (ft) | 130 | | | 160 | | | 140 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 936 | | | 424 | | | 1144 | | | 831 | |
| Travel Time (s) | | 16.0 | | | 5.8 | | | 14.2 | | | 10.3 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Adj. Flow (vph) | 554 | 213 | 205 | 42 | 352 | 158 | 196 | 740 | 35 | 212 | 1888 | 723 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 554 | 213 | 205 | 42 | 352 | 158 | 196 | 740 | 35 | 212 | 1888 | 723 |
| Turn Type | Prot | NA | Free | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 |
| Total Split (s) | 28.0 | 41.0 | | 9.5 | 22.5 | 22.5 | 14.0 | 52.2 | 52.2 | 17.3 | 55.5 | 55.5 |
| Total Split (%) | 23.3% | 34.2% | | 7.9% | 18.8% | 18.8% | 11.7% | 43.5% | 43.5% | 14.4% | 46.3% | 46.3% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |

Intersection Summary



































Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 9: Cook St. & Gerald Ford Dr.



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

EAPC (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |    |  |   |    |  |
| Traffic Volume (veh/h) | 465 | 179 | 172 | 35 | 296 | 133 | 165 | 622 | 29 | 178 | 1586 | 607 |
| Future Volume (veh/h) | 465 | 179 | 172 | 35 | 296 | 133 | 165 | 622 | 29 | 178 | 1586 | 607 |
| 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 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 554 | 213 | 0 | 42 | 352 | 158 | 196 | 740 | 35 | 212 | 1888 | 723 |
| Peak Hour Factor | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 | 0.84 |
| Percent Heavy Veh, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Cap, veh/h | 610 | 968 | | 108 | 452 | 199 | 251 | 2388 | 739 | 272 | 2417 | 748 |
| Arrive On Green | 0.29 | 0.45 | 0.00 | 0.03 | 0.13 | 0.13 | 0.07 | 0.47 | 0.47 | 0.08 | 0.47 | 0.47 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1566 | 3456 | 5106 | 1580 | 3456 | 5106 | 1580 |
| Grp Volume(v), veh/h | 554 | 213 | 0 | 42 | 352 | 158 | 196 | 740 | 35 | 212 | 1888 | 723 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1566 | 1728 | 1702 | 1580 | 1728 | 1702 | 1580 |
| Q Serve(g_s), s | 18.5 | 4.4 | 0.0 | 1.4 | 11.5 | 11.7 | 6.7 | 10.8 | 1.4 | 7.2 | 37.1 | 53.3 |
| Cycle Q Clear(g_c), s | 18.5 | 4.4 | 0.0 | 1.4 | 11.5 | 11.7 | 6.7 | 10.8 | 1.4 | 7.2 | 37.1 | 53.3 |
| 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 | 610 | 968 | | 108 | 452 | 199 | 251 | 2388 | 739 | 272 | 2417 | 748 |
| V/C Ratio(X) | 0.91 | 0.22 | | 0.39 | 0.78 | 0.79 | 0.78 | 0.31 | 0.05 | 0.78 | 0.78 | 0.97 |
| Avail Cap(c_a), veh/h | 677 | 1081 | | 144 | 533 | 235 | 274 | 2388 | 739 | 369 | 2417 | 748 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.92 | 0.92 | 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 | 41.4 | 25.0 | 0.0 | 57.0 | 50.7 | 50.8 | 54.7 | 19.9 | 17.4 | 54.3 | 26.4 | 30.7 |
| Incr Delay (d2), s/veh | 14.2 | 0.1 | 0.0 | 2.2 | 6.2 | 14.5 | 12.5 | 0.3 | 0.1 | 7.3 | 2.6 | 25.7 |
| 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 | 8.0 | 1.8 | 0.0 | 0.6 | 5.3 | 5.3 | 3.2 | 4.0 | 0.5 | 3.3 | 14.1 | 23.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 55.6 | 25.1 | 0.0 | 59.2 | 56.9 | 65.4 | 67.2 | 20.2 | 17.5 | 61.6 | 29.0 | 56.3 |
| LnGrp LOS | E | C | | E | E | E | E | C | B | E | C | E |
| Approach Vol, veh/h | | 767 | | | 552 | | | 971 | | | 2823 | |
| Approach Delay, s/veh | | 47.1 | | | 59.5 | | | 29.6 | | | 38.4 | |
| Approach LOS | | D | | | E | | | C | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 13.9 | 60.6 | 8.3 | 37.2 | 13.2 | 61.3 | 25.7 | 19.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 12.8 | 47.7 | 5.0 | 36.5 | 9.5 | 51.0 | 23.5 | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 9.2 | 12.8 | 3.4 | 6.4 | 8.7 | 55.3 | 20.5 | 13.7 | | | | |
| Green Ext Time (p_c), s | 0.2 | 5.0 | 0.0 | 1.3 | 0.0 | 0.0 | 0.7 | 1.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 40.3 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |
| 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. | | | | | | | | | | | | |

Lanes, Volumes, Timings
 10: Cook St. & University Park Dr./Berger Dr. W.

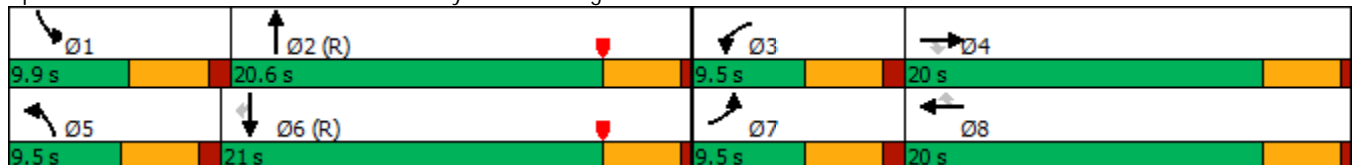
EAPC (2024) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 57 | 75 | 57 | 24 | 45 | 39 | 82 | 841 | 69 | 228 | 1619 | 36 |
| Future Volume (vph) | 57 | 75 | 57 | 24 | 45 | 39 | 82 | 841 | 69 | 228 | 1619 | 36 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 180 | | 180 | 100 | | 0 | 140 | | 140 | 225 | | 295 |
| Storage Lanes | 1 | | 1 | 0 | | 1 | 1 | | 1 | 2 | | 0 |
| Taper Length (ft) | 90 | | | 0 | | | 160 | | | 165 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 35 | | | 35 | | | 55 | | | 55 | |
| Link Distance (ft) | | 473 | | | 452 | | | 1623 | | | 476 | |
| Travel Time (s) | | 9.2 | | | 8.8 | | | 20.1 | | | 5.9 | |
| 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 |
| Adj. Flow (vph) | 63 | 83 | 63 | 27 | 50 | 43 | 91 | 934 | 77 | 253 | 1799 | 40 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 63 | 83 | 63 | 27 | 50 | 43 | 91 | 934 | 77 | 253 | 1799 | 40 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Free | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | | 9.5 | 20.0 | 20.0 |
| Total Split (s) | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | 20.0 | 9.5 | 20.6 | | 9.9 | 21.0 | 21.0 |
| Total Split (%) | 15.8% | 33.3% | 33.3% | 15.8% | 33.3% | 33.3% | 15.8% | 34.3% | | 16.5% | 35.0% | 35.0% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Cook St. & University Park Dr./Berger Dr. W.



HCM 6th Signalized Intersection Summary
 10: Cook St. & University Park Dr./Berger Dr. W.

EAPC (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 57 | 75 | 57 | 24 | 45 | 39 | 82 | 841 | 69 | 228 | 1619 | 36 |
| Future Volume (veh/h) | 57 | 75 | 57 | 24 | 45 | 39 | 82 | 841 | 69 | 228 | 1619 | 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 | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 63 | 83 | 63 | 27 | 50 | 0 | 91 | 934 | 0 | 253 | 1799 | 40 |
| 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 | 96 | 166 | 141 | 54 | 122 | | 116 | 2591 | | 311 | 2718 | 844 |
| Arrive On Green | 0.05 | 0.09 | 0.09 | 0.03 | 0.07 | 0.00 | 0.13 | 1.00 | 0.00 | 0.09 | 0.53 | 0.53 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 63 | 83 | 63 | 27 | 50 | 0 | 91 | 934 | 0 | 253 | 1799 | 40 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 2.1 | 2.5 | 2.3 | 0.9 | 1.5 | 0.0 | 3.0 | 0.0 | 0.0 | 4.3 | 15.3 | 0.7 |
| Cycle Q Clear(g_c), s | 2.1 | 2.5 | 2.3 | 0.9 | 1.5 | 0.0 | 3.0 | 0.0 | 0.0 | 4.3 | 15.3 | 0.7 |
| 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 | 96 | 166 | 141 | 54 | 122 | | 116 | 2591 | | 311 | 2718 | 844 |
| V/C Ratio(X) | 0.65 | 0.50 | 0.45 | 0.50 | 0.41 | | 0.79 | 0.36 | | 0.81 | 0.66 | 0.05 |
| Avail Cap(c_a), veh/h | 148 | 499 | 423 | 148 | 499 | | 148 | 2591 | | 311 | 2718 | 844 |
| 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 | 1.00 | 1.00 | 0.00 | 0.73 | 0.73 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.8 | 26.1 | 25.9 | 28.6 | 26.9 | 0.0 | 25.7 | 0.0 | 0.0 | 26.8 | 10.1 | 6.7 |
| Incr Delay (d2), s/veh | 7.2 | 2.3 | 2.2 | 7.1 | 2.2 | 0.0 | 14.2 | 0.3 | 0.0 | 15.1 | 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 | 1.0 | 1.2 | 0.9 | 0.5 | 0.7 | 0.0 | 1.5 | 0.1 | 0.0 | 2.2 | 3.8 | 0.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 35.1 | 28.4 | 28.1 | 35.7 | 29.2 | 0.0 | 39.9 | 0.3 | 0.0 | 41.9 | 11.4 | 6.8 |
| LnGrp LOS | D | C | C | D | C | | D | A | | D | B | A |
| Approach Vol, veh/h | | 209 | | | 77 | | | 1025 | | | 2092 | |
| Approach Delay, s/veh | | 30.3 | | | 31.5 | | | 3.8 | | | 15.0 | |
| Approach LOS | | C | | | C | | | A | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 9.9 | 34.4 | 6.3 | 9.3 | 8.4 | 35.9 | 7.8 | 7.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 5.4 | 16.6 | 5.0 | 16.0 | 5.0 | 17.0 | 5.0 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.3 | 2.0 | 2.9 | 4.5 | 5.0 | 17.3 | 4.1 | 3.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.9 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.1 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 13.0 |
| HCM 6th LOS | B |

Notes

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

Lanes, Volumes, Timings
11: Cook St. & Frank Sinatra Dr.

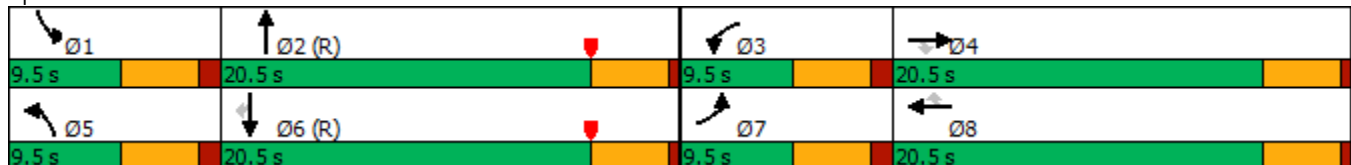
EAPC (2024) AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 250 | 171 | 123 | 64 | 269 | 77 | 104 | 710 | 53 | 68 | 1164 | 458 |
| Future Volume (vph) | 250 | 171 | 123 | 64 | 269 | 77 | 104 | 710 | 53 | 68 | 1164 | 458 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | | 135 | 135 | | 260 | 140 | | 0 | 210 | | 220 |
| Storage Lanes | 2 | | 1 | 2 | | 1 | 2 | | 0 | 2 | | 1 |
| Taper Length (ft) | 120 | | | 110 | | | 110 | | | 140 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 50 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 1477 | | | 944 | | | 330 | | | 1623 | |
| Travel Time (s) | | 20.1 | | | 12.9 | | | 4.1 | | | 20.1 | |
| 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 |
| Adj. Flow (vph) | 275 | 188 | 135 | 70 | 296 | 85 | 114 | 780 | 58 | 75 | 1279 | 503 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 275 | 188 | 135 | 70 | 296 | 85 | 114 | 838 | 0 | 75 | 1279 | 503 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (%) | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | | 15.8% | 34.2% | 34.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary
































Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0.5 (1%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Cook St. & Frank Sinatra Dr.



HCM 6th Signalized Intersection Summary
 11: Cook St. & Frank Sinatra Dr.

EAPC (2024) AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |   | |   |    | |
| Traffic Volume (veh/h) | 250 | 171 | 123 | 64 | 269 | 77 | 104 | 710 | 53 | 68 | 1164 | 458 |
| Future Volume (veh/h) | 250 | 171 | 123 | 64 | 269 | 77 | 104 | 710 | 53 | 68 | 1164 | 458 |
| 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 | 188 | 135 | 70 | 296 | 85 | 114 | 780 | 58 | 75 | 1279 | 503 |
| 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 | 288 | 568 | 254 | 198 | 476 | 212 | 245 | 1475 | 110 | 205 | 2188 | 679 |
| Arrive On Green | 0.08 | 0.16 | 0.16 | 0.06 | 0.13 | 0.13 | 0.07 | 0.44 | 0.44 | 0.12 | 0.86 | 0.86 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1585 | 3456 | 3353 | 249 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 275 | 188 | 135 | 70 | 296 | 85 | 114 | 413 | 425 | 75 | 1279 | 503 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1585 | 1728 | 1777 | 1825 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 4.8 | 2.8 | 4.7 | 1.2 | 4.7 | 2.9 | 1.9 | 10.2 | 10.2 | 1.2 | 4.3 | 7.5 |
| Cycle Q Clear(g_c), s | 4.8 | 2.8 | 4.7 | 1.2 | 4.7 | 2.9 | 1.9 | 10.2 | 10.2 | 1.2 | 4.3 | 7.5 |
| 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 | 288 | 568 | 254 | 198 | 476 | 212 | 245 | 782 | 803 | 205 | 2188 | 679 |
| V/C Ratio(X) | 0.95 | 0.33 | 0.53 | 0.35 | 0.62 | 0.40 | 0.47 | 0.53 | 0.53 | 0.37 | 0.58 | 0.74 |
| Avail Cap(c_a), veh/h | 288 | 977 | 436 | 288 | 977 | 436 | 288 | 782 | 803 | 288 | 2188 | 679 |
| 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 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.68 | 0.68 | 0.68 |
| Uniform Delay (d), s/veh | 27.4 | 22.4 | 23.1 | 27.2 | 24.5 | 23.8 | 26.8 | 12.3 | 12.3 | 25.4 | 2.8 | 3.0 |
| Incr Delay (d2), s/veh | 40.8 | 0.3 | 1.7 | 1.1 | 1.3 | 1.2 | 1.4 | 2.6 | 2.5 | 0.7 | 0.8 | 4.9 |
| 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 | 3.3 | 1.0 | 1.6 | 0.5 | 1.8 | 1.0 | 0.7 | 3.4 | 3.5 | 0.4 | 0.8 | 1.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 68.2 | 22.7 | 24.9 | 28.3 | 25.9 | 25.0 | 28.2 | 14.8 | 14.8 | 26.1 | 3.5 | 7.9 |
| LnGrp LOS | E | C | C | C | C | C | C | B | B | C | A | A |
| Approach Vol, veh/h | | 598 | | | 451 | | | 952 | | | 1857 | |
| Approach Delay, s/veh | | 44.1 | | | 26.1 | | | 16.4 | | | 5.6 | |
| Approach LOS | | D | | | C | | | B | | | A | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 8.1 | 30.4 | 7.9 | 13.6 | 8.8 | 29.7 | 9.5 | 12.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 16.5 | 5.0 | 16.5 | 5.0 | 16.5 | 5.0 | 16.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.2 | 12.2 | 3.2 | 6.7 | 3.9 | 9.5 | 6.8 | 6.7 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.8 | 0.0 | 1.0 | 0.0 | 4.9 | 0.0 | 1.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 16.6 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved pedestrian interval to be less than phase max green. | | | | | | | | | | | | |

Lanes, Volumes, Timings
 12: Main Dwy. & Gerald Ford Dr.

EAPC (2024) AM Peak Hour

| | → | ↘ | ↙ | ← | ↖ | ↗ |
|-------------------------|------|------|------|------|------|------|
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑↑ | ↑ | | ↑↑↑ | | ↑ |
| Traffic Volume (vph) | 654 | 28 | 0 | 872 | 0 | 38 |
| Future Volume (vph) | 654 | 28 | 0 | 872 | 0 | 38 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 150 | 0 | | 0 | 0 |
| Storage Lanes | | 1 | 0 | | 0 | 1 |
| Taper Length (ft) | | | 90 | | 90 | |
| Link Speed (mph) | 40 | | | 40 | 30 | |
| Link Distance (ft) | 1749 | | | 549 | 252 | |
| Travel Time (s) | 29.8 | | | 9.4 | 5.7 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 711 | 30 | 0 | 948 | 0 | 41 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 711 | 30 | 0 | 948 | 0 | 41 |
| Sign Control | Free | | | Free | Stop | |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.3 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑↑ | ↑ | | ↑↑↑ | | ↑ |
| Traffic Vol, veh/h | 654 | 28 | 0 | 872 | 0 | 38 |
| Future Vol, veh/h | 654 | 28 | 0 | 872 | 0 | 38 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 150 | - | - | - | 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 | 711 | 30 | 0 | 948 | 0 | 41 |

| Major/Minor | Major1 | Major2 | Minor1 | | |
|----------------------|--------|--------|--------|---|------|
| Conflicting Flow All | 0 | 0 | - | - | 356 |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | 7.14 |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | 3.92 |
| Pot Cap-1 Maneuver | - | - | 0 | - | 547 |
| Stage 1 | - | - | 0 | - | - |
| Stage 2 | - | - | 0 | - | - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | - | - | 547 |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|----|------|
| HCM Control Delay, s | 0 | 0 | 12.1 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|-----------------------|-------|-----|-----|-----|
| Capacity (veh/h) | 547 | - | - | - |
| HCM Lane V/C Ratio | 0.076 | - | - | - |
| HCM Control Delay (s) | 12.1 | - | - | - |
| HCM Lane LOS | B | - | - | - |
| HCM 95th %tile Q(veh) | 0.2 | - | - | - |

Lanes, Volumes, Timings
1: Technology Dr. & Gerald Ford Dr.

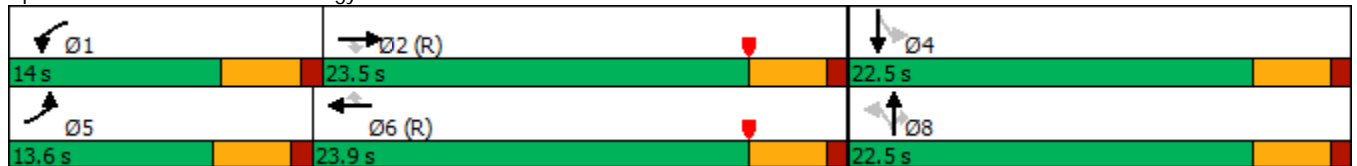
EAPC (2024) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 95 | 1031 | 49 | 131 | 784 | 155 | 121 | 54 | 123 | 189 | 56 | 107 |
| Future Volume (vph) | 95 | 1031 | 49 | 131 | 784 | 155 | 121 | 54 | 123 | 189 | 56 | 107 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 185 | | 165 | 180 | | 120 | 102 | | 230 | 85 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 1 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 90 | | | 60 | | | 60 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | 35 | |
| Link Distance (ft) | | 549 | | | 936 | | | 343 | | | 642 | |
| Travel Time (s) | | 9.4 | | | 16.0 | | | 6.7 | | | 12.5 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 104 | 1133 | 54 | 144 | 862 | 170 | 133 | 59 | 135 | 208 | 62 | 118 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 104 | 1133 | 54 | 144 | 862 | 170 | 133 | 59 | 135 | 208 | 180 | 0 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 13.6 | 23.5 | 23.5 | 14.0 | 23.9 | 23.9 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (%) | 22.7% | 39.2% | 39.2% | 23.3% | 39.8% | 39.8% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | Max | Max | Max | Max | Max | Max |

Intersection Summary





























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 35 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Technology Dr. & Gerald Ford Dr.























HCM 6th Signalized Intersection Summary
1: Technology Dr. & Gerald Ford Dr.

EAPC (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |    |  |  |    |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 95 | 1031 | 49 | 131 | 784 | 155 | 121 | 54 | 123 | 189 | 56 | 107 |
| Future Volume (veh/h) | 95 | 1031 | 49 | 131 | 784 | 155 | 121 | 54 | 123 | 189 | 56 | 107 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 104 | 1133 | 54 | 144 | 862 | 170 | 133 | 59 | 135 | 208 | 62 | 118 |
| 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 | 135 | 1898 | 585 | 184 | 2040 | 629 | 378 | 561 | 473 | 448 | 172 | 328 |
| Arrive On Green | 0.08 | 0.37 | 0.37 | 0.10 | 0.40 | 0.40 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 5106 | 1574 | 1781 | 5106 | 1575 | 1200 | 1870 | 1577 | 1185 | 574 | 1093 |
| Grp Volume(v), veh/h | 104 | 1133 | 54 | 144 | 862 | 170 | 133 | 59 | 135 | 208 | 0 | 180 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1574 | 1781 | 1702 | 1575 | 1200 | 1870 | 1577 | 1185 | 0 | 1667 |
| Q Serve(g_s), s | 3.4 | 10.8 | 1.3 | 4.7 | 7.3 | 4.4 | 5.9 | 1.4 | 3.9 | 9.2 | 0.0 | 5.1 |
| Cycle Q Clear(g_c), s | 3.4 | 10.8 | 1.3 | 4.7 | 7.3 | 4.4 | 11.0 | 1.4 | 3.9 | 10.6 | 0.0 | 5.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.66 |
| Lane Grp Cap(c), veh/h | 135 | 1898 | 585 | 184 | 2040 | 629 | 378 | 561 | 473 | 448 | 0 | 500 |
| V/C Ratio(X) | 0.77 | 0.60 | 0.09 | 0.78 | 0.42 | 0.27 | 0.35 | 0.11 | 0.29 | 0.46 | 0.00 | 0.36 |
| Avail Cap(c_a), veh/h | 270 | 1898 | 585 | 282 | 2040 | 629 | 378 | 561 | 473 | 448 | 0 | 500 |
| HCM Platoon Ratio | 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 | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.2 | 15.2 | 12.3 | 26.2 | 13.0 | 12.1 | 20.8 | 15.2 | 16.1 | 19.0 | 0.0 | 16.5 |
| Incr Delay (d2), s/veh | 9.0 | 1.4 | 0.3 | 5.2 | 0.4 | 0.7 | 2.6 | 0.4 | 1.5 | 3.4 | 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.7 | 3.7 | 0.4 | 2.1 | 2.4 | 1.4 | 1.8 | 0.6 | 1.5 | 2.7 | 0.0 | 2.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.3 | 16.6 | 12.6 | 31.4 | 13.4 | 12.8 | 23.3 | 15.6 | 17.6 | 22.4 | 0.0 | 18.5 |
| LnGrp LOS | D | B | B | C | B | B | C | B | B | C | A | B |
| Approach Vol, veh/h | | 1291 | | | 1176 | | | 327 | | | 388 | |
| Approach Delay, s/veh | | 18.0 | | | 15.6 | | | 19.6 | | | 20.6 | |
| Approach LOS | | B | | | B | | | B | | | C | |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 10.7 | 26.8 | | 22.5 | 9.0 | 28.5 | | 22.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 19.0 | | 18.0 | 9.1 | 19.4 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.7 | 12.8 | | 12.6 | 5.4 | 9.3 | | 13.0 | | | | |
| Green Ext Time (p_c), s | 0.1 | 3.7 | | 0.9 | 0.1 | 4.4 | | 0.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 17.6 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

Lanes, Volumes, Timings
 2: Technology Dr. & E. Dwy/The Village W. Dwy.

EAPC (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | |  |  |  |  |  |  |
| Traffic Volume (vph) | 63 | 1 | 16 | 9 | 1 | 62 | 14 | 172 | 10 | 18 | 143 | 75 |
| Future Volume (vph) | 63 | 1 | 16 | 9 | 1 | 62 | 14 | 172 | 10 | 18 | 143 | 75 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 150 | | 175 | 55 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 0 | 1 | | 1 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 60 | | | 60 | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 216 | | | 313 | | | 338 | | | 343 | |
| Travel Time (s) | | 4.9 | | | 7.1 | | | 7.7 | | | 7.8 | |
| 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 |
| Adj. Flow (vph) | 67 | 1 | 17 | 10 | 1 | 66 | 15 | 183 | 11 | 19 | 152 | 80 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 85 | 0 | 0 | 77 | 0 | 15 | 183 | 11 | 19 | 232 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM 6th TWSC
 2: Technology Dr. & E. Dwy/The Village W. Dwy.

EAPC (2024) PM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↑ | ↑ | ↕ | ↕ | ↑ |
| Traffic Vol, veh/h | 63 | 1 | 16 | 9 | 1 | 62 | 14 | 172 | 10 | 18 | 143 | 75 |
| Future Vol, veh/h | 63 | 1 | 16 | 9 | 1 | 62 | 14 | 172 | 10 | 18 | 143 | 75 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 150 | - | 175 | 55 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 67 | 1 | 17 | 10 | 1 | 66 | 15 | 183 | 11 | 19 | 152 | 80 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | | Major2 | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|-------|--------|---|-------|---|---|
| Conflicting Flow All | 482 | 454 | 192 | 452 | 483 | 183 | 232 | 0 | 0 | 194 | 0 | 0 |
| Stage 1 | 230 | 230 | - | 213 | 213 | - | - | - | - | - | - | - |
| Stage 2 | 252 | 224 | - | 239 | 270 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 495 | 502 | 850 | 518 | 483 | 859 | 1336 | - | - | 1379 | - | - |
| Stage 1 | 773 | 714 | - | 789 | 726 | - | - | - | - | - | - | - |
| Stage 2 | 752 | 718 | - | 764 | 686 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 447 | 489 | 850 | 497 | 471 | 859 | 1336 | - | - | 1379 | - | - |
| Mov Cap-2 Maneuver | 447 | 489 | - | 497 | 471 | - | - | - | - | - | - | - |
| Stage 1 | 764 | 704 | - | 780 | 718 | - | - | - | - | - | - | - |
| Stage 2 | 685 | 710 | - | 737 | 676 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | | SB | | |
|----------------------|------|--|------|--|-----|--|--|-----|--|--|
| HCM Control Delay, s | 13.8 | | 10.1 | | 0.6 | | | 0.6 | | |
| HCM LOS | B | | B | | | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h) | 1336 | - | - | 494 | 779 | 1379 | - |
| HCM Lane V/C Ratio | 0.011 | - | - | 0.172 | 0.098 | 0.014 | - |
| HCM Control Delay (s) | 7.7 | - | - | 13.8 | 10.1 | 7.6 | - |
| HCM Lane LOS | A | - | - | B | B | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.6 | 0.3 | 0 | - |

Lanes, Volumes, Timings
 3: College Dr. & Technology Dr.

EAPC (2024) PM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 66 | 181 | 172 | 130 | 91 | 77 |
| Future Volume (vph) | 66 | 181 | 172 | 130 | 91 | 77 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 803 | 445 | | 338 | |
| Travel Time (s) | | 18.3 | 10.1 | | 7.7 | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 73 | 201 | 191 | 144 | 101 | 86 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 274 | 335 | 0 | 187 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary





















Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 5.0 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 274 | 335 | 187 |
| Demand Flow Rate, veh/h | 279 | 342 | 191 |
| Vehicles Circulating, veh/h | 103 | 74 | 195 |
| Vehicles Exiting, veh/h | 283 | 308 | 221 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.9 | 5.3 | 4.8 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 279 | 342 | 191 |
| Cap Entry Lane, veh/h | 1242 | 1280 | 1131 |
| Entry HV Adj Factor | 0.982 | 0.980 | 0.979 |
| Flow Entry, veh/h | 274 | 335 | 187 |
| Cap Entry, veh/h | 1220 | 1254 | 1107 |
| V/C Ratio | 0.225 | 0.267 | 0.169 |
| Control Delay, s/veh | 4.9 | 5.3 | 4.8 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 1 |

Lanes, Volumes, Timings
 4: University Dr./S. Dwy. & College Dr.

EAPC (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  | | |  | |
| Traffic Volume (vph) | 14 | 199 | 45 | 19 | 211 | 20 | 39 | 1 | 17 | 32 | 1 | 47 |
| Future Volume (vph) | 14 | 199 | 45 | 19 | 211 | 20 | 39 | 1 | 17 | 32 | 1 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 150 | | 120 | 130 | | 0 | 100 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 0 | 0 | | 0 |
| Taper Length (ft) | 60 | | | 65 | | | 60 | | | 90 | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | | 30 |
| Link Distance (ft) | | 755 | | | 803 | | | 448 | | | | 197 |
| Travel Time (s) | | 17.2 | | | 18.3 | | | 10.2 | | | | 4.5 |
| 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 |
| Adj. Flow (vph) | 15 | 212 | 48 | 20 | 224 | 21 | 41 | 1 | 18 | 34 | 1 | 50 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 15 | 212 | 48 | 20 | 245 | 0 | 41 | 19 | 0 | 0 | 85 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | | Stop |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.1 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 14 | 199 | 45 | 19 | 211 | 20 | 39 | 1 | 17 | 32 | 1 | 47 |
| Future Vol, veh/h | 14 | 199 | 45 | 19 | 211 | 20 | 39 | 1 | 17 | 32 | 1 | 47 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | 120 | 130 | - | - | 100 | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 15 | 212 | 48 | 20 | 224 | 21 | 41 | 1 | 18 | 34 | 1 | 50 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 245 | 0 | 0 | 260 | 0 | 0 | 542 | 527 | 212 | 551 | 565 | 235 |
| Stage 1 | - | - | - | - | - | - | 242 | 242 | - | 275 | 275 | - |
| Stage 2 | - | - | - | - | - | - | 300 | 285 | - | 276 | 290 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1321 | - | - | 1304 | - | - | 451 | 456 | 828 | 445 | 434 | 804 |
| Stage 1 | - | - | - | - | - | - | 762 | 705 | - | 731 | 683 | - |
| Stage 2 | - | - | - | - | - | - | 709 | 676 | - | 730 | 672 | - |
| Platoon blocked, % | | - | - | | - | - | | | | | | |
| Mov Cap-1 Maneuver | 1321 | - | - | 1304 | - | - | 414 | 444 | 828 | 426 | 423 | 804 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 414 | 444 | - | 426 | 423 | - |
| Stage 1 | - | - | - | - | - | - | 754 | 697 | - | 723 | 673 | - |
| Stage 2 | - | - | - | - | - | - | 654 | 666 | - | 705 | 665 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.4 | | | 0.6 | | | 13.1 | | | 12.2 | | |
| HCM LOS | | | | | | | B | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 414 | 790 | 1321 | - | - | 1304 | - | - | 588 |
| HCM Lane V/C Ratio | 0.1 | 0.024 | 0.011 | - | - | 0.016 | - | - | 0.145 |
| HCM Control Delay (s) | 14.7 | 9.7 | 7.8 | - | - | 7.8 | - | - | 12.2 |
| HCM Lane LOS | B | A | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.3 | 0.1 | 0 | - | - | 0 | - | - | 0.5 |

Lanes, Volumes, Timings
5: College Dr. & Pacific Av.

EAPC (2024) PM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 13 | 184 | 166 | 112 | 88 | 14 |
| Future Volume (vph) | 13 | 184 | 166 | 112 | 88 | 14 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 711 | 644 | | 595 | |
| Travel Time (s) | | 16.2 | 14.6 | | 13.5 | |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 15 | 207 | 187 | 126 | 99 | 16 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 222 | 313 | 0 | 115 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

















Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 4.5 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 222 | 313 | 115 |
| Demand Flow Rate, veh/h | 226 | 320 | 117 |
| Vehicles Circulating, veh/h | 101 | 15 | 191 |
| Vehicles Exiting, veh/h | 207 | 312 | 144 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.5 | 4.7 | 4.1 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 226 | 320 | 117 |
| Cap Entry Lane, veh/h | 1245 | 1359 | 1136 |
| Entry HV Adj Factor | 0.982 | 0.979 | 0.983 |
| Flow Entry, veh/h | 222 | 313 | 115 |
| Cap Entry, veh/h | 1222 | 1330 | 1116 |
| V/C Ratio | 0.182 | 0.235 | 0.103 |
| Control Delay, s/veh | 4.5 | 4.7 | 4.1 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 0 |

Lanes, Volumes, Timings
6: College Dr. & University Park Dr.

EAPC (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (vph) | 6 | 36 | 9 | 31 | 54 | 203 | 13 | 89 | 22 | 158 | 110 | 5 |
| Future Volume (vph) | 6 | 36 | 9 | 31 | 54 | 203 | 13 | 89 | 22 | 158 | 110 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 974 | | | 473 | | | 829 | | | 921 | |
| Travel Time (s) | | 22.1 | | | 10.8 | | | 18.8 | | | 20.9 | |
| 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 |
| Adj. Flow (vph) | 7 | 43 | 11 | 37 | 65 | 245 | 16 | 107 | 27 | 190 | 133 | 6 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 61 | 0 | 0 | 347 | 0 | 0 | 150 | 0 | 0 | 329 | 0 |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 5.4 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 61 | 347 | 150 | 329 |
| Demand Flow Rate, veh/h | 62 | 354 | 153 | 336 |
| Vehicles Circulating, veh/h | 368 | 132 | 245 | 120 |
| Vehicles Exiting, veh/h | 88 | 266 | 185 | 366 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.4 | 5.8 | 4.7 | 5.5 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 62 | 354 | 153 | 336 |
| Cap Entry Lane, veh/h | 948 | 1206 | 1075 | 1221 |
| Entry HV Adj Factor | 0.986 | 0.979 | 0.979 | 0.980 |
| Flow Entry, veh/h | 61 | 347 | 150 | 329 |
| Cap Entry, veh/h | 935 | 1181 | 1053 | 1197 |
| V/C Ratio | 0.065 | 0.294 | 0.142 | 0.275 |
| Control Delay, s/veh | 4.4 | 5.8 | 4.7 | 5.5 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 0 | 1 | 0 | 1 |

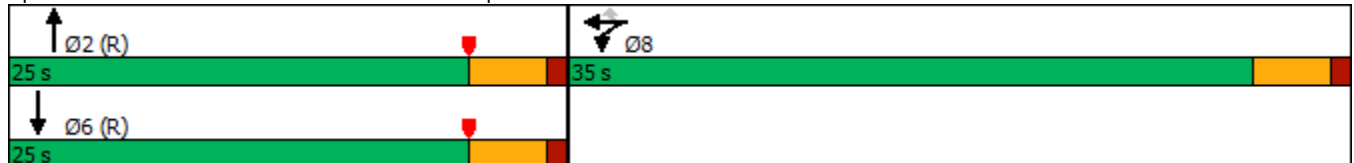
Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

EAPC (2024) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|-------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 623 | 0 | 82 | 0 | 763 | 988 | 0 | 300 | 88 |
| Future Volume (vph) | 0 | 0 | 0 | 623 | 0 | 82 | 0 | 763 | 988 | 0 | 300 | 88 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 12.8 | | | 11.3 | |
| 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 |
| Adj. Flow (vph) | 0 | 0 | 0 | 670 | 0 | 88 | 0 | 820 | 1062 | 0 | 323 | 95 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 670 | 88 | 0 | 820 | 1062 | 0 | 418 | 0 |
| Turn Type | | | | Split | NA | Perm | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | Free | | | |
| Detector Phase | | | | 8 | 8 | 8 | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | 5.0 | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 35.0 | 35.0 | 35.0 | | 25.0 | | | 25.0 | |
| Total Split (%) | | | | 58.3% | 58.3% | 58.3% | | 41.7% | | | 41.7% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | None | | C-Max | | | C-Max | |



















Intersection Summary
 Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

EAPC (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | |  |  | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 623 | 0 | 82 | 0 | 763 | 988 | 0 | 300 | 88 |
| Future Volume (veh/h) | 0 | 0 | 0 | 623 | 0 | 82 | 0 | 763 | 988 | 0 | 300 | 88 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 670 | 0 | 88 | 0 | 820 | 0 | 0 | 323 | 95 |
| Peak Hour Factor | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 764 | 0 | 680 | 0 | 1497 | | 0 | 1670 | 468 |
| Arrive On Green | | | | 0.43 | 0.00 | 0.43 | 0.00 | 0.56 | 0.00 | 0.00 | 0.42 | 0.42 |
| Sat Flow, veh/h | | | | 1781 | 0 | 1585 | 0 | 3647 | 1585 | 0 | 4132 | 1111 |
| Grp Volume(v), veh/h | | | | 670 | 0 | 88 | 0 | 820 | 0 | 0 | 275 | 143 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 0 | 1585 | 0 | 1777 | 1585 | 0 | 1702 | 1670 |
| Q Serve(g_s), s | | | | 20.7 | 0.0 | 2.0 | 0.0 | 8.8 | 0.0 | 0.0 | 3.1 | 3.2 |
| Cycle Q Clear(g_c), s | | | | 20.7 | 0.0 | 2.0 | 0.0 | 8.8 | 0.0 | 0.0 | 3.1 | 3.2 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 1.00 | 0.00 | | 0.67 |
| Lane Grp Cap(c), veh/h | | | | 764 | 0 | 680 | 0 | 1497 | | 0 | 1434 | 704 |
| V/C Ratio(X) | | | | 0.88 | 0.00 | 0.13 | 0.00 | 0.55 | | 0.00 | 0.19 | 0.20 |
| Avail Cap(c_a), veh/h | | | | 905 | 0 | 806 | 0 | 1497 | | 0 | 1434 | 704 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.00 | 0.28 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 15.7 | 0.0 | 10.4 | 0.0 | 9.6 | 0.0 | 0.0 | 10.9 | 11.0 |
| Incr Delay (d2), s/veh | | | | 8.6 | 0.0 | 0.1 | 0.0 | 0.4 | 0.0 | 0.0 | 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 |
| %ile BackOfQ(50%),veh/ln | | | | 9.0 | 0.0 | 0.6 | 0.0 | 2.6 | 0.0 | 0.0 | 1.1 | 1.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 24.3 | 0.0 | 10.5 | 0.0 | 10.0 | 0.0 | 0.0 | 11.2 | 11.6 |
| LnGrp LOS | | | | C | A | B | A | A | | A | B | B |
| Approach Vol, veh/h | | | | | 758 | | | 820 | | | 418 | |
| Approach Delay, s/veh | | | | | 22.7 | | | 10.0 | | | 11.4 | |
| Approach LOS | | | | | C | | | A | | | B | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 29.8 | | | | 29.8 | | 30.2 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 20.5 | | | | 20.5 | | 30.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 10.8 | | | | 5.2 | | 22.7 | | | | |
| Green Ext Time (p_c), s | | 3.9 | | | | 2.3 | | 3.1 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 15.1 |
| HCM 6th LOS | B |

Notes

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

Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

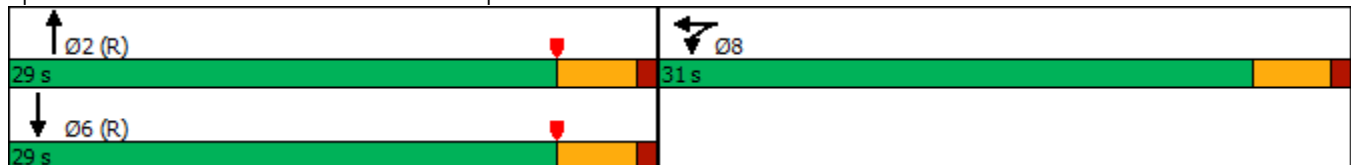
EAPC (2024) PM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 623 | 0 | 82 | 0 | 763 | 988 | 0 | 300 | 88 |
| Future Volume (vph) | 0 | 0 | 0 | 623 | 0 | 82 | 0 | 763 | 988 | 0 | 300 | 88 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 1 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 12.8 | | | 11.3 | |
| 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 |
| Adj. Flow (vph) | 0 | 0 | 0 | 670 | 0 | 88 | 0 | 820 | 1062 | 0 | 323 | 95 |
| Shared Lane Traffic (%) | | | | 43% | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 382 | 376 | 0 | 0 | 820 | 1062 | 0 | 418 | 0 |
| Turn Type | | | | Split | NA | | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | Free | | | |
| Detector Phase | | | | 8 | 8 | | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 31.0 | 31.0 | | | 29.0 | | | 29.0 | |
| Total Split (%) | | | | 51.7% | 51.7% | | | 48.3% | | | 48.3% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | 4.5 | 4.5 | | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | | | C-Max | | | C-Max | |

Intersection Summary



















Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 45
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

EAPC (2024) PM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  | | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 623 | 0 | 82 | 0 | 763 | 988 | 0 | 300 | 88 |
| Future Volume (veh/h) | 0 | 0 | 0 | 623 | 0 | 82 | 0 | 763 | 988 | 0 | 300 | 88 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 752 | 0 | 0 | 0 | 820 | 0 | 0 | 323 | 95 |
| Peak Hour Factor | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 962 | 505 | 0 | 0 | 2061 | | 0 | 2298 | 644 |
| Arrive On Green | | | | 0.27 | 0.00 | 0.00 | 0.00 | 0.58 | 0.00 | 0.00 | 0.58 | 0.58 |
| Sat Flow, veh/h | | | | 3563 | 1870 | 0 | 0 | 3647 | 1585 | 0 | 4132 | 1111 |
| Grp Volume(v), veh/h | | | | 752 | 0 | 0 | 0 | 820 | 0 | 0 | 275 | 143 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 1870 | 0 | 0 | 1777 | 1585 | 0 | 1702 | 1670 |
| Q Serve(g_s), s | | | | 11.7 | 0.0 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 | 2.2 | 2.4 |
| Cycle Q Clear(g_c), s | | | | 11.7 | 0.0 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 | 2.2 | 2.4 |
| Prop In Lane | | | | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 0.67 |
| Lane Grp Cap(c), veh/h | | | | 962 | 505 | 0 | 0 | 2061 | | 0 | 1974 | 969 |
| V/C Ratio(X) | | | | 0.78 | 0.00 | 0.00 | 0.00 | 0.40 | | 0.00 | 0.14 | 0.15 |
| Avail Cap(c_a), veh/h | | | | 1573 | 826 | 0 | 0 | 2061 | | 0 | 1974 | 969 |
| 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 | 0.00 | 0.79 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 20.3 | 0.0 | 0.0 | 0.0 | 6.9 | 0.0 | 0.0 | 5.8 | 5.8 |
| Incr Delay (d2), s/veh | | | | 1.4 | 0.0 | 0.0 | 0.0 | 0.5 | 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 | | | | 4.6 | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 | 0.0 | 0.7 | 0.7 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 21.7 | 0.0 | 0.0 | 0.0 | 7.3 | 0.0 | 0.0 | 5.9 | 6.1 |
| LnGrp LOS | | | | C | A | A | A | A | | A | A | A |
| Approach Vol, veh/h | | | | | 752 | | | 820 | | | 418 | |
| Approach Delay, s/veh | | | | | 21.7 | | | 7.3 | | | 6.0 | |
| Approach LOS | | | | | C | | | A | | | A | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 39.3 | | | | 39.3 | | 20.7 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 24.5 | | | | 24.5 | | 26.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 9.6 | | | | 4.4 | | 13.7 | | | | |
| Green Ext Time (p_c), s | | 5.1 | | | | 2.6 | | 2.5 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 12.5 |
| HCM 6th LOS | B |

Notes

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

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

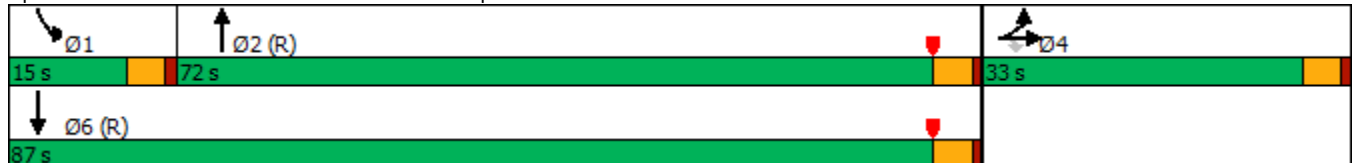
EAPC (2024) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 338 | 1 | 798 | 0 | 0 | 0 | 0 | 1413 | 1096 | 78 | 846 | 0 |
| Future Volume (vph) | 338 | 1 | 798 | 0 | 0 | 0 | 0 | 1413 | 1096 | 78 | 846 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 0 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 0 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 17.3 | | | 12.8 | |
| 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 |
| Adj. Flow (vph) | 363 | 1 | 858 | 0 | 0 | 0 | 0 | 1519 | 1178 | 84 | 910 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 363 | 430 | 429 | 0 | 0 | 0 | 0 | 2697 | 0 | 84 | 910 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 9.5 | 9.5 | 9.5 | | | | | 9.5 | | 15.0 | 22.5 | |
| Total Split (s) | 33.0 | 33.0 | 33.0 | | | | | 72.0 | | 15.0 | 87.0 | |
| Total Split (%) | 27.5% | 27.5% | 27.5% | | | | | 60.0% | | 12.5% | 72.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary





















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
 8: Cook St. & I-10 EB Ramps

EAPC (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |  |  |  |  |  |
| Traffic Volume (veh/h) | 338 | 1 | 798 | 0 | 0 | 0 | 0 | 1413 | 1096 | 78 | 846 | 0 |
| Future Volume (veh/h) | 338 | 1 | 798 | 0 | 0 | 0 | 0 | 1413 | 1096 | 78 | 846 | 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 | 363 | 0 | 859 | | | | 0 | 1519 | 1178 | 84 | 910 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 423 | 0 | 753 | | | | 0 | 2011 | 937 | 105 | 3510 | 0 |
| Arrive On Green | 0.29 | 0.00 | 0.29 | | | | 0.00 | 1.00 | 1.00 | 0.12 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 3572 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 363 | 0 | 859 | | | | 0 | 1519 | 1178 | 84 | 910 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 23.1 | 0.0 | 28.5 | | | | 0.0 | 0.0 | 66.2 | 5.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 23.1 | 0.0 | 28.5 | | | | 0.0 | 0.0 | 66.2 | 5.5 | 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 | 423 | 0 | 753 | | | | 0 | 2011 | 937 | 105 | 3510 | 0 |
| V/C Ratio(X) | 0.86 | 0.00 | 1.14 | | | | 0.00 | 0.76 | 1.26 | 0.80 | 0.26 | 0.00 |
| Avail Cap(c_a), veh/h | 423 | 0 | 753 | | | | 0 | 2011 | 937 | 156 | 3510 | 0 |
| HCM Platoon Ratio | 1.20 | 1.20 | 1.20 | | | | 1.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.99 | 0.99 | 0.00 |
| Uniform Delay (d), s/veh | 41.0 | 0.0 | 42.9 | | | | 0.0 | 0.0 | 0.0 | 52.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 16.0 | 0.0 | 79.0 | | | | 0.0 | 2.7 | 124.7 | 15.8 | 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 | 11.7 | 0.0 | 19.0 | | | | 0.0 | 0.8 | 32.4 | 2.8 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 57.0 | 0.0 | 121.9 | | | | 0.0 | 2.7 | 124.7 | 68.0 | 0.2 | 0.0 |
| LnGrp LOS | E | A | F | | | | A | A | F | E | A | A |
| Approach Vol, veh/h | | 1222 | | | | | | 2697 | | | 994 | |
| Approach Delay, s/veh | | 102.6 | | | | | | 56.0 | | | 5.9 | |
| Approach LOS | | F | | | | | | E | | | A | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | | | 6 | | | | |
| Phs Duration (G+Y+Rc), s | 11.6 | 75.4 | | 33.0 | | | | 87.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | | | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 10.5 | 67.5 | | 28.5 | | | | 82.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.5 | 68.2 | | 30.5 | | | | 2.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | | | | 8.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 57.4 | | | | | | | | | |
| HCM 6th LOS | | | E | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

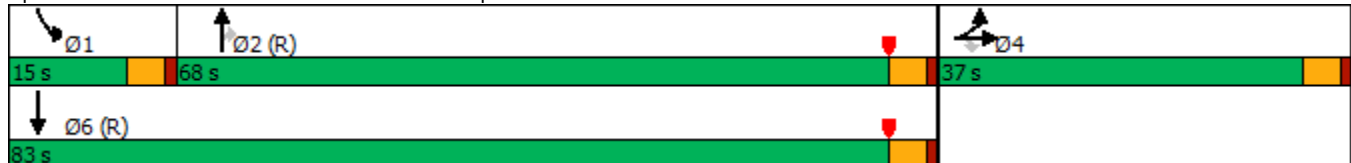
EAPC (2024) PM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|-------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 338 | 1 | 798 | 0 | 0 | 0 | 0 | 1413 | 1096 | 78 | 846 | 0 |
| Future Volume (vph) | 338 | 1 | 798 | 0 | 0 | 0 | 0 | 1413 | 1096 | 78 | 846 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 0 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 1 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 17.3 | | | 12.8 | |
| 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 |
| Adj. Flow (vph) | 363 | 1 | 858 | 0 | 0 | 0 | 0 | 1519 | 1178 | 84 | 910 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 363 | 430 | 429 | 0 | 0 | 0 | 0 | 1519 | 1178 | 84 | 910 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | Perm | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | 2 | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | 2 | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | 5.0 | 5.0 | 5.0 | |
| Minimum Split (s) | 37.0 | 37.0 | 37.0 | | | | | 68.0 | 68.0 | 15.0 | 22.5 | |
| Total Split (s) | 37.0 | 37.0 | 37.0 | | | | | 68.0 | 68.0 | 15.0 | 83.0 | |
| Total Split (%) | 30.8% | 30.8% | 30.8% | | | | | 56.7% | 56.7% | 12.5% | 69.2% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | 3.5 | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | 1.0 | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | 0.0 | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | 4.5 | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | Lag | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | Yes | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | C-Max | None | C-Max | |

Intersection Summary

























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

EAPC (2024) PM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |    |  |  |    |  |
| Traffic Volume (veh/h) | 338 | 1 | 798 | 0 | 0 | 0 | 0 | 1413 | 1096 | 78 | 846 | 0 |
| Future Volume (veh/h) | 338 | 1 | 798 | 0 | 0 | 0 | 0 | 1413 | 1096 | 78 | 846 | 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 | 363 | 0 | 859 | | | | 0 | 1519 | 1178 | 84 | 910 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 482 | 0 | 859 | | | | 0 | 2847 | 884 | 105 | 3340 | 0 |
| Arrive On Green | 0.34 | 0.00 | 0.34 | | | | 0.00 | 1.00 | 1.00 | 0.12 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 5274 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 363 | 0 | 859 | | | | 0 | 1519 | 1178 | 84 | 910 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 21.7 | 0.0 | 32.5 | | | | 0.0 | 0.0 | 0.0 | 5.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 21.7 | 0.0 | 32.5 | | | | 0.0 | 0.0 | 0.0 | 5.5 | 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 | 482 | 0 | 859 | | | | 0 | 2847 | 884 | 105 | 3340 | 0 |
| V/C Ratio(X) | 0.75 | 0.00 | 1.00 | | | | 0.00 | 0.53 | 1.33 | 0.80 | 0.27 | 0.00 |
| Avail Cap(c_a), veh/h | 482 | 0 | 859 | | | | 0 | 2847 | 884 | 156 | 3340 | 0 |
| HCM Platoon Ratio | 1.25 | 1.25 | 1.25 | | | | 1.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.92 | 0.92 | 0.00 |
| Uniform Delay (d), s/veh | 36.1 | 0.0 | 39.7 | | | | 0.0 | 0.0 | 0.0 | 52.2 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 6.6 | 0.0 | 30.8 | | | | 0.0 | 0.7 | 157.6 | 14.8 | 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 | 9.9 | 0.0 | 15.6 | | | | 0.0 | 0.2 | 38.7 | 2.8 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 42.7 | 0.0 | 70.5 | | | | 0.0 | 0.7 | 157.6 | 67.0 | 0.2 | 0.0 |
| LnGrp LOS | D | A | F | | | | A | A | F | E | A | A |
| Approach Vol, veh/h | | 1222 | | | | | | 2697 | | | 994 | |
| Approach Delay, s/veh | | 62.2 | | | | | | 69.2 | | | 5.8 | |
| Approach LOS | | E | | | | | | E | | | A | |
| Timer - Assigned Phs | 1 | 2 | 4 | 6 | | | | | | | | |
| Phs Duration (G+Y+Rc), s | 11.6 | 71.4 | 37.0 | 83.0 | | | | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | | |
| Max Green Setting (Gmax), s | 10.5 | 63.5 | 32.5 | 78.5 | | | | | | | | |
| Max Q Clear Time (g_c+I1), s | 7.5 | 2.0 | 34.5 | 2.0 | | | | | | | | |
| Green Ext Time (p_c), s | 0.0 | 37.4 | 0.0 | 8.2 | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 54.7 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |

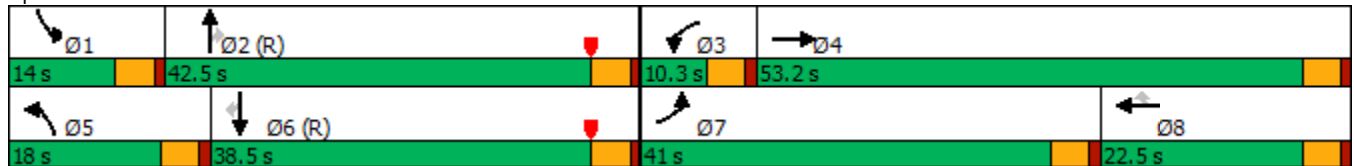
Lanes, Volumes, Timings
9: Cook St. & Gerald Ford Dr.

EAPC (2024) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 841 | 344 | 245 | 65 | 296 | 165 | 283 | 1272 | 26 | 174 | 867 | 522 |
| Future Volume (vph) | 841 | 344 | 245 | 65 | 296 | 165 | 283 | 1272 | 26 | 174 | 867 | 522 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 225 | | 230 | 160 | | 200 | 210 | | 120 | 290 | | 360 |
| Storage Lanes | 2 | | 0 | 2 | | 1 | 2 | | 1 | 2 | | 1 |
| Taper Length (ft) | 130 | | | 160 | | | 140 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 936 | | | 424 | | | 1144 | | | 831 | |
| Travel Time (s) | | 16.0 | | | 5.8 | | | 14.2 | | | 10.3 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 895 | 366 | 261 | 69 | 315 | 176 | 301 | 1353 | 28 | 185 | 922 | 555 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 895 | 366 | 261 | 69 | 315 | 176 | 301 | 1353 | 28 | 185 | 922 | 555 |
| Turn Type | Prot | NA | Free | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 |
| Total Split (s) | 41.0 | 53.2 | | 10.3 | 22.5 | 22.5 | 18.0 | 42.5 | 42.5 | 14.0 | 38.5 | 38.5 |
| Total Split (%) | 34.2% | 44.3% | | 8.6% | 18.8% | 18.8% | 15.0% | 35.4% | 35.4% | 11.7% | 32.1% | 32.1% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |



































Intersection Summary
 Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 9: Cook St. & Gerald Ford Dr.



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

EAPC (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |    |  |   |    |  |
| Traffic Volume (veh/h) | 841 | 344 | 245 | 65 | 296 | 165 | 283 | 1272 | 26 | 174 | 867 | 522 |
| Future Volume (veh/h) | 841 | 344 | 245 | 65 | 296 | 165 | 283 | 1272 | 26 | 174 | 867 | 522 |
| 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 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 895 | 366 | 0 | 69 | 315 | 176 | 301 | 1353 | 28 | 185 | 922 | 555 |
| 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 | 956 | 1328 | | 130 | 479 | 211 | 357 | 1884 | 583 | 241 | 1712 | 529 |
| Arrive On Green | 0.46 | 0.62 | 0.00 | 0.04 | 0.13 | 0.13 | 0.10 | 0.37 | 0.37 | 0.07 | 0.34 | 0.34 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1567 | 3456 | 5106 | 1579 | 3456 | 5106 | 1578 |
| Grp Volume(v), veh/h | 895 | 366 | 0 | 69 | 315 | 176 | 301 | 1353 | 28 | 185 | 922 | 555 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1567 | 1728 | 1702 | 1579 | 1728 | 1702 | 1578 |
| Q Serve(g_s), s | 29.5 | 5.6 | 0.0 | 2.4 | 10.1 | 13.1 | 10.3 | 27.3 | 1.4 | 6.3 | 17.6 | 40.2 |
| Cycle Q Clear(g_c), s | 29.5 | 5.6 | 0.0 | 2.4 | 10.1 | 13.1 | 10.3 | 27.3 | 1.4 | 6.3 | 17.6 | 40.2 |
| 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 | 956 | 1328 | | 130 | 479 | 211 | 357 | 1884 | 583 | 241 | 1712 | 529 |
| V/C Ratio(X) | 0.94 | 0.28 | | 0.53 | 0.66 | 0.83 | 0.84 | 0.72 | 0.05 | 0.77 | 0.54 | 1.05 |
| Avail Cap(c_a), veh/h | 1051 | 1442 | | 167 | 533 | 235 | 389 | 1884 | 583 | 274 | 1712 | 529 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.81 | 0.81 | 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 | 31.3 | 15.2 | 0.0 | 56.7 | 49.3 | 50.6 | 52.8 | 32.5 | 24.3 | 54.9 | 32.3 | 39.9 |
| Incr Delay (d2), s/veh | 12.1 | 0.1 | 0.0 | 3.4 | 2.6 | 20.4 | 14.5 | 2.4 | 0.2 | 11.0 | 1.2 | 52.5 |
| 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 | 11.4 | 2.1 | 0.0 | 1.1 | 4.5 | 6.2 | 5.0 | 10.9 | 0.5 | 3.0 | 7.0 | 22.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 43.4 | 15.3 | 0.0 | 60.1 | 51.8 | 71.0 | 67.3 | 34.9 | 24.5 | 65.9 | 33.6 | 92.4 |
| LnGrp LOS | D | B | | E | D | E | E | C | C | E | C | F |
| Approach Vol, veh/h | | 1261 | | | 560 | | | 1682 | | | 1662 | |
| Approach Delay, s/veh | | 35.2 | | | 58.9 | | | 40.5 | | | 56.8 | |
| Approach LOS | | D | | | E | | | D | | | E | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 12.9 | 48.8 | 9.0 | 49.4 | 16.9 | 44.7 | 37.7 | 20.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 9.5 | 38.0 | 5.8 | 48.7 | 13.5 | 34.0 | 36.5 | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.3 | 29.3 | 4.4 | 7.6 | 12.3 | 42.2 | 31.5 | 15.1 | | | | |
| Green Ext Time (p_c), s | 0.1 | 5.2 | 0.0 | 2.4 | 0.1 | 0.0 | 1.7 | 0.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 46.5 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
 10: Cook St. & University Park Dr./Berger Dr. W.

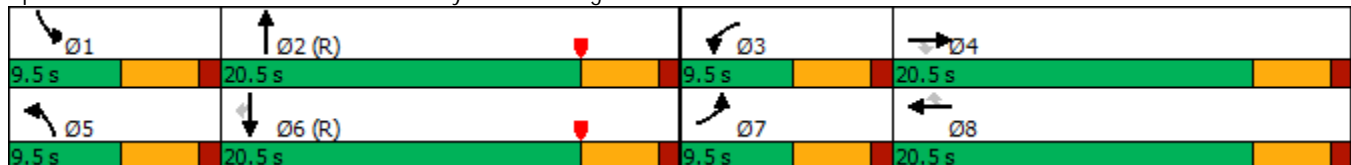
EAPC (2024) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 66 | 94 | 89 | 74 | 114 | 201 | 105 | 1481 | 50 | 141 | 1220 | 68 |
| Future Volume (vph) | 66 | 94 | 89 | 74 | 114 | 201 | 105 | 1481 | 50 | 141 | 1220 | 68 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 180 | | 180 | 100 | | 0 | 140 | | 140 | 225 | | 295 |
| Storage Lanes | 1 | | 1 | 0 | | 1 | 1 | | 1 | 2 | | 0 |
| Taper Length (ft) | 90 | | | 0 | | | 160 | | | 165 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 473 | | | 452 | | | 1623 | | | 476 | |
| Travel Time (s) | | 10.8 | | | 10.3 | | | 36.9 | | | 10.8 | |
| 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 |
| Adj. Flow (vph) | 73 | 104 | 99 | 82 | 127 | 223 | 117 | 1646 | 56 | 157 | 1356 | 76 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 73 | 104 | 99 | 82 | 127 | 223 | 117 | 1646 | 56 | 157 | 1356 | 76 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Free | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (%) | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | | 15.8% | 34.2% | 34.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Cook St. & University Park Dr./Berger Dr. W.



HCM 6th Signalized Intersection Summary
 10: Cook St. & University Park Dr./Berger Dr. W.

EAPC (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 66 | 94 | 89 | 74 | 114 | 201 | 105 | 1481 | 50 | 141 | 1220 | 68 |
| Future Volume (veh/h) | 66 | 94 | 89 | 74 | 114 | 201 | 105 | 1481 | 50 | 141 | 1220 | 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 | 73 | 104 | 99 | 82 | 127 | 0 | 117 | 1646 | 0 | 157 | 1356 | 76 |
| 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 | 104 | 192 | 163 | 111 | 198 | | 147 | 2339 | | 267 | 2311 | 717 |
| Arrive On Green | 0.06 | 0.10 | 0.10 | 0.06 | 0.11 | 0.00 | 0.17 | 0.92 | 0.00 | 0.08 | 0.45 | 0.45 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 73 | 104 | 99 | 82 | 127 | 0 | 117 | 1646 | 0 | 157 | 1356 | 76 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 2.4 | 3.2 | 3.6 | 2.7 | 3.9 | 0.0 | 3.8 | 4.6 | 0.0 | 2.6 | 11.9 | 1.7 |
| Cycle Q Clear(g_c), s | 2.4 | 3.2 | 3.6 | 2.7 | 3.9 | 0.0 | 3.8 | 4.6 | 0.0 | 2.6 | 11.9 | 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 | 104 | 192 | 163 | 111 | 198 | | 147 | 2339 | | 267 | 2311 | 717 |
| V/C Ratio(X) | 0.70 | 0.54 | 0.61 | 0.74 | 0.64 | | 0.79 | 0.70 | | 0.59 | 0.59 | 0.11 |
| Avail Cap(c_a), veh/h | 148 | 499 | 423 | 148 | 499 | | 148 | 2339 | | 288 | 2311 | 717 |
| 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 | 1.00 | 1.00 | 0.00 | 0.09 | 0.09 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.7 | 25.6 | 25.8 | 27.7 | 25.7 | 0.0 | 24.5 | 1.6 | 0.0 | 26.8 | 12.2 | 9.4 |
| Incr Delay (d2), s/veh | 8.1 | 2.4 | 3.6 | 12.6 | 3.4 | 0.0 | 2.7 | 0.2 | 0.0 | 2.7 | 1.1 | 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 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.2 | 1.5 | 1.4 | 1.5 | 1.8 | 0.0 | 1.5 | 0.6 | 0.0 | 1.1 | 4.1 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 35.9 | 27.9 | 29.4 | 40.2 | 29.1 | 0.0 | 27.3 | 1.7 | 0.0 | 29.5 | 13.3 | 9.7 |
| LnGrp LOS | D | C | C | D | C | | C | A | | C | B | A |
| Approach Vol, veh/h | | 276 | | | 209 | | | 1763 | | | 1589 | |
| Approach Delay, s/veh | | 30.6 | | | 33.5 | | | 3.4 | | | 14.8 | |
| Approach LOS | | C | | | C | | | A | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 9.1 | 32.0 | 8.2 | 10.7 | 9.5 | 31.7 | 8.0 | 10.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 16.0 | 5.0 | 16.0 | 5.0 | 16.0 | 5.0 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.6 | 6.6 | 4.7 | 5.6 | 5.8 | 13.9 | 4.4 | 5.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 7.0 | 0.0 | 0.6 | 0.0 | 1.7 | 0.0 | 0.4 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 11.7 |
| HCM 6th LOS | B |

Notes

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

Lanes, Volumes, Timings
11: Cook St. & Frank Sinatra Dr.

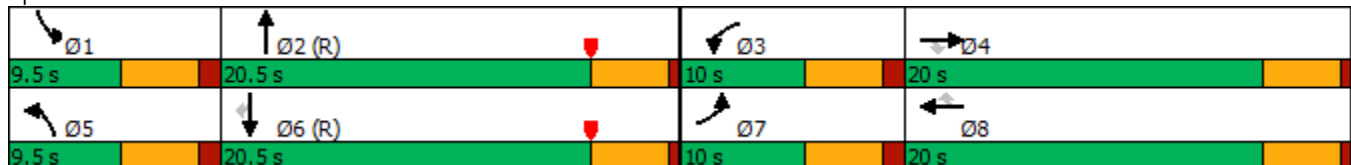
EAPC (2024) PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 442 | 311 | 141 | 47 | 228 | 90 | 124 | 1128 | 82 | 128 | 944 | 302 |
| Future Volume (vph) | 442 | 311 | 141 | 47 | 228 | 90 | 124 | 1128 | 82 | 128 | 944 | 302 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 220 | | 135 | 135 | | 260 | 140 | | 0 | 210 | | 220 |
| Storage Lanes | 2 | | 1 | 2 | | 1 | 2 | | 0 | 2 | | 1 |
| Taper Length (ft) | 120 | | | 110 | | | 110 | | | 140 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1477 | | | 944 | | | 330 | | | 1623 | |
| Travel Time (s) | | 33.6 | | | 21.5 | | | 7.5 | | | 36.9 | |
| 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 |
| Adj. Flow (vph) | 480 | 338 | 153 | 51 | 248 | 98 | 135 | 1226 | 89 | 139 | 1026 | 328 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 480 | 338 | 153 | 51 | 248 | 98 | 135 | 1315 | 0 | 139 | 1026 | 328 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 10.0 | 20.0 | 20.0 | 10.0 | 20.0 | 20.0 | 9.5 | 20.0 | | 9.5 | 20.0 | 20.0 |
| Total Split (s) | 10.0 | 20.0 | 20.0 | 10.0 | 20.0 | 20.0 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (%) | 16.7% | 33.3% | 33.3% | 16.7% | 33.3% | 33.3% | 15.8% | 34.2% | | 15.8% | 34.2% | 34.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary
































Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Cook St. & Frank Sinatra Dr.



HCM 6th Signalized Intersection Summary
 11: Cook St. & Frank Sinatra Dr.

EAPC (2024) PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |   | |   |    | |
| Traffic Volume (veh/h) | 442 | 311 | 141 | 47 | 228 | 90 | 124 | 1128 | 82 | 128 | 944 | 302 |
| Future Volume (veh/h) | 442 | 311 | 141 | 47 | 228 | 90 | 124 | 1128 | 82 | 128 | 944 | 302 |
| 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 | 480 | 338 | 153 | 51 | 248 | 98 | 135 | 1226 | 89 | 139 | 1026 | 328 |
| 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 | 317 | 587 | 262 | 165 | 431 | 192 | 258 | 1440 | 104 | 260 | 2192 | 680 |
| Arrive On Green | 0.09 | 0.17 | 0.17 | 0.05 | 0.12 | 0.12 | 0.07 | 0.43 | 0.43 | 0.15 | 0.86 | 0.86 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1585 | 3456 | 3360 | 244 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 480 | 338 | 153 | 51 | 248 | 98 | 135 | 647 | 668 | 139 | 1026 | 328 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1585 | 1728 | 1777 | 1827 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 5.5 | 5.3 | 5.4 | 0.9 | 4.0 | 3.5 | 2.3 | 19.7 | 19.7 | 2.2 | 2.9 | 3.0 |
| Cycle Q Clear(g_c), s | 5.5 | 5.3 | 5.4 | 0.9 | 4.0 | 3.5 | 2.3 | 19.7 | 19.7 | 2.2 | 2.9 | 3.0 |
| 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 | 317 | 587 | 262 | 165 | 431 | 192 | 258 | 762 | 783 | 260 | 2192 | 680 |
| V/C Ratio(X) | 1.52 | 0.58 | 0.58 | 0.31 | 0.58 | 0.51 | 0.52 | 0.85 | 0.85 | 0.54 | 0.47 | 0.48 |
| Avail Cap(c_a), veh/h | 317 | 948 | 423 | 317 | 948 | 423 | 288 | 762 | 783 | 288 | 2192 | 680 |
| 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 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.70 | 0.70 | 0.70 |
| Uniform Delay (d), s/veh | 27.2 | 23.1 | 23.1 | 27.6 | 24.9 | 24.7 | 26.7 | 15.4 | 15.4 | 24.5 | 2.6 | 2.6 |
| Incr Delay (d2), s/veh | 247.5 | 0.9 | 2.1 | 1.1 | 1.2 | 2.1 | 1.6 | 11.4 | 11.3 | 1.2 | 0.5 | 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 | 13.0 | 2.1 | 2.0 | 0.4 | 1.6 | 1.3 | 0.9 | 9.2 | 9.4 | 0.9 | 0.7 | 0.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 274.8 | 24.0 | 25.2 | 28.7 | 26.1 | 26.8 | 28.4 | 26.9 | 26.8 | 25.7 | 3.1 | 4.3 |
| LnGrp LOS | F | C | C | C | C | C | C | C | C | C | A | A |
| Approach Vol, veh/h | | 971 | | | 397 | | | 1450 | | | 1493 | |
| Approach Delay, s/veh | | 148.2 | | | 26.6 | | | 27.0 | | | 5.5 | |
| Approach LOS | | F | | | C | | | C | | | A | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 9.0 | 29.7 | 7.4 | 13.9 | 9.0 | 29.8 | 10.0 | 11.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 16.5 | 5.5 | 16.0 | 5.0 | 16.5 | 5.5 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.2 | 21.7 | 2.9 | 7.4 | 4.3 | 5.0 | 7.5 | 6.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 1.8 | 0.0 | 6.3 | 0.0 | 1.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 46.8 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Lanes, Volumes, Timings
 12: Main Dwy. & Gerald Ford Dr.

EAPC (2024) PM Peak Hour

| | → | ↘ | ↙ | ← | ↖ | ↗ |
|-------------------------|------|------|------|------|------|------|
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑↑ | ↗ | | ↑↑↑ | | ↗ |
| Traffic Volume (vph) | 1017 | 14 | 0 | 1011 | 0 | 158 |
| Future Volume (vph) | 1017 | 14 | 0 | 1011 | 0 | 158 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 150 | 0 | | 0 | 0 |
| Storage Lanes | | 1 | 0 | | 0 | 1 |
| Taper Length (ft) | | | 90 | | 90 | |
| Link Speed (mph) | 30 | | | 30 | 30 | |
| Link Distance (ft) | 1749 | | | 549 | 252 | |
| Travel Time (s) | 39.8 | | | 12.5 | 5.7 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1105 | 15 | 0 | 1099 | 0 | 172 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1105 | 15 | 0 | 1099 | 0 | 172 |
| Sign Control | Free | | | Free | Stop | |

Intersection Summary

Area Type: Other
 Control Type: Unsignalized

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.4 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑↑ | ↑ | | ↑↑↑ | | ↑ |
| Traffic Vol, veh/h | 1017 | 14 | 0 | 1011 | 0 | 158 |
| Future Vol, veh/h | 1017 | 14 | 0 | 1011 | 0 | 158 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 150 | - | - | - | 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 | 1105 | 15 | 0 | 1099 | 0 | 172 |

| Major/Minor | Major1 | Major2 | Minor1 | | |
|----------------------|--------|--------|--------|---|------|
| Conflicting Flow All | 0 | 0 | - | - | 553 |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | 7.14 |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | 3.92 |
| Pot Cap-1 Maneuver | - | - | 0 | - | 408 |
| Stage 1 | - | - | 0 | - | - |
| Stage 2 | - | - | 0 | - | - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | - | - | 408 |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|----|------|
| HCM Control Delay, s | 0 | 0 | 20.1 |
| HCM LOS | | | C |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|-----------------------|-------|-----|-----|-----|
| Capacity (veh/h) | 408 | - | - | - |
| HCM Lane V/C Ratio | 0.421 | - | - | - |
| HCM Control Delay (s) | 20.1 | - | - | - |
| HCM Lane LOS | C | - | - | - |
| HCM 95th %tile Q(veh) | 2 | - | - | - |

**APPENDIX 7.1: HORIZON YEAR (2040) WITHOUT PROJECT
CONDITIONS INTERSECTION OPERATIONS ANALYSIS WORKSHEETS**

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Lanes, Volumes, Timings
1: Technology Dr. & Gerald Ford Dr.

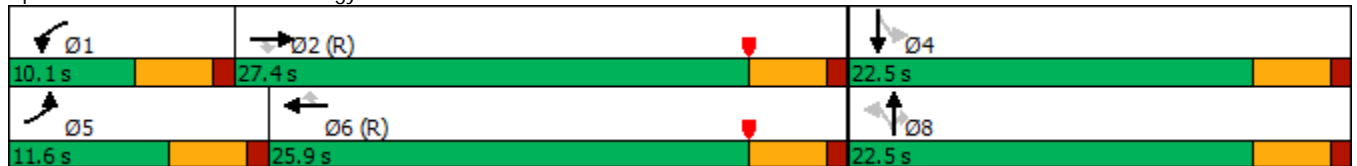
HY (2040) NP AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 70 | 669 | 63 | 32 | 1026 | 89 | 45 | 53 | 71 | 111 | 41 | 67 |
| Future Volume (vph) | 70 | 669 | 63 | 32 | 1026 | 89 | 45 | 53 | 71 | 111 | 41 | 67 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 185 | | 165 | 180 | | 120 | 102 | | 230 | 85 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 90 | | | 60 | | | 60 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | | 35 |
| Link Distance (ft) | | 549 | | | 936 | | | 343 | | | | 642 |
| Travel Time (s) | | 9.4 | | | 16.0 | | | 6.7 | | | | 12.5 |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 84 | 806 | 76 | 39 | 1236 | 107 | 54 | 64 | 86 | 134 | 49 | 81 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 84 | 806 | 76 | 39 | 1236 | 107 | 54 | 64 | 86 | 134 | 130 | 0 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.6 | 27.4 | 27.4 | 10.1 | 25.9 | 25.9 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (%) | 19.3% | 45.7% | 45.7% | 16.8% | 43.2% | 43.2% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | Max | Max | Max | Max | Max | Max |

Intersection Summary





























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 35 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Technology Dr. & Gerald Ford Dr.














HCM 6th Signalized Intersection Summary
 1: Technology Dr. & Gerald Ford Dr.

HY (2040) NP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |    |  |  |    |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 70 | 669 | 63 | 32 | 1026 | 89 | 45 | 53 | 71 | 111 | 41 | 67 |
| Future Volume (veh/h) | 70 | 669 | 63 | 32 | 1026 | 89 | 45 | 53 | 71 | 111 | 41 | 67 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 806 | 76 | 39 | 1236 | 107 | 54 | 64 | 86 | 134 | 49 | 81 |
| 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 | 112 | 2222 | 686 | 71 | 2105 | 649 | 423 | 561 | 473 | 459 | 190 | 313 |
| Arrive On Green | 0.06 | 0.44 | 0.44 | 0.05 | 0.55 | 0.55 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 5106 | 1576 | 1781 | 5106 | 1575 | 1255 | 1870 | 1577 | 1233 | 632 | 1044 |
| Grp Volume(v), veh/h | 84 | 806 | 76 | 39 | 1236 | 107 | 54 | 64 | 86 | 134 | 0 | 130 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1576 | 1781 | 1702 | 1575 | 1255 | 1870 | 1577 | 1233 | 0 | 1676 |
| Q Serve(g_s), s | 2.8 | 6.4 | 1.7 | 1.3 | 9.7 | 2.0 | 2.0 | 1.5 | 2.4 | 5.3 | 0.0 | 3.5 |
| Cycle Q Clear(g_c), s | 2.8 | 6.4 | 1.7 | 1.3 | 9.7 | 2.0 | 5.6 | 1.5 | 2.4 | 6.8 | 0.0 | 3.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.62 |
| Lane Grp Cap(c), veh/h | 112 | 2222 | 686 | 71 | 2105 | 649 | 423 | 561 | 473 | 459 | 0 | 503 |
| V/C Ratio(X) | 0.75 | 0.36 | 0.11 | 0.55 | 0.59 | 0.16 | 0.13 | 0.11 | 0.18 | 0.29 | 0.00 | 0.26 |
| Avail Cap(c_a), veh/h | 211 | 2222 | 686 | 166 | 2105 | 649 | 423 | 561 | 473 | 459 | 0 | 503 |
| HCM Platoon Ratio | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.7 | 11.4 | 10.1 | 27.9 | 10.2 | 8.4 | 18.1 | 15.2 | 15.5 | 17.7 | 0.0 | 15.9 |
| Incr Delay (d2), s/veh | 9.7 | 0.5 | 0.3 | 4.2 | 0.8 | 0.3 | 0.6 | 0.4 | 0.8 | 1.6 | 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 2.0 | 0.5 | 0.6 | 2.7 | 0.6 | 0.6 | 0.6 | 0.9 | 1.6 | 0.0 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 37.3 | 11.8 | 10.4 | 32.1 | 10.9 | 8.8 | 18.7 | 15.6 | 16.4 | 19.3 | 0.0 | 17.2 |
| LnGrp LOS | D | B | B | C | B | A | B | B | B | B | A | B |
| Approach Vol, veh/h | | 966 | | | 1382 | | | 204 | | | 264 | |
| Approach Delay, s/veh | | 13.9 | | | 11.4 | | | 16.8 | | | 18.3 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 6.9 | 30.6 | | 22.5 | 8.3 | 29.2 | | 22.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.6 | 22.9 | | 18.0 | 7.1 | 21.4 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 3.3 | 8.4 | | 8.8 | 4.8 | 11.7 | | 7.6 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.8 | | 0.8 | 0.0 | 5.7 | | 0.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 13.3 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

Lanes, Volumes, Timings
 2: Technology Dr. & The Village W. Dwy.

HY (2040) NP AM Peak Hour

| |  |  |  |  |  |  |
|-----------------------------|---|---|---|---|---|---|
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  |  |  |  |
| Traffic Volume (vph) | 6 | 32 | 137 | 4 | 23 | 113 |
| Future Volume (vph) | 6 | 32 | 137 | 4 | 23 | 113 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | 0 | | 175 | 55 | |
| Storage Lanes | 1 | 0 | | 1 | 1 | |
| Taper Length (ft) | 90 | | | | 60 | |
| Link Speed (mph) | 30 | | 35 | | | 35 |
| Link Distance (ft) | 313 | | 338 | | | 343 |
| Travel Time (s) | 7.1 | | 6.6 | | | 6.7 |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 8 | 41 | 173 | 5 | 29 | 143 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 49 | 0 | 173 | 5 | 29 | 143 |
| Sign Control | Stop | | Free | | | Free |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |
| Control Type: | Unsignalized | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.7 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↘↗ | | ↑ | ↗↘ | ↘↗ | ↑ |
| Traffic Vol, veh/h | 6 | 32 | 137 | 4 | 23 | 113 |
| Future Vol, veh/h | 6 | 32 | 137 | 4 | 23 | 113 |
| 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 | - | - | 175 | 55 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 8 | 41 | 173 | 5 | 29 | 143 |

| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 374 | 173 | 0 | 0 | 178 |
| Stage 1 | 173 | - | - | - | - |
| Stage 2 | 201 | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 |
| Pot Cap-1 Maneuver | 627 | 871 | - | - | 1398 |
| Stage 1 | 857 | - | - | - | - |
| Stage 2 | 833 | - | - | - | - |
| Platoon blocked, % | | | - | - | - |
| Mov Cap-1 Maneuver | 614 | 871 | - | - | 1398 |
| Mov Cap-2 Maneuver | 614 | - | - | - | - |
| Stage 1 | 857 | - | - | - | - |
| Stage 2 | 816 | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 9.7 | 0 | 1.3 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 817 | 1398 |
| HCM Lane V/C Ratio | - | - | 0.059 | 0.021 |
| HCM Control Delay (s) | - | - | 9.7 | 7.6 |
| HCM Lane LOS | - | - | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0.1 |

Lanes, Volumes, Timings
 3: College Dr. & Technology Dr.

HY (2040) NP AM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 82 | 143 | 92 | 59 | 71 | 49 |
| Future Volume (vph) | 82 | 143 | 92 | 59 | 71 | 49 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 40 | 40 | | 35 | |
| Link Distance (ft) | | 803 | 445 | | 338 | |
| Travel Time (s) | | 13.7 | 7.6 | | 6.6 | |
| Peak Hour Factor | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 |
| Adj. Flow (vph) | 112 | 196 | 126 | 81 | 97 | 67 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 308 | 207 | 0 | 164 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 4.7 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 308 | 207 | 164 |
| Demand Flow Rate, veh/h | 314 | 212 | 167 |
| Vehicles Circulating, veh/h | 99 | 114 | 129 |
| Vehicles Exiting, veh/h | 197 | 299 | 197 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 5.2 | 4.5 | 4.2 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 314 | 212 | 167 |
| Cap Entry Lane, veh/h | 1247 | 1228 | 1210 |
| Entry HV Adj Factor | 0.981 | 0.979 | 0.982 |
| Flow Entry, veh/h | 308 | 207 | 164 |
| Cap Entry, veh/h | 1224 | 1202 | 1188 |
| V/C Ratio | 0.252 | 0.173 | 0.138 |
| Control Delay, s/veh | 5.2 | 4.5 | 4.2 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 0 |

Lanes, Volumes, Timings
4: University Dr. & College Dr.

HY (2040) NP AM Peak Hour

| | → | ↘ | ↙ | ← | ↖ | ↗ |
|-----------------------------|--------------|------|------|------|------|------|
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | ↑ | ↑ | ↑ | ↑ | ↑ |
| Traffic Volume (vph) | 205 | 42 | 11 | 130 | 55 | 20 |
| Future Volume (vph) | 205 | 42 | 11 | 130 | 55 | 20 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 120 | 130 | | 100 | 0 |
| Storage Lanes | | 1 | 1 | | 0 | 0 |
| Taper Length (ft) | | | 65 | | 60 | |
| Link Speed (mph) | 40 | | | 40 | 35 | |
| Link Distance (ft) | 755 | | | 803 | 448 | |
| Travel Time (s) | 12.9 | | | 13.7 | 8.7 | |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Adj. Flow (vph) | 270 | 55 | 14 | 171 | 72 | 26 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 270 | 55 | 14 | 171 | 98 | 0 |
| Sign Control | Free | | | Free | Stop | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |
| Control Type: | Unsignalized | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.2 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | ↗ | ↖ | ↑ | ↘ | ↙ |
| Traffic Vol, veh/h | 205 | 42 | 11 | 130 | 55 | 20 |
| Future Vol, veh/h | 205 | 42 | 11 | 130 | 55 | 20 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 120 | 130 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 76 | 76 | 76 | 76 | 76 | 76 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 270 | 55 | 14 | 171 | 72 | 26 |

| Major/Minor | Major1 | Major2 | Minor1 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0 | 0 | 325 | 0 | 469 270 |
| Stage 1 | - | - | - | - | 270 - |
| Stage 2 | - | - | - | - | 199 - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 3.318 |
| Pot Cap-1 Maneuver | - | - | 1235 | - | 553 769 |
| Stage 1 | - | - | - | - | 775 - |
| Stage 2 | - | - | - | - | 835 - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1235 | - | 547 769 |
| Mov Cap-2 Maneuver | - | - | - | - | 547 - |
| Stage 1 | - | - | - | - | 775 - |
| Stage 2 | - | - | - | - | 826 - |

| Approach | EB | WB | NB |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0 | 0.6 | 12.3 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 593 | - | - | 1235 | - |
| HCM Lane V/C Ratio | 0.166 | - | - | 0.012 | - |
| HCM Control Delay (s) | 12.3 | - | - | 8 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.6 | - | - | 0 | - |

Lanes, Volumes, Timings
5: College Dr. & Pacific Av.

HY (2040) NP AM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 13 | 150 | 167 | 49 | 68 | 31 |
| Future Volume (vph) | 13 | 150 | 167 | 49 | 68 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 40 | 40 | | 35 | |
| Link Distance (ft) | | 711 | 644 | | 595 | |
| Travel Time (s) | | 12.1 | 11.0 | | 11.6 | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 14 | 160 | 178 | 52 | 72 | 33 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 174 | 230 | 0 | 105 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

















HCM 6th Roundabout
5: College Dr. & Pacific Av.

HY (2040) NP AM Peak Hour

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 4.1 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 174 | 230 | 105 |
| Demand Flow Rate, veh/h | 177 | 235 | 107 |
| Vehicles Circulating, veh/h | 73 | 14 | 182 |
| Vehicles Exiting, veh/h | 216 | 236 | 67 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.0 | 4.1 | 4.0 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 177 | 235 | 107 |
| Cap Entry Lane, veh/h | 1281 | 1360 | 1146 |
| Entry HV Adj Factor | 0.982 | 0.981 | 0.981 |
| Flow Entry, veh/h | 174 | 230 | 105 |
| Cap Entry, veh/h | 1258 | 1334 | 1125 |
| V/C Ratio | 0.138 | 0.173 | 0.093 |
| Control Delay, s/veh | 4.0 | 4.1 | 4.0 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 0 | 1 | 0 |

Lanes, Volumes, Timings
6: College Dr. & University Park Dr.

HY (2040) NP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (vph) | 4 | 63 | 17 | 15 | 39 | 67 | 6 | 80 | 33 | 108 | 65 | 2 |
| Future Volume (vph) | 4 | 63 | 17 | 15 | 39 | 67 | 6 | 80 | 33 | 108 | 65 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Link Speed (mph) | | 35 | | | 35 | | | 40 | | | 40 | |
| Link Distance (ft) | | 974 | | | 473 | | | 829 | | | 921 | |
| Travel Time (s) | | 19.0 | | | 9.2 | | | 14.1 | | | 15.7 | |
| Peak Hour Factor | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 |
| Adj. Flow (vph) | 6 | 93 | 25 | 22 | 57 | 99 | 9 | 118 | 49 | 159 | 96 | 3 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 124 | 0 | 0 | 178 | 0 | 0 | 176 | 0 | 0 | 258 | 0 |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 4.7 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 124 | 178 | 176 | 258 |
| Demand Flow Rate, veh/h | 127 | 181 | 179 | 263 |
| Vehicles Circulating, veh/h | 282 | 135 | 263 | 89 |
| Vehicles Exiting, veh/h | 70 | 307 | 145 | 227 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.7 | 4.3 | 5.0 | 4.7 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 127 | 181 | 179 | 263 |
| Cap Entry Lane, veh/h | 1035 | 1202 | 1055 | 1260 |
| Entry HV Adj Factor | 0.977 | 0.983 | 0.981 | 0.981 |
| Flow Entry, veh/h | 124 | 178 | 176 | 258 |
| Cap Entry, veh/h | 1012 | 1182 | 1035 | 1237 |
| V/C Ratio | 0.123 | 0.151 | 0.170 | 0.209 |
| Control Delay, s/veh | 4.7 | 4.3 | 5.0 | 4.7 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 0 | 1 | 1 | 1 |

Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

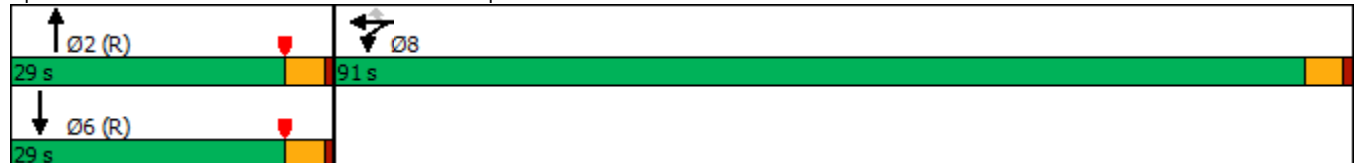
HY (2040) NP AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|-------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 1584 | 0 | 138 | 0 | 670 | 483 | 0 | 574 | 62 |
| Future Volume (vph) | 0 | 0 | 0 | 1584 | 0 | 138 | 0 | 670 | 483 | 0 | 574 | 62 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 10.9 | | | 9.7 | |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 0 | 0 | 0 | 2005 | 0 | 175 | 0 | 848 | 611 | 0 | 727 | 78 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 2005 | 175 | 0 | 848 | 611 | 0 | 805 | 0 |
| Turn Type | | | | Split | NA | Perm | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | Free | | | |
| Detector Phase | | | | 8 | 8 | 8 | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | 5.0 | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 91.0 | 91.0 | 91.0 | | 29.0 | | | 29.0 | |
| Total Split (%) | | | | 75.8% | 75.8% | 75.8% | | 24.2% | | | 24.2% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | None | | C-Max | | | C-Max | |

Intersection Summary



















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

HY (2040) NP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | |  |  | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1584 | 0 | 138 | 0 | 670 | 483 | 0 | 574 | 62 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1584 | 0 | 138 | 0 | 670 | 483 | 0 | 574 | 62 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 2005 | 0 | 175 | 0 | 848 | 0 | 0 | 727 | 78 |
| Peak Hour Factor | | | | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 1284 | 0 | 1143 | 0 | 726 | | 0 | 957 | 102 |
| Arrive On Green | | | | 0.72 | 0.00 | 0.72 | 0.00 | 0.41 | 0.00 | 0.00 | 0.20 | 0.20 |
| Sat Flow, veh/h | | | | 1781 | 0 | 1585 | 0 | 3647 | 1585 | 0 | 4854 | 499 |
| Grp Volume(v), veh/h | | | | 2005 | 0 | 175 | 0 | 848 | 0 | 0 | 527 | 278 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 0 | 1585 | 0 | 1777 | 1585 | 0 | 1702 | 1781 |
| Q Serve(g_s), s | | | | 86.5 | 0.0 | 4.2 | 0.0 | 24.5 | 0.0 | 0.0 | 17.5 | 17.7 |
| Cycle Q Clear(g_c), s | | | | 86.5 | 0.0 | 4.2 | 0.0 | 24.5 | 0.0 | 0.0 | 17.5 | 17.7 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 1.00 | 0.00 | | 0.28 |
| Lane Grp Cap(c), veh/h | | | | 1284 | 0 | 1143 | 0 | 726 | | 0 | 695 | 364 |
| V/C Ratio(X) | | | | 1.56 | 0.00 | 0.15 | 0.00 | 1.17 | | 0.00 | 0.76 | 0.77 |
| Avail Cap(c_a), veh/h | | | | 1284 | 0 | 1143 | 0 | 726 | | 0 | 695 | 364 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 1.00 | 0.00 | 0.39 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 16.8 | 0.0 | 5.3 | 0.0 | 35.5 | 0.0 | 0.0 | 45.0 | 45.0 |
| Incr Delay (d2), s/veh | | | | 256.5 | 0.0 | 0.1 | 0.0 | 82.1 | 0.0 | 0.0 | 7.6 | 14.2 |
| 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 | | | | 121.0 | 0.0 | 1.3 | 0.0 | 16.5 | 0.0 | 0.0 | 8.0 | 9.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 273.3 | 0.0 | 5.3 | 0.0 | 117.6 | 0.0 | 0.0 | 52.5 | 59.3 |
| LnGrp LOS | | | | F | A | A | A | F | | A | D | E |
| Approach Vol, veh/h | | | | | 2180 | | | 848 | | | 805 | |
| Approach Delay, s/veh | | | | | 251.8 | | | 117.6 | | | 54.9 | |
| Approach LOS | | | | | F | | | F | | | D | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 29.0 | | | | 29.0 | | 91.0 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 24.5 | | | | 24.5 | | 86.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 26.5 | | | | 19.7 | | 88.5 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | | | 2.1 | | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 180.7 | | | | | | | | |
| HCM 6th LOS | | | | F | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

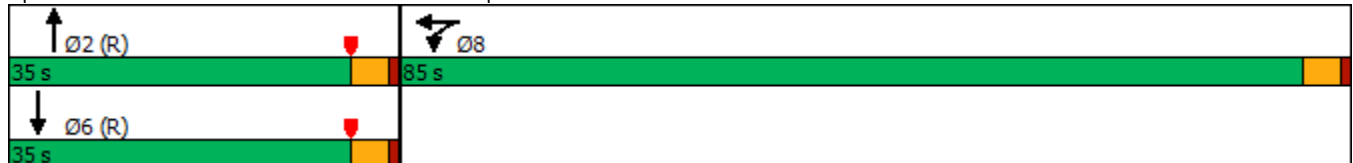
HY (2040) NP AM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 1584 | 0 | 138 | 0 | 670 | 483 | 0 | 574 | 62 |
| Future Volume (vph) | 0 | 0 | 0 | 1584 | 0 | 138 | 0 | 670 | 483 | 0 | 574 | 62 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 240 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 10.9 | | | 9.7 | |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 0 | 0 | 0 | 2005 | 0 | 175 | 0 | 848 | 611 | 0 | 727 | 78 |
| Shared Lane Traffic (%) | | | | 45% | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 1103 | 1077 | 0 | 0 | 848 | 611 | 0 | 805 | 0 |
| Turn Type | | | | Split | NA | | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | Free | | | |
| Detector Phase | | | | 8 | 8 | | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 85.0 | 85.0 | | | 35.0 | | | 35.0 | |
| Total Split (%) | | | | 70.8% | 70.8% | | | 29.2% | | | 29.2% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | 4.5 | 4.5 | | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | | | C-Max | | | C-Max | |

Intersection Summary



















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

HY (2040) NP AM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  | | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1584 | 0 | 138 | 0 | 670 | 483 | 0 | 574 | 62 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1584 | 0 | 138 | 0 | 670 | 483 | 0 | 574 | 62 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 2168 | 0 | 0 | 0 | 848 | 0 | 0 | 727 | 78 |
| Peak Hour Factor | | | | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 2284 | 1199 | 0 | 0 | 1009 | | 0 | 1330 | 142 |
| Arrive On Green | | | | 0.64 | 0.00 | 0.00 | 0.00 | 0.57 | 0.00 | 0.00 | 0.28 | 0.28 |
| Sat Flow, veh/h | | | | 3563 | 1870 | 0 | 0 | 3647 | 1585 | 0 | 4854 | 499 |
| Grp Volume(v), veh/h | | | | 2168 | 0 | 0 | 0 | 848 | 0 | 0 | 527 | 278 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 1870 | 0 | 0 | 1777 | 1585 | 0 | 1702 | 1781 |
| Q Serve(g_s), s | | | | 67.0 | 0.0 | 0.0 | 0.0 | 23.7 | 0.0 | 0.0 | 15.7 | 15.9 |
| Cycle Q Clear(g_c), s | | | | 67.0 | 0.0 | 0.0 | 0.0 | 23.7 | 0.0 | 0.0 | 15.7 | 15.9 |
| Prop In Lane | | | | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 0.28 |
| Lane Grp Cap(c), veh/h | | | | 2284 | 1199 | 0 | 0 | 1009 | | 0 | 967 | 506 |
| V/C Ratio(X) | | | | 0.95 | 0.00 | 0.00 | 0.00 | 0.84 | | 0.00 | 0.54 | 0.55 |
| Avail Cap(c_a), veh/h | | | | 2390 | 1255 | 0 | 0 | 1009 | | 0 | 967 | 506 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 0.00 | 0.81 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 19.8 | 0.0 | 0.0 | 0.0 | 23.7 | 0.0 | 0.0 | 36.4 | 36.5 |
| Incr Delay (d2), s/veh | | | | 9.0 | 0.0 | 0.0 | 0.0 | 6.9 | 0.0 | 0.0 | 2.2 | 4.3 |
| 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 | | | | 28.0 | 0.0 | 0.0 | 0.0 | 7.6 | 0.0 | 0.0 | 6.8 | 7.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 28.8 | 0.0 | 0.0 | 0.0 | 30.6 | 0.0 | 0.0 | 38.6 | 40.7 |
| LnGrp LOS | | | | C | A | A | A | C | | A | D | D |
| Approach Vol, veh/h | | | | | 2168 | | | 848 | | | 805 | |
| Approach Delay, s/veh | | | | | 28.8 | | | 30.6 | | | 39.3 | |
| Approach LOS | | | | | C | | | C | | | D | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 38.6 | | | | 38.6 | | 81.4 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 30.5 | | | | 30.5 | | 80.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 25.7 | | | | 17.9 | | 69.0 | | | | |
| Green Ext Time (p_c), s | | 2.3 | | | | 4.1 | | 8.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 31.4 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

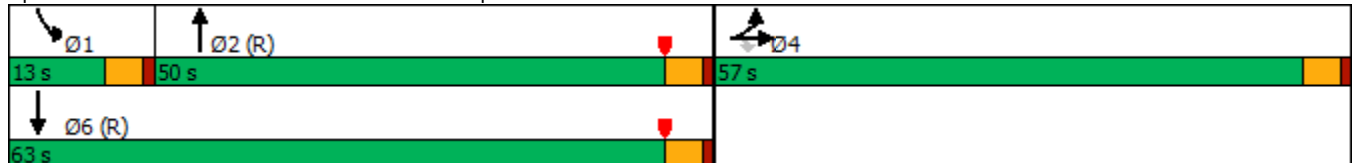
HY (2040) NP AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 220 | 1 | 1135 | 0 | 0 | 0 | 0 | 933 | 588 | 89 | 2069 | 0 |
| Future Volume (vph) | 220 | 1 | 1135 | 0 | 0 | 0 | 0 | 933 | 588 | 89 | 2069 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 0 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 0 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 14.8 | | | 10.9 | |
| 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 |
| Adj. Flow (vph) | 259 | 1 | 1335 | 0 | 0 | 0 | 0 | 1098 | 692 | 105 | 2434 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 259 | 669 | 667 | 0 | 0 | 0 | 0 | 1790 | 0 | 105 | 2434 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 57.0 | 57.0 | 57.0 | | | | | 50.0 | | 13.0 | 63.0 | |
| Total Split (%) | 47.5% | 47.5% | 47.5% | | | | | 41.7% | | 10.8% | 52.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary





















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 78 (65%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

HY (2040) NP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |  |  |  |  |  |
| Traffic Volume (veh/h) | 220 | 1 | 1135 | 0 | 0 | 0 | 0 | 933 | 588 | 89 | 2069 | 0 |
| Future Volume (veh/h) | 220 | 1 | 1135 | 0 | 0 | 0 | 0 | 933 | 588 | 89 | 2069 | 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 | 259 | 0 | 1336 | | | | 0 | 1098 | 692 | 105 | 2434 | 0 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | | | | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 775 | 0 | 1379 | | | | 0 | 1299 | 605 | 126 | 2502 | 0 |
| Arrive On Green | 0.44 | 0.00 | 0.44 | | | | 0.00 | 0.38 | 0.38 | 0.02 | 0.16 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 3572 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 259 | 0 | 1336 | | | | 0 | 1098 | 692 | 105 | 2434 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 11.5 | 0.0 | 49.4 | | | | 0.0 | 35.3 | 45.8 | 7.0 | 56.9 | 0.0 |
| Cycle Q Clear(g_c), s | 11.5 | 0.0 | 49.4 | | | | 0.0 | 35.3 | 45.8 | 7.0 | 56.9 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 775 | 0 | 1379 | | | | 0 | 1299 | 605 | 126 | 2502 | 0 |
| V/C Ratio(X) | 0.33 | 0.00 | 0.97 | | | | 0.00 | 0.85 | 1.14 | 0.83 | 0.97 | 0.00 |
| Avail Cap(c_a), veh/h | 779 | 0 | 1387 | | | | 0 | 1299 | 605 | 126 | 2502 | 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 | 1.00 | 1.00 | 0.53 | 0.53 | 0.00 |
| Uniform Delay (d), s/veh | 22.4 | 0.0 | 33.1 | | | | 0.0 | 33.9 | 37.1 | 57.9 | 49.5 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 17.2 | | | | 0.0 | 6.9 | 83.2 | 21.5 | 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 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.9 | 0.0 | 21.7 | | | | 0.0 | 15.4 | 31.1 | 4.0 | 27.8 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 22.7 | 0.0 | 50.3 | | | | 0.0 | 40.7 | 120.3 | 79.4 | 57.7 | 0.0 |
| LnGrp LOS | C | A | D | | | | A | D | F | E | E | A |
| Approach Vol, veh/h | | 1595 | | | | | | 1790 | | | 2539 | |
| Approach Delay, s/veh | | 45.8 | | | | | | 71.5 | | | 58.6 | |
| Approach LOS | | D | | | | | | E | | | E | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | | | 6 | | | | |
| Phs Duration (G+Y+Rc), s | 13.0 | 50.3 | | 56.7 | | | | 63.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | | | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 8.5 | 45.5 | | 52.5 | | | | 58.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 9.0 | 47.8 | | 51.4 | | | | 58.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.8 | | | | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 59.0 | | | | | | | | | |
| HCM 6th LOS | | | E | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

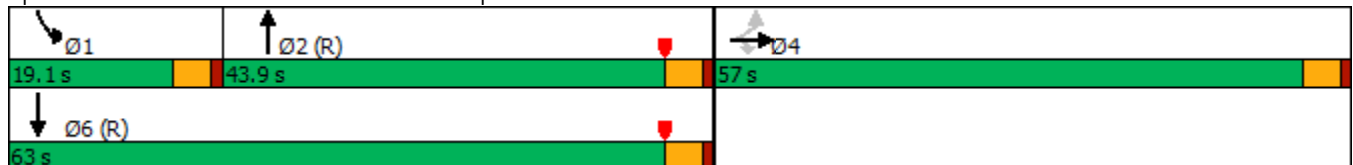
HY (2040) NP AM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 220 | 1 | 1135 | 0 | 0 | 0 | 0 | 933 | 588 | 89 | 2069 | 0 |
| Future Volume (vph) | 220 | 1 | 1135 | 0 | 0 | 0 | 0 | 933 | 588 | 89 | 2069 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 150 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 1 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 14.8 | | | 10.9 | |
| 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 |
| Adj. Flow (vph) | 259 | 1 | 1335 | 0 | 0 | 0 | 0 | 1098 | 692 | 105 | 2434 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 259 | 669 | 667 | 0 | 0 | 0 | 0 | 1098 | 692 | 105 | 2434 | 0 |
| Turn Type | Perm | NA | Perm | | | | | NA | Free | Prot | NA | |
| Protected Phases | | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | | | | | | Free | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 57.0 | 57.0 | 57.0 | | | | | 43.9 | | 19.1 | 63.0 | |
| Total Split (%) | 47.5% | 47.5% | 47.5% | | | | | 36.6% | | 15.9% | 52.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary





















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 32.9 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

HY (2040) NP AM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |  |  |  |  |  |
| Traffic Volume (veh/h) | 220 | 1 | 1135 | 0 | 0 | 0 | 0 | 933 | 588 | 89 | 2069 | 0 |
| Future Volume (veh/h) | 220 | 1 | 1135 | 0 | 0 | 0 | 0 | 933 | 588 | 89 | 2069 | 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 | 259 | 0 | 1336 | | | | 0 | 1098 | 0 | 105 | 2434 | 0 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | | | | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 761 | 0 | 1354 | | | | 0 | 1981 | | 129 | 2542 | 0 |
| Arrive On Green | 0.85 | 0.00 | 0.85 | | | | 0.00 | 0.39 | 0.00 | 0.14 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 5274 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 259 | 0 | 1336 | | | | 0 | 1098 | 0 | 105 | 2434 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 3.6 | 0.0 | 46.8 | | | | 0.0 | 20.1 | 0.0 | 6.9 | 5.5 | 0.0 |
| Cycle Q Clear(g_c), s | 3.6 | 0.0 | 46.8 | | | | 0.0 | 20.1 | 0.0 | 6.9 | 5.5 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 761 | 0 | 1354 | | | | 0 | 1981 | | 129 | 2542 | 0 |
| V/C Ratio(X) | 0.34 | 0.00 | 0.99 | | | | 0.00 | 0.55 | | 0.81 | 0.96 | 0.00 |
| Avail Cap(c_a), veh/h | 779 | 0 | 1387 | | | | 0 | 1981 | | 217 | 2542 | 0 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | | | | 1.00 | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 0.00 | 0.45 | 0.45 | 0.00 |
| Uniform Delay (d), s/veh | 5.3 | 0.0 | 8.4 | | | | 0.0 | 28.6 | 0.0 | 50.5 | 0.1 | 0.0 |
| Incr Delay (d2), s/veh | 0.3 | 0.0 | 20.7 | | | | 0.0 | 1.1 | 0.0 | 5.6 | 5.6 | 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 | 1.2 | 0.0 | 7.0 | | | | 0.0 | 8.3 | 0.0 | 3.0 | 1.4 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 5.5 | 0.0 | 29.1 | | | | 0.0 | 29.8 | 0.0 | 56.1 | 5.7 | 0.0 |
| LnGrp LOS | A | A | C | | | | A | C | | E | A | A |
| Approach Vol, veh/h | | 1595 | | | | | | 1098 | | | 2539 | |
| Approach Delay, s/veh | | 25.3 | | | | | | 29.8 | | | 7.8 | |
| Approach LOS | | C | | | | | | C | | | A | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | | | 6 | | | | |
| Phs Duration (G+Y+Rc), s | 13.2 | 51.0 | | 55.8 | | | | 64.2 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | | | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 14.6 | 39.4 | | 52.5 | | | | 58.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.9 | 22.1 | | 48.8 | | | | 7.5 | | | | |
| Green Ext Time (p_c), s | 0.1 | 7.1 | | 2.4 | | | | 35.1 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 17.7 |
| HCM 6th LOS | B |

Notes

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

Lanes, Volumes, Timings
9: Cook St. & Gerald Ford Dr.

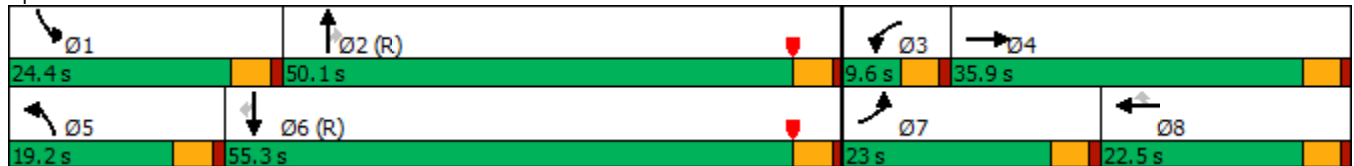
HY (2040) NP AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 475 | 212 | 222 | 50 | 286 | 160 | 372 | 692 | 40 | 352 | 2099 | 583 |
| Future Volume (vph) | 475 | 212 | 222 | 50 | 286 | 160 | 372 | 692 | 40 | 352 | 2099 | 583 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 225 | | 230 | 160 | | 200 | 210 | | 120 | 290 | | 360 |
| Storage Lanes | 2 | | 0 | 2 | | 1 | 2 | | 1 | 2 | | 1 |
| Taper Length (ft) | 130 | | | 160 | | | 140 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 936 | | | 424 | | | 1144 | | | 831 | |
| Travel Time (s) | | 16.0 | | | 5.8 | | | 14.2 | | | 10.3 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 516 | 230 | 241 | 54 | 311 | 174 | 404 | 752 | 43 | 383 | 2282 | 634 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 516 | 230 | 241 | 54 | 311 | 174 | 404 | 752 | 43 | 383 | 2282 | 634 |
| Turn Type | Prot | NA | Free | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 |
| Total Split (s) | 23.0 | 35.9 | | 9.6 | 22.5 | 22.5 | 19.2 | 50.1 | 50.1 | 24.4 | 55.3 | 55.3 |
| Total Split (%) | 19.2% | 29.9% | | 8.0% | 18.8% | 18.8% | 16.0% | 41.8% | 41.8% | 20.3% | 46.1% | 46.1% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |

Intersection Summary



































Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated

Splits and Phases: 9: Cook St. & Gerald Ford Dr.



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

HY (2040) NP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|--|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |    |  |   |    |  |
| Traffic Volume (veh/h) | 475 | 212 | 222 | 50 | 286 | 160 | 372 | 692 | 40 | 352 | 2099 | 583 |
| Future Volume (veh/h) | 475 | 212 | 222 | 50 | 286 | 160 | 372 | 692 | 40 | 352 | 2099 | 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 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 516 | 230 | 0 | 54 | 311 | 174 | 404 | 752 | 43 | 383 | 2282 | 634 |
| 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 | 549 | 947 | | 124 | 500 | 210 | 436 | 2441 | 687 | 453 | 2466 | 694 |
| Arrive On Green | 0.26 | 0.42 | 0.00 | 0.03 | 0.13 | 0.13 | 0.12 | 0.43 | 0.43 | 0.13 | 0.44 | 0.44 |
| Sat Flow, veh/h | 3563 | 3741 | 1585 | 3563 | 3741 | 1567 | 3563 | 5611 | 1580 | 3563 | 5611 | 1580 |
| Grp Volume(v), veh/h | 516 | 230 | 0 | 54 | 311 | 174 | 404 | 752 | 43 | 383 | 2282 | 634 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1567 | 1781 | 1870 | 1580 | 1781 | 1870 | 1580 |
| Q Serve(g_s), s | 17.0 | 4.7 | 0.0 | 1.8 | 9.4 | 13.0 | 13.5 | 10.5 | 1.9 | 12.6 | 46.1 | 45.1 |
| Cycle Q Clear(g_c), s | 17.0 | 4.7 | 0.0 | 1.8 | 9.4 | 13.0 | 13.5 | 10.5 | 1.9 | 12.6 | 46.1 | 45.1 |
| 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 | 549 | 947 | | 124 | 500 | 210 | 436 | 2441 | 687 | 453 | 2466 | 694 |
| V/C Ratio(X) | 0.94 | 0.24 | | 0.44 | 0.62 | 0.83 | 0.93 | 0.31 | 0.06 | 0.85 | 0.93 | 0.91 |
| Avail Cap(c_a), veh/h | 549 | 979 | | 151 | 561 | 235 | 436 | 2441 | 687 | 591 | 2466 | 694 |
| HCM Platoon Ratio | 1.67 | 1.67 | 1.67 | 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 | 0.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 44.0 | 27.2 | 0.0 | 56.8 | 49.1 | 50.6 | 52.1 | 22.1 | 19.7 | 51.2 | 31.8 | 31.5 |
| Incr Delay (d2), s/veh | 23.7 | 0.1 | 0.0 | 2.4 | 1.8 | 19.7 | 25.7 | 0.3 | 0.2 | 8.7 | 7.4 | 18.5 |
| 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 | 8.3 | 2.0 | 0.0 | 0.8 | 4.4 | 6.1 | 7.3 | 4.4 | 0.7 | 5.9 | 20.5 | 19.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.7 | 27.4 | 0.0 | 59.2 | 50.9 | 70.4 | 77.8 | 22.4 | 19.9 | 59.9 | 39.2 | 50.0 |
| LnGrp LOS | E | C | | E | D | E | E | C | B | E | D | D |
| Approach Vol, veh/h | | 746 | | | 539 | | | 1199 | | | 3299 | |
| Approach Delay, s/veh | | 55.2 | | | 58.0 | | | 41.0 | | | 43.7 | |
| Approach LOS | | E | | | E | | | D | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 19.7 | 56.7 | 8.7 | 34.9 | 19.2 | 57.2 | 23.0 | 20.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 19.9 | 45.6 | 5.1 | 31.4 | 14.7 | 50.8 | 18.5 | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 14.6 | 12.5 | 3.8 | 6.7 | 15.5 | 48.1 | 19.0 | 15.0 | | | | |
| Green Ext Time (p_c), s | 0.6 | 5.0 | 0.0 | 1.3 | 0.0 | 2.6 | 0.0 | 0.7 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 45.9 |
| HCM 6th LOS | D |

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.

Lanes, Volumes, Timings
 10: Cook St. & University Park Dr./Berger Dr. W.

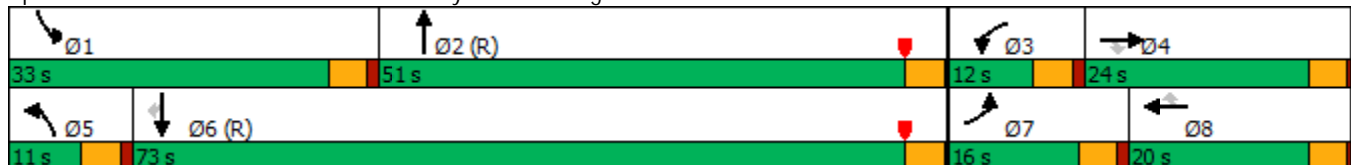
HY (2040) NP AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 60 | 105 | 52 | 33 | 57 | 77 | 27 | 1159 | 126 | 468 | 1894 | 36 |
| Future Volume (vph) | 60 | 105 | 52 | 33 | 57 | 77 | 27 | 1159 | 126 | 468 | 1894 | 36 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 180 | | 180 | 100 | | 0 | 140 | | 140 | 225 | | 295 |
| Storage Lanes | 1 | | 1 | 0 | | 1 | 1 | | 1 | 2 | | 0 |
| Taper Length (ft) | 90 | | | 0 | | | 160 | | | 165 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 35 | | | 35 | | | 55 | | | 55 | |
| Link Distance (ft) | | 473 | | | 452 | | | 1623 | | | 476 | |
| Travel Time (s) | | 9.2 | | | 8.8 | | | 20.1 | | | 5.9 | |
| 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 |
| Adj. Flow (vph) | 67 | 117 | 58 | 37 | 63 | 86 | 30 | 1288 | 140 | 520 | 2104 | 40 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 67 | 117 | 58 | 37 | 63 | 86 | 30 | 1288 | 140 | 520 | 2104 | 40 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Free | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | | 9.5 | 20.0 | 20.0 |
| Total Split (s) | 16.0 | 24.0 | 24.0 | 12.0 | 20.0 | 20.0 | 11.0 | 51.0 | | 33.0 | 73.0 | 73.0 |
| Total Split (%) | 13.3% | 20.0% | 20.0% | 10.0% | 16.7% | 16.7% | 9.2% | 42.5% | | 27.5% | 60.8% | 60.8% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Cook St. & University Park Dr./Berger Dr. W.



HCM 6th Signalized Intersection Summary
 10: Cook St. & University Park Dr./Berger Dr. W.

HY (2040) NP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 60 | 105 | 52 | 33 | 57 | 77 | 27 | 1159 | 126 | 468 | 1894 | 36 |
| Future Volume (veh/h) | 60 | 105 | 52 | 33 | 57 | 77 | 27 | 1159 | 126 | 468 | 1894 | 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 | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 67 | 117 | 58 | 37 | 63 | 0 | 30 | 1288 | 0 | 520 | 2104 | 40 |
| 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 | 86 | 154 | 130 | 53 | 118 | | 47 | 2926 | | 600 | 3678 | 1142 |
| Arrive On Green | 0.05 | 0.08 | 0.08 | 0.03 | 0.06 | 0.00 | 0.05 | 1.00 | 0.00 | 0.17 | 0.72 | 0.72 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 67 | 117 | 58 | 37 | 63 | 0 | 30 | 1288 | 0 | 520 | 2104 | 40 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 4.5 | 7.3 | 4.2 | 2.5 | 3.9 | 0.0 | 2.0 | 0.0 | 0.0 | 17.6 | 23.5 | 0.9 |
| Cycle Q Clear(g_c), s | 4.5 | 7.3 | 4.2 | 2.5 | 3.9 | 0.0 | 2.0 | 0.0 | 0.0 | 17.6 | 23.5 | 0.9 |
| 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 | 86 | 154 | 130 | 53 | 118 | | 47 | 2926 | | 600 | 3678 | 1142 |
| V/C Ratio(X) | 0.78 | 0.76 | 0.45 | 0.70 | 0.53 | | 0.64 | 0.44 | | 0.87 | 0.57 | 0.04 |
| Avail Cap(c_a), veh/h | 171 | 312 | 264 | 111 | 249 | | 96 | 2926 | | 821 | 3678 | 1142 |
| 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 | 1.00 | 1.00 | 0.00 | 0.70 | 0.70 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.5 | 53.9 | 52.5 | 57.7 | 54.5 | 0.0 | 56.3 | 0.0 | 0.0 | 48.2 | 8.0 | 4.8 |
| Incr Delay (d2), s/veh | 13.8 | 7.6 | 2.4 | 15.7 | 3.7 | 0.0 | 9.7 | 0.3 | 0.0 | 7.4 | 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 | 2.3 | 3.8 | 1.7 | 1.3 | 2.0 | 0.0 | 1.0 | 0.1 | 0.0 | 7.8 | 6.6 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 70.3 | 61.5 | 54.9 | 73.4 | 58.2 | 0.0 | 66.0 | 0.3 | 0.0 | 55.6 | 8.6 | 4.9 |
| LnGrp LOS | E | E | D | E | E | | E | A | | E | A | A |
| Approach Vol, veh/h | | 242 | | | 100 | | | 1318 | | | 2664 | |
| Approach Delay, s/veh | | 62.3 | | | 63.8 | | | 1.8 | | | 17.7 | |
| Approach LOS | | E | | | E | | | A | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 25.3 | 72.8 | 8.0 | 13.9 | 7.7 | 90.4 | 10.3 | 11.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 28.5 | 47.0 | 7.5 | 20.0 | 6.5 | 69.0 | 11.5 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 19.6 | 2.0 | 4.5 | 9.3 | 4.0 | 25.5 | 6.5 | 5.9 | | | | |
| Green Ext Time (p_c), s | 1.3 | 10.3 | 0.0 | 0.5 | 0.0 | 22.8 | 0.0 | 0.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 16.5 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
11: Cook St. & Frank Sinatra Dr.

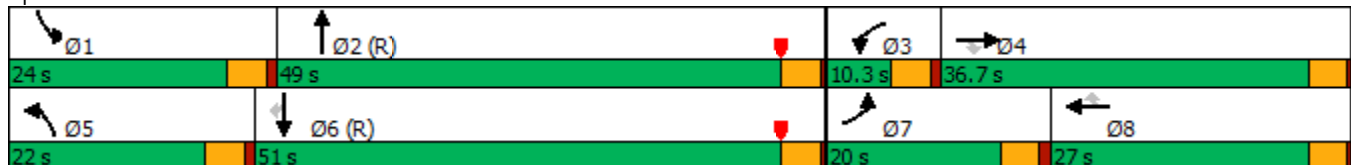
HY (2040) NP AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 272 | 295 | 148 | 65 | 467 | 282 | 314 | 810 | 53 | 362 | 1440 | 469 |
| Future Volume (vph) | 272 | 295 | 148 | 65 | 467 | 282 | 314 | 810 | 53 | 362 | 1440 | 469 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | | 135 | 135 | | 260 | 140 | | 0 | 210 | | 220 |
| Storage Lanes | 2 | | 1 | 2 | | 1 | 2 | | 0 | 2 | | 1 |
| Taper Length (ft) | 120 | | | 110 | | | 110 | | | 140 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 50 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 1477 | | | 944 | | | 330 | | | 1623 | |
| Travel Time (s) | | 20.1 | | | 12.9 | | | 4.1 | | | 20.1 | |
| 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 |
| Adj. Flow (vph) | 299 | 324 | 163 | 71 | 513 | 310 | 345 | 890 | 58 | 398 | 1582 | 515 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 299 | 324 | 163 | 71 | 513 | 310 | 345 | 948 | 0 | 398 | 1582 | 515 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (s) | 20.0 | 36.7 | 36.7 | 10.3 | 27.0 | 27.0 | 22.0 | 49.0 | | 24.0 | 51.0 | 51.0 |
| Total Split (%) | 16.7% | 30.6% | 30.6% | 8.6% | 22.5% | 22.5% | 18.3% | 40.8% | | 20.0% | 42.5% | 42.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

































Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Cook St. & Frank Sinatra Dr.



HCM 6th Signalized Intersection Summary
 11: Cook St. & Frank Sinatra Dr.

HY (2040) NP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |   | |   |    |  |
| Traffic Volume (veh/h) | 272 | 295 | 148 | 65 | 467 | 282 | 314 | 810 | 53 | 362 | 1440 | 469 |
| Future Volume (veh/h) | 272 | 295 | 148 | 65 | 467 | 282 | 314 | 810 | 53 | 362 | 1440 | 469 |
| 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 | 324 | 163 | 71 | 513 | 310 | 345 | 890 | 58 | 398 | 1582 | 515 |
| 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 | 360 | 917 | 409 | 130 | 681 | 304 | 408 | 1459 | 95 | 455 | 2269 | 704 |
| Arrive On Green | 0.10 | 0.26 | 0.26 | 0.04 | 0.19 | 0.19 | 0.12 | 0.43 | 0.43 | 0.26 | 0.89 | 0.89 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1585 | 3456 | 3387 | 221 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 299 | 324 | 163 | 71 | 513 | 310 | 345 | 467 | 481 | 398 | 1582 | 515 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1585 | 1728 | 1777 | 1831 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 10.2 | 8.9 | 10.2 | 2.4 | 16.4 | 23.0 | 11.7 | 24.3 | 24.3 | 13.2 | 10.9 | 12.4 |
| Cycle Q Clear(g_c), s | 10.2 | 8.9 | 10.2 | 2.4 | 16.4 | 23.0 | 11.7 | 24.3 | 24.3 | 13.2 | 10.9 | 12.4 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.12 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 360 | 917 | 409 | 130 | 681 | 304 | 408 | 766 | 789 | 455 | 2269 | 704 |
| V/C Ratio(X) | 0.83 | 0.35 | 0.40 | 0.54 | 0.75 | 1.02 | 0.85 | 0.61 | 0.61 | 0.87 | 0.70 | 0.73 |
| Avail Cap(c_a), veh/h | 446 | 968 | 432 | 167 | 681 | 304 | 504 | 766 | 789 | 562 | 2269 | 704 |
| 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 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.78 | 0.78 | 0.78 |
| Uniform Delay (d), s/veh | 52.7 | 36.3 | 36.8 | 56.7 | 45.8 | 48.5 | 51.8 | 26.4 | 26.4 | 43.3 | 4.3 | 4.4 |
| Incr Delay (d2), s/veh | 10.4 | 0.2 | 0.6 | 3.5 | 4.7 | 57.0 | 10.6 | 3.6 | 3.5 | 10.0 | 1.4 | 5.2 |
| 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 | 4.8 | 3.8 | 3.9 | 1.1 | 7.4 | 13.5 | 5.5 | 10.2 | 10.5 | 5.3 | 1.9 | 2.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 63.1 | 36.6 | 37.4 | 60.2 | 50.6 | 105.5 | 62.5 | 30.0 | 29.9 | 53.2 | 5.7 | 9.6 |
| LnGrp LOS | E | D | D | E | D | F | E | C | C | D | A | A |
| Approach Vol, veh/h | | 786 | | | 894 | | | 1293 | | | 2495 | |
| Approach Delay, s/veh | | 46.8 | | | 70.4 | | | 38.6 | | | 14.1 | |
| Approach LOS | | D | | | E | | | D | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 20.3 | 55.7 | 9.0 | 35.0 | 18.7 | 57.3 | 17.0 | 27.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 19.5 | 45.0 | 5.8 | 32.7 | 17.5 | 47.0 | 15.5 | 23.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 15.2 | 26.3 | 4.4 | 12.2 | 13.7 | 14.4 | 12.2 | 25.0 | | | | |
| Green Ext Time (p_c), s | 0.6 | 5.0 | 0.0 | 2.2 | 0.4 | 16.1 | 0.3 | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 33.8 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved pedestrian interval to be less than phase max green. | | | | | | | | | | | | |

Lanes, Volumes, Timings
1: Technology Dr. & Gerald Ford Dr.

HY (2040) NP PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 131 | 1027 | 71 | 66 | 997 | 156 | 129 | 73 | 79 | 189 | 76 | 143 |
| Future Volume (vph) | 131 | 1027 | 71 | 66 | 997 | 156 | 129 | 73 | 79 | 189 | 76 | 143 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 185 | | 165 | 180 | | 120 | 102 | | 230 | 85 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 1 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 90 | | | 60 | | | 60 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | | 35 |
| Link Distance (ft) | | 549 | | | 936 | | | 343 | | | | 642 |
| Travel Time (s) | | 9.4 | | | 16.0 | | | 6.7 | | | | 12.5 |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 144 | 1129 | 78 | 73 | 1096 | 171 | 142 | 80 | 87 | 208 | 84 | 157 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 144 | 1129 | 78 | 73 | 1096 | 171 | 142 | 80 | 87 | 208 | 241 | 0 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | | 4 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 12.2 | 27.0 | 27.0 | 10.0 | 24.8 | 24.8 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 |
| Total Split (%) | 20.3% | 45.0% | 45.0% | 16.7% | 41.3% | 41.3% | 38.3% | 38.3% | 38.3% | 38.3% | 38.3% | 38.3% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | Max | Max | Max | Max | Max | Max |

Intersection Summary






























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 35 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Technology Dr. & Gerald Ford Dr.














HCM 6th Signalized Intersection Summary
1: Technology Dr. & Gerald Ford Dr.

HY (2040) NP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|--|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |    |  |  |    |  |  |  |  |  |   |  |
| Traffic Volume (veh/h) | 131 | 1027 | 71 | 66 | 997 | 156 | 129 | 73 | 79 | 189 | 76 | 143 |
| Future Volume (veh/h) | 131 | 1027 | 71 | 66 | 997 | 156 | 129 | 73 | 79 | 189 | 76 | 143 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 144 | 1129 | 78 | 73 | 1096 | 171 | 142 | 80 | 87 | 208 | 84 | 157 |
| 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 | 183 | 2083 | 643 | 104 | 1859 | 573 | 338 | 577 | 486 | 457 | 179 | 335 |
| Arrive On Green | 0.10 | 0.41 | 0.41 | 0.06 | 0.36 | 0.36 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 |
| Sat Flow, veh/h | 1781 | 5106 | 1575 | 1781 | 5106 | 1574 | 1136 | 1870 | 1577 | 1214 | 582 | 1087 |
| Grp Volume(v), veh/h | 144 | 1129 | 78 | 73 | 1096 | 171 | 142 | 80 | 87 | 208 | 0 | 241 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1575 | 1781 | 1702 | 1574 | 1136 | 1870 | 1577 | 1214 | 0 | 1668 |
| Q Serve(g_s), s | 4.7 | 10.1 | 1.9 | 2.4 | 10.4 | 4.6 | 6.9 | 1.9 | 2.4 | 9.0 | 0.0 | 7.0 |
| Cycle Q Clear(g_c), s | 4.7 | 10.1 | 1.9 | 2.4 | 10.4 | 4.6 | 13.9 | 1.9 | 2.4 | 10.8 | 0.0 | 7.0 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.65 |
| Lane Grp Cap(c), veh/h | 183 | 2083 | 643 | 104 | 1859 | 573 | 338 | 577 | 486 | 457 | 0 | 514 |
| V/C Ratio(X) | 0.79 | 0.54 | 0.12 | 0.70 | 0.59 | 0.30 | 0.42 | 0.14 | 0.18 | 0.46 | 0.00 | 0.47 |
| Avail Cap(c_a), veh/h | 229 | 2083 | 643 | 163 | 1859 | 573 | 338 | 577 | 486 | 457 | 0 | 514 |
| HCM Platoon Ratio | 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 | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 26.3 | 13.5 | 11.1 | 27.7 | 15.4 | 13.6 | 22.4 | 15.0 | 15.2 | 18.9 | 0.0 | 16.8 |
| Incr Delay (d2), s/veh | 13.5 | 1.0 | 0.4 | 5.6 | 0.9 | 0.9 | 3.8 | 0.5 | 0.8 | 3.3 | 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 2.5 | 3.3 | 0.6 | 1.1 | 3.5 | 1.5 | 2.0 | 0.8 | 0.9 | 2.7 | 0.0 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 39.8 | 14.5 | 11.4 | 33.3 | 16.4 | 14.5 | 26.2 | 15.5 | 16.0 | 22.2 | 0.0 | 19.8 |
| LnGrp LOS | D | B | B | C | B | B | C | B | B | C | A | B |
| Approach Vol, veh/h | | 1351 | | | 1340 | | | 309 | | | 449 | |
| Approach Delay, s/veh | | 17.0 | | | 17.1 | | | 20.6 | | | 20.9 | |
| Approach LOS | | B | | | B | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 8.0 | 29.0 | | 23.0 | 10.7 | 26.3 | | 23.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.5 | 22.5 | | 18.5 | 7.7 | 20.3 | | 18.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 4.4 | 12.1 | | 12.8 | 6.7 | 12.4 | | 15.9 | | | | |
| Green Ext Time (p_c), s | 0.0 | 5.4 | | 1.1 | 0.0 | 4.5 | | 0.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 17.9 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

Lanes, Volumes, Timings
 2: Technology Dr. & The Village W. Dwy.

HY (2040) NP PM Peak Hour

| |  |  |  |  |  |  |
|-----------------------------|---|---|---|---|---|---|
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  |  |  |  |
| Traffic Volume (vph) | 9 | 63 | 222 | 11 | 18 | 196 |
| Future Volume (vph) | 9 | 63 | 222 | 11 | 18 | 196 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | 0 | | 175 | 55 | |
| Storage Lanes | 1 | 0 | | 1 | 1 | |
| Taper Length (ft) | 90 | | | | 60 | |
| Link Speed (mph) | 30 | | 30 | | | 30 |
| Link Distance (ft) | 313 | | 338 | | | 343 |
| Travel Time (s) | 7.1 | | 7.7 | | | 7.8 |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 10 | 67 | 236 | 12 | 19 | 209 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 77 | 0 | 236 | 12 | 19 | 209 |
| Sign Control | Stop | | Free | | | Free |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |
| Control Type: | Unsignalized | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.7 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations | ↘↗ | | ↑ | ↗↘ | ↘↗ | ↑ |
| Traffic Vol, veh/h | 9 | 63 | 222 | 11 | 18 | 196 |
| Future Vol, veh/h | 9 | 63 | 222 | 11 | 18 | 196 |
| 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 | - | - | 175 | 55 | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 10 | 67 | 236 | 12 | 19 | 209 |

| Major/Minor | Minor1 | Major1 | Major2 | | |
|----------------------|--------|--------|--------|---|-------|
| Conflicting Flow All | 483 | 236 | 0 | 0 | 248 |
| Stage 1 | 236 | - | - | - | - |
| Stage 2 | 247 | - | - | - | - |
| Critical Hdwy | 6.42 | 6.22 | - | - | 4.12 |
| Critical Hdwy Stg 1 | 5.42 | - | - | - | - |
| Critical Hdwy Stg 2 | 5.42 | - | - | - | - |
| Follow-up Hdwy | 3.518 | 3.318 | - | - | 2.218 |
| Pot Cap-1 Maneuver | 542 | 803 | - | - | 1318 |
| Stage 1 | 803 | - | - | - | - |
| Stage 2 | 794 | - | - | - | - |
| Platoon blocked, % | | | - | - | - |
| Mov Cap-1 Maneuver | 534 | 803 | - | - | 1318 |
| Mov Cap-2 Maneuver | 534 | - | - | - | - |
| Stage 1 | 803 | - | - | - | - |
| Stage 2 | 783 | - | - | - | - |

| Approach | WB | NB | SB |
|----------------------|------|----|-----|
| HCM Control Delay, s | 10.3 | 0 | 0.7 |
| HCM LOS | B | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 755 | 1318 |
| HCM Lane V/C Ratio | - | - | 0.101 | 0.015 |
| HCM Control Delay (s) | - | - | 10.3 | 7.8 |
| HCM Lane LOS | - | - | B | A |
| HCM 95th %tile Q(veh) | - | - | 0.3 | 0 |

Lanes, Volumes, Timings
 3: College Dr. & Technology Dr.

HY (2040) NP PM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | ↕ | ↔ | | ↘ | |
| Traffic Volume (vph) | 73 | 164 | 170 | 158 | 114 | 90 |
| Future Volume (vph) | 73 | 164 | 170 | 158 | 114 | 90 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 803 | 445 | | 338 | |
| Travel Time (s) | | 18.3 | 10.1 | | 7.7 | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 81 | 182 | 189 | 176 | 127 | 100 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 263 | 365 | 0 | 227 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 5.3 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 263 | 365 | 227 |
| Demand Flow Rate, veh/h | 269 | 373 | 232 |
| Vehicles Circulating, veh/h | 130 | 83 | 193 |
| Vehicles Exiting, veh/h | 295 | 316 | 263 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 5.0 | 5.6 | 5.1 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 269 | 373 | 232 |
| Cap Entry Lane, veh/h | 1209 | 1268 | 1133 |
| Entry HV Adj Factor | 0.979 | 0.979 | 0.978 |
| Flow Entry, veh/h | 263 | 365 | 227 |
| Cap Entry, veh/h | 1183 | 1241 | 1109 |
| V/C Ratio | 0.223 | 0.294 | 0.205 |
| Control Delay, s/veh | 5.0 | 5.6 | 5.1 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 1 |

Lanes, Volumes, Timings
 4: University Dr. & College Dr.

HY (2040) NP PM Peak Hour

| | → | ↘ | ↙ | ← | ↖ | ↗ |
|-----------------------------|--------------|------|------|------|------|------|
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | ↑ | ↘ | ↑ | ↘ | ↗ |
| Traffic Volume (vph) | 220 | 55 | 21 | 239 | 51 | 18 |
| Future Volume (vph) | 220 | 55 | 21 | 239 | 51 | 18 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 120 | 130 | | 100 | 0 |
| Storage Lanes | | 1 | 1 | | 0 | 0 |
| Taper Length (ft) | | | 65 | | 60 | |
| Link Speed (mph) | 30 | | | 30 | 30 | |
| Link Distance (ft) | 755 | | | 803 | 448 | |
| Travel Time (s) | 17.2 | | | 18.3 | 10.2 | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 234 | 59 | 22 | 254 | 54 | 19 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 234 | 59 | 22 | 254 | 73 | 0 |
| Sign Control | Free | | | Free | Stop | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |
| Control Type: | Unsignalized | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.7 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑ | ↗ | ↖ | ↑ | ↘ | ↙ |
| Traffic Vol, veh/h | 220 | 55 | 21 | 239 | 51 | 18 |
| Future Vol, veh/h | 220 | 55 | 21 | 239 | 51 | 18 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 120 | 130 | - | - | - |
| Veh in Median Storage, # | 0 | - | - | 0 | 0 | - |
| Grade, % | 0 | - | - | 0 | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 234 | 59 | 22 | 254 | 54 | 19 |

| Major/Minor | Major1 | Major2 | Minor1 | | |
|----------------------|--------|--------|--------|---|-------------|
| Conflicting Flow All | 0 | 0 | 293 | 0 | 532 234 |
| Stage 1 | - | - | - | - | 234 - |
| Stage 2 | - | - | - | - | 298 - |
| Critical Hdwy | - | - | 4.12 | - | 6.42 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | 5.42 - |
| Critical Hdwy Stg 2 | - | - | - | - | 5.42 - |
| Follow-up Hdwy | - | - | 2.218 | - | 3.518 3.318 |
| Pot Cap-1 Maneuver | - | - | 1269 | - | 508 805 |
| Stage 1 | - | - | - | - | 805 - |
| Stage 2 | - | - | - | - | 753 - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | 1269 | - | 499 805 |
| Mov Cap-2 Maneuver | - | - | - | - | 499 - |
| Stage 1 | - | - | - | - | 805 - |
| Stage 2 | - | - | - | - | 740 - |

| Approach | EB | WB | NB |
|----------------------|----|-----|------|
| HCM Control Delay, s | 0 | 0.6 | 12.5 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBL | WBT |
|-----------------------|-------|-----|-----|-------|-----|
| Capacity (veh/h) | 554 | - | - | 1269 | - |
| HCM Lane V/C Ratio | 0.132 | - | - | 0.018 | - |
| HCM Control Delay (s) | 12.5 | - | - | 7.9 | - |
| HCM Lane LOS | B | - | - | A | - |
| HCM 95th %tile Q(veh) | 0.5 | - | - | 0.1 | - |

Lanes, Volumes, Timings
5: College Dr. & Pacific Av.

HY (2040) NP PM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 13 | 207 | 173 | 96 | 88 | 14 |
| Future Volume (vph) | 13 | 207 | 173 | 96 | 88 | 14 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 711 | 644 | | 595 | |
| Travel Time (s) | | 16.2 | 14.6 | | 13.5 | |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 15 | 233 | 194 | 108 | 99 | 16 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 248 | 302 | 0 | 115 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

















Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 4.6 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 248 | 302 | 115 |
| Demand Flow Rate, veh/h | 253 | 308 | 117 |
| Vehicles Circulating, veh/h | 101 | 15 | 198 |
| Vehicles Exiting, veh/h | 214 | 339 | 125 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.7 | 4.6 | 4.1 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 253 | 308 | 117 |
| Cap Entry Lane, veh/h | 1245 | 1359 | 1128 |
| Entry HV Adj Factor | 0.982 | 0.981 | 0.983 |
| Flow Entry, veh/h | 248 | 302 | 115 |
| Cap Entry, veh/h | 1222 | 1333 | 1108 |
| V/C Ratio | 0.203 | 0.227 | 0.104 |
| Control Delay, s/veh | 4.7 | 4.6 | 4.1 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 0 |

Lanes, Volumes, Timings
6: College Dr. & University Park Dr.

HY (2040) NP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (vph) | 6 | 46 | 11 | 34 | 69 | 202 | 17 | 112 | 24 | 149 | 124 | 5 |
| Future Volume (vph) | 6 | 46 | 11 | 34 | 69 | 202 | 17 | 112 | 24 | 149 | 124 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 974 | | | 473 | | | 829 | | | 921 | |
| Travel Time (s) | | 22.1 | | | 10.8 | | | 18.8 | | | 20.9 | |
| 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 |
| Adj. Flow (vph) | 7 | 55 | 13 | 41 | 83 | 243 | 20 | 135 | 29 | 180 | 149 | 6 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 75 | 0 | 0 | 367 | 0 | 0 | 184 | 0 | 0 | 335 | 0 |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 5.7 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 75 | 367 | 184 | 335 |
| Demand Flow Rate, veh/h | 76 | 375 | 188 | 342 |
| Vehicles Circulating, veh/h | 378 | 165 | 247 | 147 |
| Vehicles Exiting, veh/h | 111 | 270 | 207 | 393 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.6 | 6.2 | 5.0 | 5.8 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 76 | 375 | 188 | 342 |
| Cap Entry Lane, veh/h | 938 | 1166 | 1073 | 1188 |
| Entry HV Adj Factor | 0.986 | 0.980 | 0.980 | 0.980 |
| Flow Entry, veh/h | 75 | 367 | 184 | 335 |
| Cap Entry, veh/h | 925 | 1142 | 1051 | 1163 |
| V/C Ratio | 0.081 | 0.322 | 0.175 | 0.288 |
| Control Delay, s/veh | 4.6 | 6.2 | 5.0 | 5.8 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 0 | 1 | 1 | 1 |

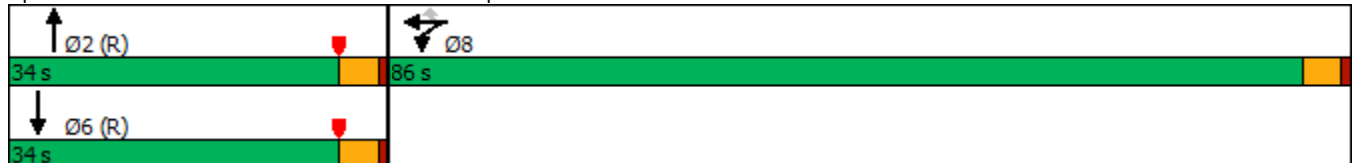
Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

HY (2040) NP PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|-------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | ↕ | ↗ | | ↕↕ | ↗ | | ↕↕↕ | |
| Traffic Volume (vph) | 0 | 0 | 0 | 879 | 0 | 82 | 0 | 750 | 984 | 0 | 432 | 88 |
| Future Volume (vph) | 0 | 0 | 0 | 879 | 0 | 82 | 0 | 750 | 984 | 0 | 432 | 88 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 12.8 | | | 11.3 | |
| 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 |
| Adj. Flow (vph) | 0 | 0 | 0 | 945 | 0 | 88 | 0 | 806 | 1058 | 0 | 465 | 95 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 945 | 88 | 0 | 806 | 1058 | 0 | 560 | 0 |
| Turn Type | | | | Split | NA | Perm | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | Free | | | |
| Detector Phase | | | | 8 | 8 | 8 | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | 5.0 | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 86.0 | 86.0 | 86.0 | | 34.0 | | | 34.0 | |
| Total Split (%) | | | | 71.7% | 71.7% | 71.7% | | 28.3% | | | 28.3% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | None | | C-Max | | | C-Max | |



















Intersection Summary
 Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

HY (2040) NP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | |  |  | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 879 | 0 | 82 | 0 | 750 | 984 | 0 | 432 | 88 |
| Future Volume (veh/h) | 0 | 0 | 0 | 879 | 0 | 82 | 0 | 750 | 984 | 0 | 432 | 88 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 945 | 0 | 88 | 0 | 806 | 0 | 0 | 465 | 95 |
| Peak Hour Factor | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 1018 | 0 | 906 | 0 | 1256 | | 0 | 1509 | 301 |
| Arrive On Green | | | | 0.57 | 0.00 | 0.57 | 0.00 | 0.12 | 0.00 | 0.00 | 0.35 | 0.35 |
| Sat Flow, veh/h | | | | 1781 | 0 | 1585 | 0 | 3647 | 1585 | 0 | 4439 | 851 |
| Grp Volume(v), veh/h | | | | 945 | 0 | 88 | 0 | 806 | 0 | 0 | 368 | 192 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 0 | 1585 | 0 | 1777 | 1585 | 0 | 1702 | 1717 |
| Q Serve(g_s), s | | | | 58.1 | 0.0 | 3.0 | 0.0 | 26.0 | 0.0 | 0.0 | 9.4 | 9.8 |
| Cycle Q Clear(g_c), s | | | | 58.1 | 0.0 | 3.0 | 0.0 | 26.0 | 0.0 | 0.0 | 9.4 | 9.8 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 1.00 | 0.00 | | 0.50 |
| Lane Grp Cap(c), veh/h | | | | 1018 | 0 | 906 | 0 | 1256 | | 0 | 1203 | 607 |
| V/C Ratio(X) | | | | 0.93 | 0.00 | 0.10 | 0.00 | 0.64 | | 0.00 | 0.31 | 0.32 |
| Avail Cap(c_a), veh/h | | | | 1210 | 0 | 1077 | 0 | 1256 | | 0 | 1203 | 607 |
| 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 | 0.09 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 23.5 | 0.0 | 11.7 | 0.0 | 45.8 | 0.0 | 0.0 | 28.1 | 28.2 |
| Incr Delay (d2), s/veh | | | | 11.1 | 0.0 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 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 |
| %ile BackOfQ(50%),veh/ln | | | | 26.1 | 0.0 | 1.1 | 0.0 | 12.5 | 0.0 | 0.0 | 4.0 | 4.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 34.6 | 0.0 | 11.7 | 0.0 | 46.0 | 0.0 | 0.0 | 28.8 | 29.6 |
| LnGrp LOS | | | | C | A | B | A | D | | A | C | C |
| Approach Vol, veh/h | | | | | 1033 | | | 806 | | | 560 | |
| Approach Delay, s/veh | | | | | 32.6 | | | 46.0 | | | 29.1 | |
| Approach LOS | | | | | C | | | D | | | C | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 46.9 | | | | 46.9 | | 73.1 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 29.5 | | | | 29.5 | | 81.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 28.0 | | | | 11.8 | | 60.1 | | | | |
| Green Ext Time (p_c), s | | 0.8 | | | | 3.4 | | 8.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 36.3 | | | | | | | | |
| HCM 6th LOS | | | | D | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

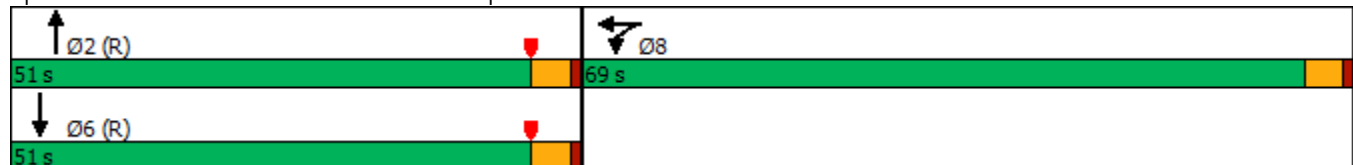
HY (2040) NP PM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 879 | 0 | 82 | 0 | 750 | 984 | 0 | 432 | 88 |
| Future Volume (vph) | 0 | 0 | 0 | 879 | 0 | 82 | 0 | 750 | 984 | 0 | 432 | 88 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 240 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 12.8 | | | 11.3 | |
| 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 |
| Adj. Flow (vph) | 0 | 0 | 0 | 945 | 0 | 88 | 0 | 806 | 1058 | 0 | 465 | 95 |
| Shared Lane Traffic (%) | | | | 45% | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 520 | 513 | 0 | 0 | 806 | 1058 | 0 | 560 | 0 |
| Turn Type | | | | Split | NA | | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | Free | | | |
| Detector Phase | | | | 8 | 8 | | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 69.0 | 69.0 | | | 51.0 | | | 51.0 | |
| Total Split (%) | | | | 57.5% | 57.5% | | | 42.5% | | | 42.5% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | 4.5 | 4.5 | | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | | | C-Max | | | C-Max | |

Intersection Summary



















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

HY (2040) NP PM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  | | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 879 | 0 | 82 | 0 | 750 | 984 | 0 | 432 | 88 |
| Future Volume (veh/h) | 0 | 0 | 0 | 879 | 0 | 82 | 0 | 750 | 984 | 0 | 432 | 88 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 1027 | 0 | 0 | 0 | 806 | 0 | 0 | 465 | 95 |
| Peak Hour Factor | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 1164 | 611 | 0 | 0 | 2126 | | 0 | 2554 | 509 |
| Arrive On Green | | | | 0.33 | 0.00 | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 | 0.60 | 0.60 |
| Sat Flow, veh/h | | | | 3563 | 1870 | 0 | 0 | 3647 | 1585 | 0 | 4439 | 851 |
| Grp Volume(v), veh/h | | | | 1027 | 0 | 0 | 0 | 806 | 0 | 0 | 368 | 192 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 1870 | 0 | 0 | 1777 | 1585 | 0 | 1702 | 1717 |
| Q Serve(g_s), s | | | | 32.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.8 | 6.1 |
| Cycle Q Clear(g_c), s | | | | 32.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.8 | 6.1 |
| Prop In Lane | | | | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 0.50 |
| Lane Grp Cap(c), veh/h | | | | 1164 | 611 | 0 | 0 | 2126 | | 0 | 2036 | 1027 |
| V/C Ratio(X) | | | | 0.88 | 0.00 | 0.00 | 0.00 | 0.38 | | 0.00 | 0.18 | 0.19 |
| Avail Cap(c_a), veh/h | | | | 1915 | 1005 | 0 | 0 | 2126 | | 0 | 2036 | 1027 |
| HCM Platoon Ratio | | | | 1.00 | 1.00 | 1.00 | 1.00 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | | | | 1.00 | 0.00 | 0.00 | 0.00 | 0.66 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 38.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.9 | 10.9 |
| Incr Delay (d2), s/veh | | | | 3.0 | 0.0 | 0.0 | 0.0 | 0.3 | 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 | | | | 14.6 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 2.2 | 2.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 41.2 | 0.0 | 0.0 | 0.0 | 0.4 | 0.0 | 0.0 | 11.1 | 11.3 |
| LnGrp LOS | | | | D | A | A | A | A | | A | B | B |
| Approach Vol, veh/h | | | | | 1027 | | | 806 | | | 560 | |
| Approach Delay, s/veh | | | | | 41.2 | | | 0.4 | | | 11.1 | |
| Approach LOS | | | | | D | | | A | | | B | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 76.3 | | | | 76.3 | | 43.7 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 46.5 | | | | 46.5 | | 64.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 2.0 | | | | 8.1 | | 34.7 | | | | |
| Green Ext Time (p_c), s | | 6.9 | | | | 4.1 | | 4.5 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 20.4 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

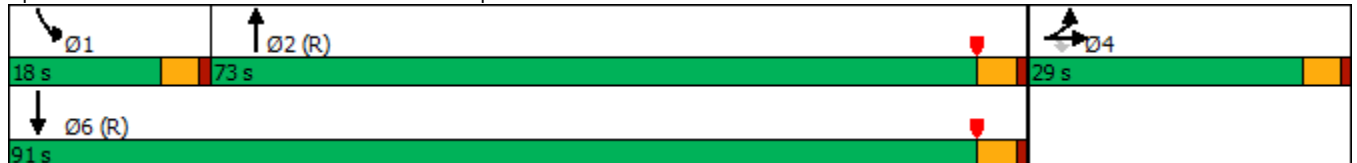
HY (2040) NP PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 339 | 1 | 789 | 0 | 0 | 0 | 0 | 1395 | 1280 | 220 | 1091 | 0 |
| Future Volume (vph) | 339 | 1 | 789 | 0 | 0 | 0 | 0 | 1395 | 1280 | 220 | 1091 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 0 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 0 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 17.3 | | | 12.8 | |
| 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 |
| Adj. Flow (vph) | 365 | 1 | 848 | 0 | 0 | 0 | 0 | 1500 | 1376 | 237 | 1173 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 365 | 425 | 424 | 0 | 0 | 0 | 0 | 2876 | 0 | 237 | 1173 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 29.0 | 29.0 | 29.0 | | | | | 73.0 | | 18.0 | 91.0 | |
| Total Split (%) | 24.2% | 24.2% | 24.2% | | | | | 60.8% | | 15.0% | 75.8% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary





















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

HY (2040) NP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |  |  |  |  |  |
| Traffic Volume (veh/h) | 339 | 1 | 789 | 0 | 0 | 0 | 0 | 1395 | 1280 | 220 | 1091 | 0 |
| Future Volume (veh/h) | 339 | 1 | 789 | 0 | 0 | 0 | 0 | 1395 | 1280 | 220 | 1091 | 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 | 365 | 0 | 849 | | | | 0 | 1500 | 1376 | 237 | 1173 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 364 | 0 | 647 | | | | 0 | 1943 | 905 | 200 | 3681 | 0 |
| Arrive On Green | 0.25 | 0.00 | 0.25 | | | | 0.00 | 1.00 | 1.00 | 0.22 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 3572 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 365 | 0 | 849 | | | | 0 | 1500 | 1376 | 237 | 1173 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 24.5 | 0.0 | 24.5 | | | | 0.0 | 0.0 | 64.6 | 13.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 24.5 | 0.0 | 24.5 | | | | 0.0 | 0.0 | 64.6 | 13.5 | 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 | 364 | 0 | 647 | | | | 0 | 1943 | 905 | 200 | 3681 | 0 |
| V/C Ratio(X) | 1.00 | 0.00 | 1.31 | | | | 0.00 | 0.77 | 1.52 | 1.18 | 0.32 | 0.00 |
| Avail Cap(c_a), veh/h | 364 | 0 | 647 | | | | 0 | 1943 | 905 | 200 | 3681 | 0 |
| HCM Platoon Ratio | 1.20 | 1.20 | 1.20 | | | | 1.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 |
| Upstream Filter(I) | 1.00 | 0.00 | 1.00 | | | | 0.00 | 1.00 | 1.00 | 0.92 | 0.92 | 0.00 |
| Uniform Delay (d), s/veh | 45.3 | 0.0 | 45.3 | | | | 0.0 | 0.0 | 0.0 | 46.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 48.1 | 0.0 | 151.1 | | | | 0.0 | 3.0 | 240.0 | 119.1 | 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 | 15.3 | 0.0 | 22.9 | | | | 0.0 | 0.8 | 60.3 | 11.8 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 93.4 | 0.0 | 196.4 | | | | 0.0 | 3.0 | 240.0 | 165.6 | 0.2 | 0.0 |
| LnGrp LOS | F | A | F | | | | A | A | F | F | A | A |
| Approach Vol, veh/h | | 1214 | | | | | | 2876 | | | 1410 | |
| Approach Delay, s/veh | | 165.5 | | | | | | 116.4 | | | 28.0 | |
| Approach LOS | | F | | | | | | F | | | C | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | | | 6 | | | | |
| Phs Duration (G+Y+Rc), s | 18.0 | 73.0 | | 29.0 | | | | 91.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | | | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 13.5 | 68.5 | | 24.5 | | | | 86.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 15.5 | 66.6 | | 26.5 | | | | 2.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 1.9 | | 0.0 | | | | 12.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 104.6 | | | | | | | | | |
| HCM 6th LOS | | | F | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

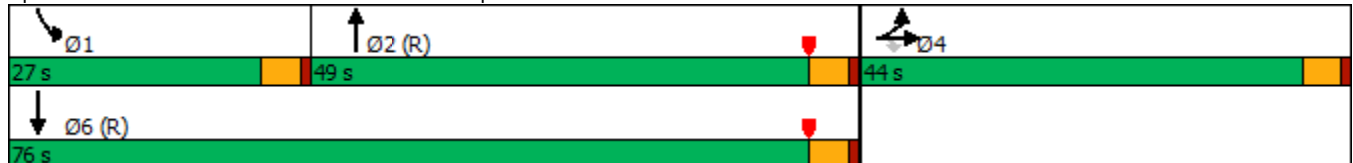
HY (2040) NP PM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 339 | 1 | 789 | 0 | 0 | 0 | 0 | 1395 | 1280 | 220 | 1091 | 0 |
| Future Volume (vph) | 339 | 1 | 789 | 0 | 0 | 0 | 0 | 1395 | 1280 | 220 | 1091 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 150 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 1 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 17.3 | | | 12.8 | |
| 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 |
| Adj. Flow (vph) | 365 | 1 | 848 | 0 | 0 | 0 | 0 | 1500 | 1376 | 237 | 1173 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 365 | 425 | 424 | 0 | 0 | 0 | 0 | 1500 | 1376 | 237 | 1173 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | Free | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | Free | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 44.0 | 44.0 | 44.0 | | | | | 49.0 | | 27.0 | 76.0 | |
| Total Split (%) | 36.7% | 36.7% | 36.7% | | | | | 40.8% | | 22.5% | 63.3% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary

























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

HY (2040) NP PM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |    |  |  |    |  |
| Traffic Volume (veh/h) | 339 | 1 | 789 | 0 | 0 | 0 | 0 | 1395 | 1280 | 220 | 1091 | 0 |
| Future Volume (veh/h) | 339 | 1 | 789 | 0 | 0 | 0 | 0 | 1395 | 1280 | 220 | 1091 | 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 | 365 | 0 | 849 | | | | 0 | 1500 | 0 | 237 | 1173 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 531 | 0 | 945 | | | | 0 | 2259 | | 262 | 3202 | 0 |
| Arrive On Green | 0.30 | 0.00 | 0.30 | | | | 0.00 | 0.44 | 0.00 | 0.29 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 5274 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 365 | 0 | 849 | | | | 0 | 1500 | 0 | 237 | 1173 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 21.7 | 0.0 | 30.8 | | | | 0.0 | 27.8 | 0.0 | 15.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 21.7 | 0.0 | 30.8 | | | | 0.0 | 27.8 | 0.0 | 15.4 | 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 | 531 | 0 | 945 | | | | 0 | 2259 | | 262 | 3202 | 0 |
| V/C Ratio(X) | 0.69 | 0.00 | 0.90 | | | | 0.00 | 0.66 | | 0.90 | 0.37 | 0.00 |
| Avail Cap(c_a), veh/h | 586 | 0 | 1043 | | | | 0 | 2259 | | 334 | 3202 | 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 | 1.00 | 0.00 | 0.87 | 0.87 | 0.00 |
| Uniform Delay (d), s/veh | 37.2 | 0.0 | 40.4 | | | | 0.0 | 26.4 | 0.0 | 41.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 3.0 | 0.0 | 9.8 | | | | 0.0 | 1.6 | 0.0 | 20.8 | 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 |
| %ile BackOfQ(50%),veh/ln | 9.9 | 0.0 | 13.2 | | | | 0.0 | 11.5 | 0.0 | 7.2 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.2 | 0.0 | 50.2 | | | | 0.0 | 28.0 | 0.0 | 62.3 | 0.3 | 0.0 |
| LnGrp LOS | D | A | D | | | | A | C | | E | A | A |
| Approach Vol, veh/h | | 1214 | | | | | | 1500 | | | 1410 | |
| Approach Delay, s/veh | | 47.2 | | | | | | 28.0 | | | 10.7 | |
| Approach LOS | | D | | | | | | C | | | B | |
| Timer - Assigned Phs | 1 | 2 | 4 | 6 | | | | | | | | |
| Phs Duration (G+Y+Rc), s | 22.2 | 57.6 | 40.3 | 79.7 | | | | | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | | | | | | | | |
| Max Green Setting (Gmax), s | 22.5 | 44.5 | 39.5 | 71.5 | | | | | | | | |
| Max Q Clear Time (g_c+I1), s | 17.4 | 29.8 | 32.8 | 2.0 | | | | | | | | |
| Green Ext Time (p_c), s | 0.3 | 9.1 | 2.9 | 11.9 | | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 27.7 | | | | | | | | | |
| HCM 6th LOS | | | C | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

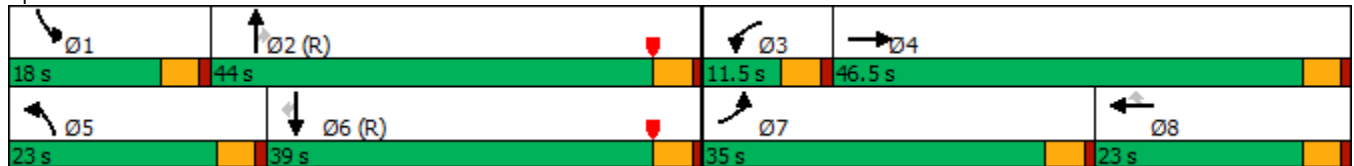
Lanes, Volumes, Timings
9: Cook St. & Gerald Ford Dr.

HY (2040) NP PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 701 | 355 | 293 | 90 | 330 | 303 | 405 | 1386 | 30 | 265 | 1013 | 525 |
| Future Volume (vph) | 701 | 355 | 293 | 90 | 330 | 303 | 405 | 1386 | 30 | 265 | 1013 | 525 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 225 | | 230 | 160 | | 200 | 210 | | 120 | 290 | | 360 |
| Storage Lanes | 2 | | 0 | 2 | | 1 | 2 | | 1 | 2 | | 1 |
| Taper Length (ft) | 130 | | | 160 | | | 140 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 936 | | | 424 | | | 1144 | | | 831 | |
| Travel Time (s) | | 16.0 | | | 5.8 | | | 14.2 | | | 10.3 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 738 | 374 | 308 | 95 | 347 | 319 | 426 | 1459 | 32 | 279 | 1066 | 553 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 738 | 374 | 308 | 95 | 347 | 319 | 426 | 1459 | 32 | 279 | 1066 | 553 |
| Turn Type | Prot | NA | Free | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 |
| Total Split (s) | 35.0 | 46.5 | | 11.5 | 23.0 | 23.0 | 23.0 | 44.0 | 44.0 | 18.0 | 39.0 | 39.0 |
| Total Split (%) | 29.2% | 38.8% | | 9.6% | 19.2% | 19.2% | 19.2% | 36.7% | 36.7% | 15.0% | 32.5% | 32.5% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |


































Intersection Summary
 Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 9: Cook St. & Gerald Ford Dr.



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

HY (2040) NP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |    |  |   |    | |
| Traffic Volume (veh/h) | 701 | 355 | 293 | 90 | 330 | 303 | 405 | 1386 | 30 | 265 | 1013 | 525 |
| Future Volume (veh/h) | 701 | 355 | 293 | 90 | 330 | 303 | 405 | 1386 | 30 | 265 | 1013 | 525 |
| 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 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 738 | 374 | 0 | 95 | 347 | 319 | 426 | 1459 | 32 | 279 | 1066 | 553 |
| 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 | 797 | 1260 | | 146 | 577 | 242 | 489 | 2114 | 595 | 339 | 1879 | 529 |
| Arrive On Green | 0.45 | 0.67 | 0.00 | 0.08 | 0.31 | 0.31 | 0.14 | 0.38 | 0.38 | 0.10 | 0.33 | 0.33 |
| Sat Flow, veh/h | 3563 | 3741 | 1585 | 3563 | 3741 | 1570 | 3563 | 5611 | 1579 | 3563 | 5611 | 1578 |
| Grp Volume(v), veh/h | 738 | 374 | 0 | 95 | 347 | 319 | 426 | 1459 | 32 | 279 | 1066 | 553 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1570 | 1781 | 1870 | 1579 | 1781 | 1870 | 1578 |
| Q Serve(g_s), s | 23.5 | 4.9 | 0.0 | 3.1 | 9.5 | 18.5 | 14.1 | 26.3 | 1.5 | 9.2 | 18.7 | 40.2 |
| Cycle Q Clear(g_c), s | 23.5 | 4.9 | 0.0 | 3.1 | 9.5 | 18.5 | 14.1 | 26.3 | 1.5 | 9.2 | 18.7 | 40.2 |
| 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 | 797 | 1260 | | 146 | 577 | 242 | 489 | 2114 | 595 | 339 | 1879 | 529 |
| V/C Ratio(X) | 0.93 | 0.30 | | 0.65 | 0.60 | 1.32 | 0.87 | 0.69 | 0.05 | 0.82 | 0.57 | 1.05 |
| Avail Cap(c_a), veh/h | 905 | 1309 | | 208 | 577 | 242 | 549 | 2114 | 595 | 401 | 1879 | 529 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.87 | 0.87 | 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 | 32.2 | 13.8 | 0.0 | 54.2 | 38.4 | 41.5 | 50.7 | 31.5 | 23.8 | 53.3 | 32.8 | 39.9 |
| Incr Delay (d2), s/veh | 12.6 | 0.1 | 0.0 | 4.8 | 1.8 | 169.3 | 13.2 | 1.9 | 0.2 | 11.2 | 1.2 | 51.8 |
| 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 | 8.8 | 1.8 | 0.0 | 1.4 | 3.9 | 16.9 | 6.9 | 11.4 | 0.6 | 4.5 | 8.2 | 22.2 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 44.8 | 13.9 | 0.0 | 59.0 | 40.1 | 210.8 | 64.0 | 33.4 | 24.0 | 64.5 | 34.0 | 91.7 |
| LnGrp LOS | D | B | | E | D | F | E | C | C | E | C | F |
| Approach Vol, veh/h | | 1112 | | | 761 | | | 1917 | | | 1898 | |
| Approach Delay, s/veh | | 34.4 | | | 114.0 | | | 40.0 | | | 55.3 | |
| Approach LOS | | C | | | F | | | D | | | E | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 15.9 | 49.7 | 9.4 | 44.9 | 21.0 | 44.7 | 31.3 | 23.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 13.5 | 39.5 | 7.0 | 42.0 | 18.5 | 34.5 | 30.5 | 18.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 11.2 | 28.3 | 5.1 | 6.9 | 16.1 | 42.2 | 25.5 | 20.5 | | | | |
| Green Ext Time (p_c), s | 0.2 | 6.6 | 0.0 | 2.4 | 0.4 | 0.0 | 1.4 | 0.0 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 53.9 |
| HCM 6th LOS | D |

Notes

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

Lanes, Volumes, Timings
 10: Cook St. & University Park Dr./Berger Dr. W.

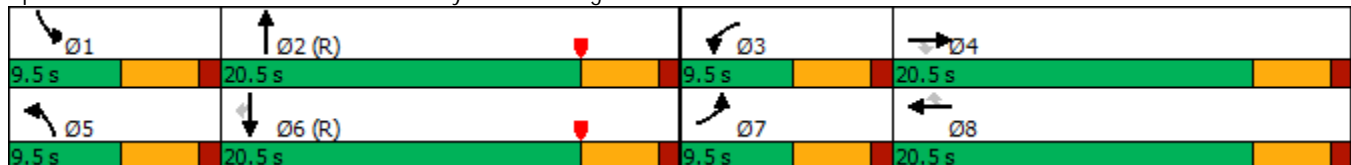
HY (2040) NP PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 67 | 125 | 58 | 118 | 154 | 392 | 80 | 1504 | 80 | 267 | 1240 | 71 |
| Future Volume (vph) | 67 | 125 | 58 | 118 | 154 | 392 | 80 | 1504 | 80 | 267 | 1240 | 71 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 180 | | 180 | 100 | | 0 | 140 | | 140 | 225 | | 295 |
| Storage Lanes | 1 | | 1 | 0 | | 1 | 1 | | 1 | 2 | | 0 |
| Taper Length (ft) | 90 | | | 0 | | | 160 | | | 165 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 473 | | | 452 | | | 1623 | | | 476 | |
| Travel Time (s) | | 10.8 | | | 10.3 | | | 36.9 | | | 10.8 | |
| 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 |
| Adj. Flow (vph) | 74 | 139 | 64 | 131 | 171 | 436 | 89 | 1671 | 89 | 297 | 1378 | 79 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 74 | 139 | 64 | 131 | 171 | 436 | 89 | 1671 | 89 | 297 | 1378 | 79 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Free | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (%) | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | | 15.8% | 34.2% | 34.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Cook St. & University Park Dr./Berger Dr. W.



HCM 6th Signalized Intersection Summary
 10: Cook St. & University Park Dr./Berger Dr. W.

HY (2040) NP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 67 | 125 | 58 | 118 | 154 | 392 | 80 | 1504 | 80 | 267 | 1240 | 71 |
| Future Volume (veh/h) | 67 | 125 | 58 | 118 | 154 | 392 | 80 | 1504 | 80 | 267 | 1240 | 71 |
| 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 | 139 | 64 | 131 | 171 | 0 | 89 | 1671 | 0 | 297 | 1378 | 79 |
| 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 | 105 | 214 | 181 | 148 | 259 | | 115 | 2139 | | 288 | 2235 | 694 |
| Arrive On Green | 0.06 | 0.11 | 0.11 | 0.08 | 0.14 | 0.00 | 0.13 | 0.84 | 0.00 | 0.08 | 0.44 | 0.44 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 74 | 139 | 64 | 131 | 171 | 0 | 89 | 1671 | 0 | 297 | 1378 | 79 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 2.4 | 4.3 | 2.2 | 4.4 | 5.2 | 0.0 | 2.9 | 9.2 | 0.0 | 5.0 | 12.5 | 1.8 |
| Cycle Q Clear(g_c), s | 2.4 | 4.3 | 2.2 | 4.4 | 5.2 | 0.0 | 2.9 | 9.2 | 0.0 | 5.0 | 12.5 | 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 | 105 | 214 | 181 | 148 | 259 | | 115 | 2139 | | 288 | 2235 | 694 |
| V/C Ratio(X) | 0.70 | 0.65 | 0.35 | 0.88 | 0.66 | | 0.78 | 0.78 | | 1.03 | 0.62 | 0.11 |
| Avail Cap(c_a), veh/h | 148 | 499 | 423 | 148 | 499 | | 148 | 2139 | | 288 | 2235 | 694 |
| 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 | 1.00 | 1.00 | 0.00 | 0.38 | 0.38 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.7 | 25.4 | 24.5 | 27.2 | 24.5 | 0.0 | 25.7 | 3.6 | 0.0 | 27.5 | 13.0 | 10.0 |
| Incr Delay (d2), s/veh | 8.3 | 3.3 | 1.2 | 41.6 | 2.8 | 0.0 | 7.2 | 1.1 | 0.0 | 61.4 | 1.3 | 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 | 1.2 | 2.0 | 0.8 | 3.5 | 2.4 | 0.0 | 1.3 | 1.4 | 0.0 | 4.4 | 4.3 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.0 | 28.7 | 25.7 | 68.8 | 27.3 | 0.0 | 32.9 | 4.7 | 0.0 | 88.9 | 14.3 | 10.3 |
| LnGrp LOS | D | C | C | E | C | | C | A | | F | B | B |
| Approach Vol, veh/h | | 277 | | | 302 | | | 1760 | | | 1754 | |
| Approach Delay, s/veh | | 29.9 | | | 45.3 | | | 6.1 | | | 26.7 | |
| Approach LOS | | C | | | D | | | A | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 9.5 | 29.6 | 9.5 | 11.4 | 8.4 | 30.8 | 8.0 | 12.8 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 16.0 | 5.0 | 16.0 | 5.0 | 16.0 | 5.0 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.0 | 11.2 | 6.4 | 6.3 | 4.9 | 14.5 | 4.4 | 7.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 3.9 | 0.0 | 0.6 | 0.0 | 1.2 | 0.0 | 0.5 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 19.5 |
| HCM 6th LOS | B |

Notes

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

Lanes, Volumes, Timings
11: Cook St. & Frank Sinatra Dr.

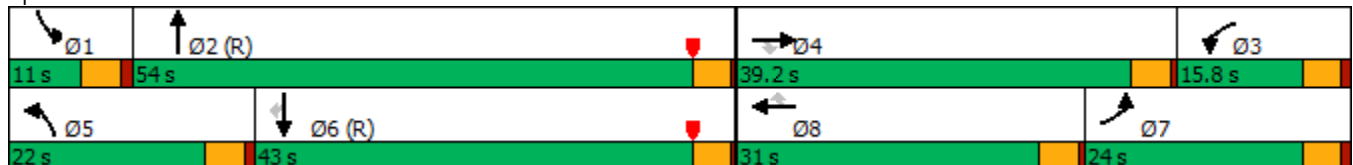
HY (2040) NP PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 446 | 654 | 348 | 170 | 676 | 95 | 291 | 1150 | 83 | 126 | 990 | 306 |
| Future Volume (vph) | 446 | 654 | 348 | 170 | 676 | 95 | 291 | 1150 | 83 | 126 | 990 | 306 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | | 135 | 135 | | 260 | 140 | | 0 | 210 | | 220 |
| Storage Lanes | 2 | | 1 | 2 | | 1 | 2 | | 0 | 2 | | 1 |
| Taper Length (ft) | 120 | | | 110 | | | 110 | | | 140 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1477 | | | 944 | | | 330 | | | 1623 | |
| Travel Time (s) | | 33.6 | | | 21.5 | | | 7.5 | | | 36.9 | |
| 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 |
| Adj. Flow (vph) | 485 | 711 | 378 | 185 | 735 | 103 | 316 | 1250 | 90 | 137 | 1076 | 333 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 485 | 711 | 378 | 185 | 735 | 103 | 316 | 1340 | 0 | 137 | 1076 | 333 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | | 9.5 | 20.0 | 20.0 |
| Total Split (s) | 24.0 | 39.2 | 39.2 | 15.8 | 31.0 | 31.0 | 22.0 | 54.0 | | 11.0 | 43.0 | 43.0 |
| Total Split (%) | 20.0% | 32.7% | 32.7% | 13.2% | 25.8% | 25.8% | 18.3% | 45.0% | | 9.2% | 35.8% | 35.8% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lag | Lead | Lead | Lag | Lead | Lead | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary






























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 11 (9%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Cook St. & Frank Sinatra Dr.



HCM 6th Signalized Intersection Summary
 11: Cook St. & Frank Sinatra Dr.

HY (2040) NP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|--|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |   | |   |  | |
| Traffic Volume (veh/h) | 446 | 654 | 348 | 170 | 676 | 95 | 291 | 1150 | 83 | 126 | 990 | 306 |
| Future Volume (veh/h) | 446 | 654 | 348 | 170 | 676 | 95 | 291 | 1150 | 83 | 126 | 990 | 306 |
| 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 | 485 | 711 | 378 | 185 | 735 | 103 | 316 | 1250 | 90 | 137 | 1076 | 333 |
| 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 | 540 | 868 | 387 | 465 | 791 | 353 | 381 | 1430 | 103 | 187 | 1886 | 585 |
| Arrive On Green | 0.16 | 0.24 | 0.24 | 0.13 | 0.22 | 0.22 | 0.11 | 0.43 | 0.43 | 0.05 | 0.37 | 0.37 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1585 | 3456 | 3362 | 242 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 485 | 711 | 378 | 185 | 735 | 103 | 316 | 660 | 680 | 137 | 1076 | 333 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1585 | 1728 | 1777 | 1827 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 16.5 | 22.7 | 21.6 | 5.9 | 24.3 | 5.4 | 10.7 | 40.7 | 40.9 | 4.7 | 20.2 | 12.9 |
| Cycle Q Clear(g_c), s | 16.5 | 22.7 | 21.6 | 5.9 | 24.3 | 5.4 | 10.7 | 40.7 | 40.9 | 4.7 | 20.2 | 12.9 |
| 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 | 540 | 868 | 387 | 465 | 791 | 353 | 381 | 756 | 777 | 187 | 1886 | 585 |
| V/C Ratio(X) | 0.90 | 0.82 | 0.98 | 0.40 | 0.93 | 0.29 | 0.83 | 0.87 | 0.88 | 0.73 | 0.57 | 0.57 |
| Avail Cap(c_a), veh/h | 562 | 1042 | 465 | 465 | 800 | 357 | 504 | 756 | 777 | 187 | 1886 | 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 | 0.65 | 0.65 | 0.65 |
| Uniform Delay (d), s/veh | 49.7 | 42.9 | 26.0 | 47.5 | 45.7 | 27.3 | 52.3 | 31.5 | 31.6 | 55.9 | 30.2 | 12.4 |
| Incr Delay (d2), s/veh | 16.9 | 4.5 | 33.1 | 0.6 | 17.1 | 0.5 | 8.6 | 13.2 | 13.2 | 9.2 | 0.8 | 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 | 8.4 | 10.5 | 11.6 | 2.6 | 12.5 | 2.5 | 5.1 | 19.8 | 20.5 | 2.3 | 8.4 | 4.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 66.6 | 47.3 | 59.2 | 48.0 | 62.8 | 27.8 | 60.8 | 44.7 | 44.7 | 65.1 | 31.1 | 15.0 |
| LnGrp LOS | E | D | E | D | E | C | E | D | D | E | C | B |
| Approach Vol, veh/h | | 1574 | | | 1023 | | | 1656 | | | 1546 | |
| Approach Delay, s/veh | | 56.1 | | | 56.6 | | | 47.8 | | | 30.6 | |
| Approach LOS | | E | | | E | | | D | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 11.0 | 55.1 | 20.6 | 33.3 | 17.7 | 48.3 | 23.2 | 30.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 6.5 | 50.0 | 11.3 | 35.2 | 17.5 | 39.0 | 19.5 | 27.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 6.7 | 42.9 | 7.9 | 24.7 | 12.7 | 22.2 | 18.5 | 26.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.7 | 0.2 | 4.6 | 0.5 | 8.3 | 0.2 | 0.4 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 47.0 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

**APPENDIX 7.2: HORIZON YEAR (2040) WITH PROJECT CONDITIONS
INTERSECTION OPERATIONS ANALYSIS WORKSHEETS AND QUEUING
ANALYSIS WORKSHEETS**

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Lanes, Volumes, Timings
1: Technology Dr. & Gerald Ford Dr.

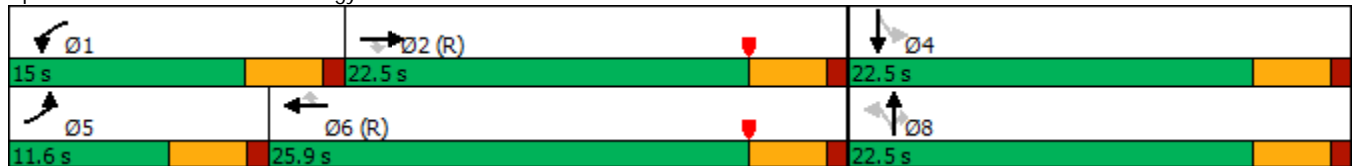
HY (2040) WP AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 70 | 707 | 63 | 187 | 1026 | 89 | 49 | 53 | 82 | 111 | 41 | 67 |
| Future Volume (vph) | 70 | 707 | 63 | 187 | 1026 | 89 | 49 | 53 | 82 | 111 | 41 | 67 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 185 | | 165 | 180 | | 120 | 102 | | 230 | 85 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 1 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 90 | | | 60 | | | 60 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | 35 | |
| Link Distance (ft) | | 549 | | | 936 | | | 343 | | | 642 | |
| Travel Time (s) | | 9.4 | | | 16.0 | | | 6.7 | | | 12.5 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 84 | 852 | 76 | 225 | 1236 | 107 | 59 | 64 | 99 | 134 | 49 | 81 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 84 | 852 | 76 | 225 | 1236 | 107 | 59 | 64 | 99 | 134 | 130 | 0 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 11.6 | 22.5 | 22.5 | 15.0 | 25.9 | 25.9 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (%) | 19.3% | 37.5% | 37.5% | 25.0% | 43.2% | 43.2% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | Max | Max | Max | Max | Max | Max |

Intersection Summary





























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 35 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Technology Dr. & Gerald Ford Dr.






















HCM 6th Signalized Intersection Summary
1: Technology Dr. & Gerald Ford Dr.

HY (2040) WP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |    |  |  |    |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 70 | 707 | 63 | 187 | 1026 | 89 | 49 | 53 | 82 | 111 | 41 | 67 |
| Future Volume (veh/h) | 70 | 707 | 63 | 187 | 1026 | 89 | 49 | 53 | 82 | 111 | 41 | 67 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 852 | 76 | 225 | 1236 | 107 | 59 | 64 | 99 | 134 | 49 | 81 |
| 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 | 112 | 1643 | 506 | 273 | 2105 | 649 | 423 | 561 | 473 | 455 | 190 | 313 |
| Arrive On Green | 0.06 | 0.32 | 0.32 | 0.15 | 0.41 | 0.41 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 5106 | 1573 | 1781 | 5106 | 1575 | 1255 | 1870 | 1577 | 1218 | 632 | 1044 |
| Grp Volume(v), veh/h | 84 | 852 | 76 | 225 | 1236 | 107 | 59 | 64 | 99 | 134 | 0 | 130 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1573 | 1781 | 1702 | 1575 | 1255 | 1870 | 1577 | 1218 | 0 | 1676 |
| Q Serve(g_s), s | 2.8 | 8.2 | 2.1 | 7.3 | 11.3 | 2.6 | 2.2 | 1.5 | 2.8 | 5.4 | 0.0 | 3.5 |
| Cycle Q Clear(g_c), s | 2.8 | 8.2 | 2.1 | 7.3 | 11.3 | 2.6 | 5.8 | 1.5 | 2.8 | 6.9 | 0.0 | 3.5 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.62 |
| Lane Grp Cap(c), veh/h | 112 | 1643 | 506 | 273 | 2105 | 649 | 423 | 561 | 473 | 455 | 0 | 503 |
| V/C Ratio(X) | 0.75 | 0.52 | 0.15 | 0.82 | 0.59 | 0.16 | 0.14 | 0.11 | 0.21 | 0.29 | 0.00 | 0.26 |
| Avail Cap(c_a), veh/h | 211 | 1643 | 506 | 312 | 2105 | 649 | 423 | 561 | 473 | 455 | 0 | 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 |
| Upstream Filter(I) | 1.00 | 1.00 | 1.00 | 0.53 | 0.53 | 0.53 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.7 | 16.6 | 14.5 | 24.6 | 13.7 | 11.1 | 18.1 | 15.2 | 15.7 | 17.7 | 0.0 | 15.9 |
| Incr Delay (d2), s/veh | 9.7 | 1.2 | 0.6 | 8.3 | 0.6 | 0.3 | 0.7 | 0.4 | 1.0 | 1.6 | 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 | 0.0 | 0.0 | 0.0 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 1.4 | 2.9 | 0.7 | 3.4 | 3.6 | 0.8 | 0.7 | 0.6 | 1.0 | 1.6 | 0.0 | 1.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 37.3 | 17.7 | 15.1 | 33.0 | 14.3 | 11.4 | 18.8 | 15.6 | 16.7 | 19.3 | 0.0 | 17.2 |
| LnGrp LOS | D | B | B | C | B | B | B | B | B | B | A | B |
| Approach Vol, veh/h | | 1012 | | | 1568 | | | 222 | | | 264 | |
| Approach Delay, s/veh | | 19.2 | | | 16.8 | | | 17.0 | | | 18.3 | |
| Approach LOS | | B | | | B | | | B | | | B | |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 13.7 | 23.8 | | 22.5 | 8.3 | 29.2 | | 22.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 10.5 | 18.0 | | 18.0 | 7.1 | 21.4 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 9.3 | 10.2 | | 8.9 | 4.8 | 13.3 | | 7.8 | | | | |
| Green Ext Time (p_c), s | 0.1 | 3.5 | | 0.8 | 0.0 | 4.9 | | 0.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 17.7 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

Lanes, Volumes, Timings
 2: Technology Dr. & E. Dwy/The Village W. Dwy.

HY (2040) WP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | |  |  |  |  |  | |
| Traffic Volume (vph) | 15 | 1 | 4 | 6 | 1 | 32 | 28 | 137 | 4 | 23 | 113 | 155 |
| Future Volume (vph) | 15 | 1 | 4 | 6 | 1 | 32 | 28 | 137 | 4 | 23 | 113 | 155 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 150 | | 175 | 55 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 0 | 1 | | 1 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 60 | | | 60 | | |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | | 35 |
| Link Distance (ft) | | 216 | | | 313 | | | 338 | | | | 343 |
| Travel Time (s) | | 4.9 | | | 7.1 | | | 6.6 | | | | 6.7 |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 19 | 1 | 5 | 8 | 1 | 41 | 35 | 173 | 5 | 29 | 143 | 196 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 25 | 0 | 0 | 50 | 0 | 35 | 173 | 5 | 29 | 339 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM 6th TWSC
 2: Technology Dr. & E. Dwy/The Village W. Dwy.

HY (2040) WP AM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.1 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↑ | ↑ | ↕ | ↕ | ↑ |
| Traffic Vol, veh/h | 15 | 1 | 4 | 6 | 1 | 32 | 28 | 137 | 4 | 23 | 113 | 155 |
| Future Vol, veh/h | 15 | 1 | 4 | 6 | 1 | 32 | 28 | 137 | 4 | 23 | 113 | 155 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 150 | - | 175 | 55 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 19 | 1 | 5 | 8 | 1 | 41 | 35 | 173 | 5 | 29 | 143 | 196 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 566 | 547 | 241 | 545 | 640 | 173 | 339 | 0 | 0 | 178 | 0 | 0 |
| Stage 1 | 299 | 299 | - | 243 | 243 | - | - | - | - | - | - | - |
| Stage 2 | 267 | 248 | - | 302 | 397 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 435 | 445 | 798 | 449 | 393 | 871 | 1220 | - | - | 1398 | - | - |
| Stage 1 | 710 | 666 | - | 761 | 705 | - | - | - | - | - | - | - |
| Stage 2 | 738 | 701 | - | 707 | 603 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 398 | 423 | 798 | 428 | 374 | 871 | 1220 | - | - | 1398 | - | - |
| Mov Cap-2 Maneuver | 398 | 423 | - | 428 | 374 | - | - | - | - | - | - | - |
| Stage 1 | 689 | 652 | - | 739 | 685 | - | - | - | - | - | - | - |
| Stage 2 | 682 | 681 | - | 687 | 590 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 13.6 | | 10.3 | | 1.3 | | 0.6 | |
| HCM LOS | B | | B | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h) | 1220 | - | - | 444 | 730 | 1398 | - |
| HCM Lane V/C Ratio | 0.029 | - | - | 0.057 | 0.068 | 0.021 | - |
| HCM Control Delay (s) | 8 | - | - | 13.6 | 10.3 | 7.6 | - |
| HCM Lane LOS | A | - | - | B | B | A | - |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.2 | 0.2 | 0.1 | - |

Lanes, Volumes, Timings
 3: College Dr. & Technology Dr.

HY (2040) WP AM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 82 | 151 | 134 | 87 | 75 | 49 |
| Future Volume (vph) | 82 | 151 | 134 | 87 | 75 | 49 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 40 | 40 | | 35 | |
| Link Distance (ft) | | 803 | 445 | | 338 | |
| Travel Time (s) | | 13.7 | 7.6 | | 6.6 | |
| Peak Hour Factor | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 | 0.73 |
| Adj. Flow (vph) | 112 | 207 | 184 | 119 | 103 | 67 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 319 | 303 | 0 | 170 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary






















Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 5.1 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 319 | 303 | 170 |
| Demand Flow Rate, veh/h | 325 | 309 | 173 |
| Vehicles Circulating, veh/h | 105 | 114 | 188 |
| Vehicles Exiting, veh/h | 256 | 316 | 235 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 5.3 | 5.2 | 4.6 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 325 | 309 | 173 |
| Cap Entry Lane, veh/h | 1240 | 1228 | 1139 |
| Entry HV Adj Factor | 0.981 | 0.982 | 0.983 |
| Flow Entry, veh/h | 319 | 303 | 170 |
| Cap Entry, veh/h | 1216 | 1206 | 1119 |
| V/C Ratio | 0.262 | 0.252 | 0.152 |
| Control Delay, s/veh | 5.3 | 5.2 | 4.6 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 1 |

Lanes, Volumes, Timings
 4: University Dr./S. Dwy. & College Dr.

HY (2040) WP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  | | |  |  |
| Traffic Volume (vph) | 28 | 205 | 42 | 11 | 130 | 42 | 55 | 1 | 20 | 8 | 1 | 11 |
| Future Volume (vph) | 28 | 205 | 42 | 11 | 130 | 42 | 55 | 1 | 20 | 8 | 1 | 11 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 150 | | 120 | 130 | | 0 | 100 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 0 | 0 | | 0 |
| Taper Length (ft) | 60 | | | 65 | | | 60 | | | 90 | | |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | | 30 |
| Link Distance (ft) | | 755 | | | 803 | | | 448 | | | | 197 |
| Travel Time (s) | | 12.9 | | | 13.7 | | | 8.7 | | | | 4.5 |
| Peak Hour Factor | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 | 0.76 |
| Adj. Flow (vph) | 37 | 270 | 55 | 14 | 171 | 55 | 72 | 1 | 26 | 11 | 1 | 14 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 37 | 270 | 55 | 14 | 226 | 0 | 72 | 27 | 0 | 0 | 26 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | Stop | |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 2.9 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | ↖ | ↗ | ↖ | ↖ | ↗ | | ↖ | ↗ | | | ↕ | |
| Traffic Vol, veh/h | 28 | 205 | 42 | 11 | 130 | 42 | 55 | 1 | 20 | 8 | 1 | 11 |
| Future Vol, veh/h | 28 | 205 | 42 | 11 | 130 | 42 | 55 | 1 | 20 | 8 | 1 | 11 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | 120 | 130 | - | - | 100 | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 | 76 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 37 | 270 | 55 | 14 | 171 | 55 | 72 | 1 | 26 | 11 | 1 | 14 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 226 | 0 | 0 | 325 | 0 | 0 | 578 | 598 | 270 | 612 | 626 | 199 |
| Stage 1 | - | - | - | - | - | - | 344 | 344 | - | 227 | 227 | - |
| Stage 2 | - | - | - | - | - | - | 234 | 254 | - | 385 | 399 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1342 | - | - | 1235 | - | - | 427 | 416 | 769 | 405 | 401 | 842 |
| Stage 1 | - | - | - | - | - | - | 671 | 637 | - | 776 | 716 | - |
| Stage 2 | - | - | - | - | - | - | 769 | 697 | - | 638 | 602 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1342 | - | - | 1235 | - | - | 406 | 400 | 769 | 379 | 385 | 842 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 406 | 400 | - | 379 | 385 | - |
| Stage 1 | - | - | - | - | - | - | 652 | 619 | - | 754 | 708 | - |
| Stage 2 | - | - | - | - | - | - | 746 | 689 | - | 598 | 585 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|------|--|--|----|--|--|
| HCM Control Delay, s | 0.8 | | | 0.5 | | | 14.2 | | | 12 | | |
| HCM LOS | | | | | | | B | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 406 | 737 | 1342 | - | - | 1235 | - | - | 544 |
| HCM Lane V/C Ratio | 0.178 | 0.037 | 0.027 | - | - | 0.012 | - | - | 0.048 |
| HCM Control Delay (s) | 15.8 | 10.1 | 7.8 | - | - | 8 | - | - | 12 |
| HCM Lane LOS | C | B | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.6 | 0.1 | 0.1 | - | - | 0 | - | - | 0.2 |

Lanes, Volumes, Timings
5: College Dr. & Pacific Av.

HY (2040) WP AM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 13 | 178 | 175 | 53 | 68 | 31 |
| Future Volume (vph) | 13 | 178 | 175 | 53 | 68 | 31 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 40 | 40 | | 35 | |
| Link Distance (ft) | | 711 | 644 | | 595 | |
| Travel Time (s) | | 12.1 | 11.0 | | 11.6 | |
| Peak Hour Factor | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Adj. Flow (vph) | 14 | 189 | 186 | 56 | 72 | 33 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 203 | 242 | 0 | 105 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

















Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 4.2 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 203 | 242 | 105 |
| Demand Flow Rate, veh/h | 207 | 247 | 107 |
| Vehicles Circulating, veh/h | 73 | 14 | 190 |
| Vehicles Exiting, veh/h | 224 | 266 | 71 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.2 | 4.2 | 4.0 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 207 | 247 | 107 |
| Cap Entry Lane, veh/h | 1281 | 1360 | 1137 |
| Entry HV Adj Factor | 0.982 | 0.981 | 0.981 |
| Flow Entry, veh/h | 203 | 242 | 105 |
| Cap Entry, veh/h | 1257 | 1334 | 1116 |
| V/C Ratio | 0.162 | 0.182 | 0.094 |
| Control Delay, s/veh | 4.2 | 4.2 | 4.0 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 0 |

Lanes, Volumes, Timings
6: College Dr. & University Park Dr.

HY (2040) WP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (vph) | 4 | 63 | 17 | 15 | 39 | 123 | 6 | 94 | 33 | 116 | 69 | 2 |
| Future Volume (vph) | 4 | 63 | 17 | 15 | 39 | 123 | 6 | 94 | 33 | 116 | 69 | 2 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Link Speed (mph) | | 35 | | | 35 | | | 40 | | | 40 | |
| Link Distance (ft) | | 974 | | | 473 | | | 829 | | | 921 | |
| Travel Time (s) | | 19.0 | | | 9.2 | | | 14.1 | | | 15.7 | |
| Peak Hour Factor | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 | 0.68 |
| Adj. Flow (vph) | 6 | 93 | 25 | 22 | 57 | 181 | 9 | 138 | 49 | 171 | 101 | 3 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 124 | 0 | 0 | 260 | 0 | 0 | 196 | 0 | 0 | 275 | 0 |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

HCM 6th Roundabout
6: College Dr. & University Park Dr.

HY (2040) WP AM Peak Hour

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 5.0 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 124 | 260 | 196 | 275 |
| Demand Flow Rate, veh/h | 127 | 265 | 200 | 280 |
| Vehicles Circulating, veh/h | 299 | 156 | 275 | 89 |
| Vehicles Exiting, veh/h | 70 | 319 | 150 | 332 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.8 | 5.1 | 5.3 | 4.8 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 127 | 265 | 200 | 280 |
| Cap Entry Lane, veh/h | 1017 | 1177 | 1042 | 1260 |
| Entry HV Adj Factor | 0.977 | 0.981 | 0.981 | 0.982 |
| Flow Entry, veh/h | 124 | 260 | 196 | 275 |
| Cap Entry, veh/h | 994 | 1154 | 1023 | 1238 |
| V/C Ratio | 0.125 | 0.225 | 0.192 | 0.222 |
| Control Delay, s/veh | 4.8 | 5.1 | 5.3 | 4.8 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 0 | 1 | 1 | 1 |

Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

HY (2040) WP AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|-------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 1640 | 0 | 138 | 0 | 674 | 502 | 0 | 588 | 62 |
| Future Volume (vph) | 0 | 0 | 0 | 1640 | 0 | 138 | 0 | 674 | 502 | 0 | 588 | 62 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 10.9 | | | 9.7 | |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 0 | 0 | 0 | 2076 | 0 | 175 | 0 | 853 | 635 | 0 | 744 | 78 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 2076 | 175 | 0 | 853 | 635 | 0 | 822 | 0 |
| Turn Type | | | | Split | NA | Perm | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | Free | | | |
| Detector Phase | | | | 8 | 8 | 8 | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | 5.0 | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 91.0 | 91.0 | 91.0 | | 29.0 | | | 29.0 | |
| Total Split (%) | | | | 75.8% | 75.8% | 75.8% | | 24.2% | | | 24.2% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | None | | C-Max | | | C-Max | |

Intersection Summary



















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

HY (2040) WP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | |  |  | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1640 | 0 | 138 | 0 | 674 | 502 | 0 | 588 | 62 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1640 | 0 | 138 | 0 | 674 | 502 | 0 | 588 | 62 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 2076 | 0 | 175 | 0 | 853 | 0 | 0 | 744 | 78 |
| Peak Hour Factor | | | | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 1284 | 0 | 1143 | 0 | 726 | | 0 | 959 | 100 |
| Arrive On Green | | | | 0.72 | 0.00 | 0.72 | 0.00 | 0.07 | 0.00 | 0.00 | 0.20 | 0.20 |
| Sat Flow, veh/h | | | | 1781 | 0 | 1585 | 0 | 3647 | 1585 | 0 | 4865 | 489 |
| Grp Volume(v), veh/h | | | | 2076 | 0 | 175 | 0 | 853 | 0 | 0 | 538 | 284 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 0 | 1585 | 0 | 1777 | 1585 | 0 | 1702 | 1782 |
| Q Serve(g_s), s | | | | 86.5 | 0.0 | 4.2 | 0.0 | 24.5 | 0.0 | 0.0 | 17.9 | 18.1 |
| Cycle Q Clear(g_c), s | | | | 86.5 | 0.0 | 4.2 | 0.0 | 24.5 | 0.0 | 0.0 | 17.9 | 18.1 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 1.00 | 0.00 | | 0.27 |
| Lane Grp Cap(c), veh/h | | | | 1284 | 0 | 1143 | 0 | 726 | | 0 | 695 | 364 |
| V/C Ratio(X) | | | | 1.62 | 0.00 | 0.15 | 0.00 | 1.18 | | 0.00 | 0.77 | 0.78 |
| Avail Cap(c_a), veh/h | | | | 1284 | 0 | 1143 | 0 | 726 | | 0 | 695 | 364 |
| 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 | 0.36 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 16.8 | 0.0 | 5.3 | 0.0 | 56.0 | 0.0 | 0.0 | 45.1 | 45.2 |
| Incr Delay (d2), s/veh | | | | 281.2 | 0.0 | 0.1 | 0.0 | 84.6 | 0.0 | 0.0 | 8.2 | 15.3 |
| 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 | | | | 129.8 | 0.0 | 1.3 | 0.0 | 20.2 | 0.0 | 0.0 | 8.3 | 9.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 297.9 | 0.0 | 5.3 | 0.0 | 140.6 | 0.0 | 0.0 | 53.3 | 60.5 |
| LnGrp LOS | | | | F | A | A | A | F | | A | D | E |
| Approach Vol, veh/h | | | | | 2251 | | | 853 | | | 822 | |
| Approach Delay, s/veh | | | | | 275.2 | | | 140.6 | | | 55.8 | |
| Approach LOS | | | | | F | | | F | | | E | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 29.0 | | | | 29.0 | | 91.0 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 24.5 | | | | 24.5 | | 86.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 26.5 | | | | 20.1 | | 88.5 | | | | |
| Green Ext Time (p_c), s | | 0.0 | | | | 2.0 | | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 200.0 | | | | | | | | |
| HCM 6th LOS | | | | F | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

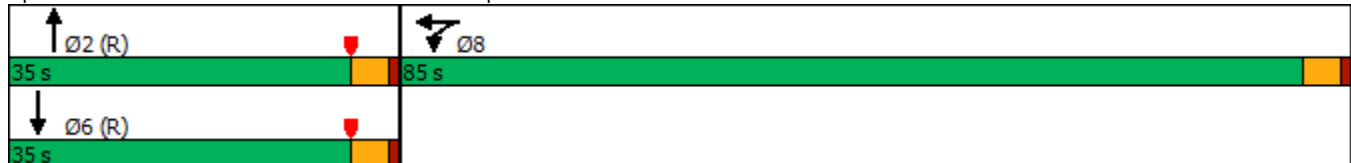
HY (2040) WP AM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 1640 | 0 | 138 | 0 | 674 | 502 | 0 | 588 | 62 |
| Future Volume (vph) | 0 | 0 | 0 | 1640 | 0 | 138 | 0 | 674 | 502 | 0 | 588 | 62 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 240 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 10.9 | | | 9.7 | |
| Peak Hour Factor | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Adj. Flow (vph) | 0 | 0 | 0 | 2076 | 0 | 175 | 0 | 853 | 635 | 0 | 744 | 78 |
| Shared Lane Traffic (%) | | | | 45% | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 1142 | 1109 | 0 | 0 | 853 | 635 | 0 | 822 | 0 |
| Turn Type | | | | Split | NA | | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | | | | Free | | | |
| Detector Phase | | | | 8 | 8 | | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 85.0 | 85.0 | | | 35.0 | | | 35.0 | |
| Total Split (%) | | | | 70.8% | 70.8% | | | 29.2% | | | 29.2% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | 0.0 | 0.0 | | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | 4.5 | 4.5 | | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | | | C-Max | | | C-Max | |

Intersection Summary



















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

HY (2040) WP AM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  | | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 1640 | 0 | 138 | 0 | 674 | 502 | 0 | 588 | 62 |
| Future Volume (veh/h) | 0 | 0 | 0 | 1640 | 0 | 138 | 0 | 674 | 502 | 0 | 588 | 62 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 2239 | 0 | 0 | 0 | 853 | 0 | 0 | 744 | 78 |
| Peak Hour Factor | | | | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 | 0.79 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 2331 | 1224 | 0 | 0 | 962 | | 0 | 1272 | 132 |
| Arrive On Green | | | | 0.65 | 0.00 | 0.00 | 0.00 | 0.27 | 0.00 | 0.00 | 0.27 | 0.27 |
| Sat Flow, veh/h | | | | 3563 | 1870 | 0 | 0 | 3647 | 1585 | 0 | 4865 | 489 |
| Grp Volume(v), veh/h | | | | 2239 | 0 | 0 | 0 | 853 | 0 | 0 | 538 | 284 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 1870 | 0 | 0 | 1777 | 1585 | 0 | 1702 | 1782 |
| Q Serve(g_s), s | | | | 70.2 | 0.0 | 0.0 | 0.0 | 27.6 | 0.0 | 0.0 | 16.4 | 16.6 |
| Cycle Q Clear(g_c), s | | | | 70.2 | 0.0 | 0.0 | 0.0 | 27.6 | 0.0 | 0.0 | 16.4 | 16.6 |
| Prop In Lane | | | | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 0.27 |
| Lane Grp Cap(c), veh/h | | | | 2331 | 1224 | 0 | 0 | 962 | | 0 | 922 | 483 |
| V/C Ratio(X) | | | | 0.96 | 0.00 | 0.00 | 0.00 | 0.89 | | 0.00 | 0.58 | 0.59 |
| Avail Cap(c_a), veh/h | | | | 2390 | 1255 | 0 | 0 | 962 | | 0 | 922 | 483 |
| 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 | 0.00 | 0.79 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 19.3 | 0.0 | 0.0 | 0.0 | 42.0 | 0.0 | 0.0 | 37.9 | 38.0 |
| Incr Delay (d2), s/veh | | | | 10.6 | 0.0 | 0.0 | 0.0 | 9.7 | 0.0 | 0.0 | 2.7 | 5.2 |
| 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 | | | | 29.5 | 0.0 | 0.0 | 0.0 | 13.2 | 0.0 | 0.0 | 7.1 | 7.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 29.9 | 0.0 | 0.0 | 0.0 | 51.7 | 0.0 | 0.0 | 40.6 | 43.1 |
| LnGrp LOS | | | | C | A | A | A | D | | A | D | D |
| Approach Vol, veh/h | | | | | 2239 | | | 853 | | | 822 | |
| Approach Delay, s/veh | | | | | 29.9 | | | 51.7 | | | 41.5 | |
| Approach LOS | | | | | C | | | D | | | D | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 37.0 | | | | 37.0 | | 83.0 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 30.5 | | | | 30.5 | | 80.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 29.6 | | | | 18.6 | | 72.2 | | | | |
| Green Ext Time (p_c), s | | 0.5 | | | | 4.1 | | 6.3 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 37.1 | | | | | | | | |
| HCM 6th LOS | | | | D | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

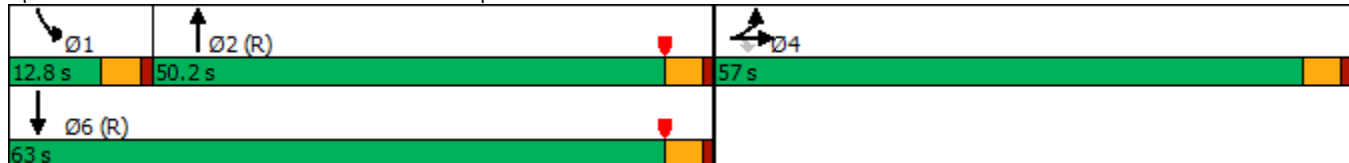
Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

HY (2040) WP AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 220 | 1 | 1205 | 0 | 0 | 0 | 0 | 956 | 603 | 89 | 2139 | 0 |
| Future Volume (vph) | 220 | 1 | 1205 | 0 | 0 | 0 | 0 | 956 | 603 | 89 | 2139 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 0 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 0 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 14.8 | | | 10.9 | |
| 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 |
| Adj. Flow (vph) | 259 | 1 | 1418 | 0 | 0 | 0 | 0 | 1125 | 709 | 105 | 2516 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 259 | 710 | 709 | 0 | 0 | 0 | 0 | 1834 | 0 | 105 | 2516 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 57.0 | 57.0 | 57.0 | | | | | 50.2 | | 12.8 | 63.0 | |
| Total Split (%) | 47.5% | 47.5% | 47.5% | | | | | 41.8% | | 10.7% | 52.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |























Intersection Summary
 Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

HY (2040) WP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |    | |  |    | |
| Traffic Volume (veh/h) | 220 | 1 | 1205 | 0 | 0 | 0 | 0 | 956 | 603 | 89 | 2139 | 0 |
| Future Volume (veh/h) | 220 | 1 | 1205 | 0 | 0 | 0 | 0 | 956 | 603 | 89 | 2139 | 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 | 259 | 0 | 1419 | | | | 0 | 1125 | 709 | 105 | 2516 | 0 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | | | | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 779 | 0 | 1387 | | | | 0 | 1296 | 604 | 123 | 2489 | 0 |
| Arrive On Green | 0.44 | 0.00 | 0.44 | | | | 0.00 | 0.38 | 0.38 | 0.02 | 0.16 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 3572 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 259 | 0 | 1419 | | | | 0 | 1125 | 709 | 105 | 2516 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 11.5 | 0.0 | 52.5 | | | | 0.0 | 36.7 | 45.7 | 7.0 | 58.5 | 0.0 |
| Cycle Q Clear(g_c), s | 11.5 | 0.0 | 52.5 | | | | 0.0 | 36.7 | 45.7 | 7.0 | 58.5 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 779 | 0 | 1387 | | | | 0 | 1296 | 604 | 123 | 2489 | 0 |
| V/C Ratio(X) | 0.33 | 0.00 | 1.02 | | | | 0.00 | 0.87 | 1.17 | 0.85 | 1.01 | 0.00 |
| Avail Cap(c_a), veh/h | 779 | 0 | 1387 | | | | 0 | 1296 | 604 | 123 | 2489 | 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 | 1.00 | 1.00 | 0.51 | 0.51 | 0.00 |
| Uniform Delay (d), s/veh | 22.2 | 0.0 | 33.8 | | | | 0.0 | 34.4 | 37.2 | 58.0 | 50.3 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 30.2 | | | | 0.0 | 8.0 | 95.1 | 24.2 | 15.6 | 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 | 4.9 | 0.0 | 25.4 | | | | 0.0 | 16.2 | 33.0 | 4.1 | 30.2 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 22.5 | 0.0 | 63.9 | | | | 0.0 | 42.4 | 132.3 | 82.2 | 65.9 | 0.0 |
| LnGrp LOS | C | A | F | | | | A | D | F | F | F | A |
| Approach Vol, veh/h | | 1678 | | | | | | 1834 | | | 2621 | |
| Approach Delay, s/veh | | 57.5 | | | | | | 77.1 | | | 66.6 | |
| Approach LOS | | E | | | | | | E | | | E | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | | | 6 | | | | |
| Phs Duration (G+Y+Rc), s | 12.8 | 50.2 | | 57.0 | | | | 63.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | | | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 8.3 | 45.7 | | 52.5 | | | | 58.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 9.0 | 47.7 | | 54.5 | | | | 60.5 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | | | | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 67.3 | | | | | | | | | |
| HCM 6th LOS | | | E | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

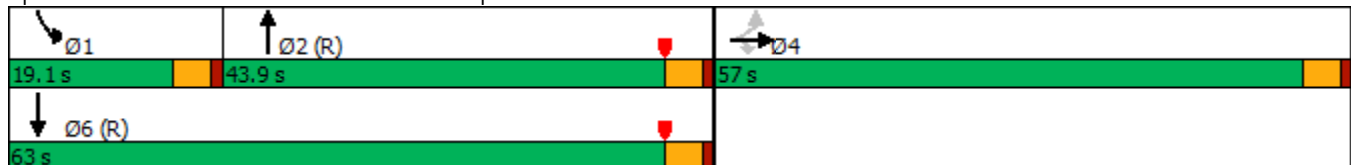
HY (2040) WP AM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 220 | 1 | 1205 | 0 | 0 | 0 | 0 | 956 | 603 | 89 | 2139 | 0 |
| Future Volume (vph) | 220 | 1 | 1205 | 0 | 0 | 0 | 0 | 956 | 603 | 89 | 2139 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 150 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 1 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 35 | | | 35 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 14.8 | | | 10.9 | |
| 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 |
| Adj. Flow (vph) | 259 | 1 | 1418 | 0 | 0 | 0 | 0 | 1125 | 709 | 105 | 2516 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 259 | 710 | 709 | 0 | 0 | 0 | 0 | 1125 | 709 | 105 | 2516 | 0 |
| Turn Type | Perm | NA | Perm | | | | | NA | Free | Prot | NA | |
| Protected Phases | | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | 4 | | 4 | | | | | | Free | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 57.0 | 57.0 | 57.0 | | | | | 43.9 | | 19.1 | 63.0 | |
| Total Split (%) | 47.5% | 47.5% | 47.5% | | | | | 36.6% | | 15.9% | 52.5% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary





















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 32.9 (27%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 100
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
 8: Cook St. & I-10 EB Ramps

HY (2040) WP AM Peak Hour
 WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |  |  |  |  |  |
| Traffic Volume (veh/h) | 220 | 1 | 1205 | 0 | 0 | 0 | 0 | 956 | 603 | 89 | 2139 | 0 |
| Future Volume (veh/h) | 220 | 1 | 1205 | 0 | 0 | 0 | 0 | 956 | 603 | 89 | 2139 | 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 | 259 | 0 | 1419 | | | | 0 | 1125 | 0 | 105 | 2516 | 0 |
| Peak Hour Factor | 0.85 | 0.85 | 0.85 | | | | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 | 0.85 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 779 | 0 | 1387 | | | | 0 | 1928 | | 129 | 2489 | 0 |
| Arrive On Green | 0.44 | 0.00 | 0.44 | | | | 0.00 | 0.38 | 0.00 | 0.14 | 0.98 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 5274 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 259 | 0 | 1419 | | | | 0 | 1125 | 0 | 105 | 2516 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 11.5 | 0.0 | 52.5 | | | | 0.0 | 21.1 | 0.0 | 6.9 | 58.5 | 0.0 |
| Cycle Q Clear(g_c), s | 11.5 | 0.0 | 52.5 | | | | 0.0 | 21.1 | 0.0 | 6.9 | 58.5 | 0.0 |
| Prop In Lane | 1.00 | | 1.00 | | | | 0.00 | | 1.00 | 1.00 | | 0.00 |
| Lane Grp Cap(c), veh/h | 779 | 0 | 1387 | | | | 0 | 1928 | | 129 | 2489 | 0 |
| V/C Ratio(X) | 0.33 | 0.00 | 1.02 | | | | 0.00 | 0.58 | | 0.81 | 1.01 | 0.00 |
| Avail Cap(c_a), veh/h | 779 | 0 | 1387 | | | | 0 | 1928 | | 217 | 2489 | 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 | 1.00 | 0.00 | 0.40 | 0.40 | 0.00 |
| Uniform Delay (d), s/veh | 22.2 | 0.0 | 33.8 | | | | 0.0 | 29.8 | 0.0 | 50.5 | 1.5 | 0.0 |
| Incr Delay (d2), s/veh | 0.2 | 0.0 | 30.2 | | | | 0.0 | 1.3 | 0.0 | 5.0 | 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 | 0.0 |
| %ile BackOfQ(50%),veh/ln | 4.9 | 0.0 | 25.4 | | | | 0.0 | 8.7 | 0.0 | 3.0 | 3.8 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 22.5 | 0.0 | 63.9 | | | | 0.0 | 31.1 | 0.0 | 55.5 | 15.6 | 0.0 |
| LnGrp LOS | C | A | F | | | | A | C | | E | F | A |
| Approach Vol, veh/h | | 1678 | | | | | | 1125 | | | 2621 | |
| Approach Delay, s/veh | | 57.5 | | | | | | 31.1 | | | 17.2 | |
| Approach LOS | | E | | | | | | C | | | B | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | | | 6 | | | | |
| Phs Duration (G+Y+Rc), s | 13.2 | 49.8 | | 57.0 | | | | 63.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | | | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 14.6 | 39.4 | | 52.5 | | | | 58.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 8.9 | 23.1 | | 54.5 | | | | 60.5 | | | | |
| Green Ext Time (p_c), s | 0.1 | 7.1 | | 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. | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
9: Cook St. & Gerald Ford Dr.

HY (2040) WP AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 513 | 216 | 230 | 50 | 300 | 160 | 372 | 692 | 40 | 352 | 2099 | 724 |
| Future Volume (vph) | 513 | 216 | 230 | 50 | 300 | 160 | 372 | 692 | 40 | 352 | 2099 | 724 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 225 | | 230 | 160 | | 200 | 210 | | 120 | 290 | | 360 |
| Storage Lanes | 2 | | 0 | 2 | | 1 | 2 | | 1 | 2 | | 1 |
| Taper Length (ft) | 130 | | | 160 | | | 140 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 936 | | | 424 | | | 1144 | | | 831 | |
| Travel Time (s) | | 16.0 | | | 5.8 | | | 14.2 | | | 10.3 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 558 | 235 | 250 | 54 | 326 | 174 | 404 | 752 | 43 | 383 | 2282 | 787 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 558 | 235 | 250 | 54 | 326 | 174 | 404 | 752 | 43 | 383 | 2282 | 787 |
| Turn Type | Prot | NA | Free | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 |
| Total Split (s) | 23.4 | 36.4 | | 9.5 | 22.5 | 22.5 | 18.5 | 50.7 | 50.7 | 23.4 | 55.6 | 55.6 |
| Total Split (%) | 19.5% | 30.3% | | 7.9% | 18.8% | 18.8% | 15.4% | 42.3% | 42.3% | 19.5% | 46.3% | 46.3% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |

Intersection Summary




































Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 110
 Control Type: Actuated-Coordinated

Splits and Phases: 9: Cook St. & Gerald Ford Dr.



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

HY (2040) WP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |    |  |   |    |   |
| Traffic Volume (veh/h) | 513 | 216 | 230 | 50 | 300 | 160 | 372 | 692 | 40 | 352 | 2099 | 724 |
| Future Volume (veh/h) | 513 | 216 | 230 | 50 | 300 | 160 | 372 | 692 | 40 | 352 | 2099 | 724 |
| 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 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 235 | 0 | 54 | 326 | 174 | 404 | 752 | 43 | 383 | 2282 | 787 |
| 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 | 561 | 952 | | 124 | 493 | 207 | 416 | 2436 | 686 | 450 | 2491 | 701 |
| Arrive On Green | 0.31 | 0.51 | 0.00 | 0.07 | 0.26 | 0.26 | 0.12 | 0.43 | 0.43 | 0.13 | 0.44 | 0.44 |
| Sat Flow, veh/h | 3563 | 3741 | 1585 | 3563 | 3741 | 1567 | 3563 | 5611 | 1580 | 3563 | 5611 | 1580 |
| Grp Volume(v), veh/h | 558 | 235 | 0 | 54 | 326 | 174 | 404 | 752 | 43 | 383 | 2282 | 787 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1567 | 1781 | 1870 | 1580 | 1781 | 1870 | 1580 |
| Q Serve(g_s), s | 18.7 | 4.2 | 0.0 | 1.7 | 9.3 | 12.6 | 13.6 | 10.5 | 1.9 | 12.6 | 45.7 | 53.3 |
| Cycle Q Clear(g_c), s | 18.7 | 4.2 | 0.0 | 1.7 | 9.3 | 12.6 | 13.6 | 10.5 | 1.9 | 12.6 | 45.7 | 53.3 |
| 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 | 561 | 952 | | 124 | 493 | 207 | 416 | 2436 | 686 | 450 | 2491 | 701 |
| V/C Ratio(X) | 0.99 | 0.25 | | 0.44 | 0.66 | 0.84 | 0.97 | 0.31 | 0.06 | 0.85 | 0.92 | 1.12 |
| Avail Cap(c_a), veh/h | 561 | 994 | | 148 | 561 | 235 | 416 | 2436 | 686 | 561 | 2491 | 701 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I) | 0.87 | 0.87 | 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 | 41.0 | 23.0 | 0.0 | 54.7 | 41.8 | 43.0 | 52.8 | 22.2 | 19.7 | 51.3 | 31.3 | 33.4 |
| Incr Delay (d2), s/veh | 34.0 | 0.1 | 0.0 | 2.4 | 2.4 | 21.2 | 36.7 | 0.3 | 0.2 | 10.0 | 6.7 | 72.8 |
| 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 | 9.2 | 1.7 | 0.0 | 0.8 | 3.9 | 5.3 | 7.9 | 4.4 | 0.7 | 6.0 | 20.2 | 32.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 75.0 | 23.1 | 0.0 | 57.1 | 44.2 | 64.2 | 89.5 | 22.5 | 19.9 | 61.3 | 38.0 | 106.2 |
| LnGrp LOS | E | C | | E | D | E | F | C | B | E | D | F |
| Approach Vol, veh/h | | 793 | | | 554 | | | 1199 | | | 3452 | |
| Approach Delay, s/veh | | 59.6 | | | 51.7 | | | 45.0 | | | 56.1 | |
| Approach LOS | | E | | | D | | | D | | | E | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 19.7 | 56.6 | 8.7 | 35.1 | 18.5 | 57.8 | 23.4 | 20.3 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 18.9 | 46.2 | 5.0 | 31.9 | 14.0 | 51.1 | 18.9 | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 14.6 | 12.5 | 3.7 | 6.2 | 15.6 | 55.3 | 20.7 | 14.6 | | | | |
| Green Ext Time (p_c), s | 0.5 | 5.1 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 0.8 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 53.9 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |
| 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. | | | | | | | | | | | | |

Lanes, Volumes, Timings
 10: Cook St. & University Park Dr./Berger Dr. W.

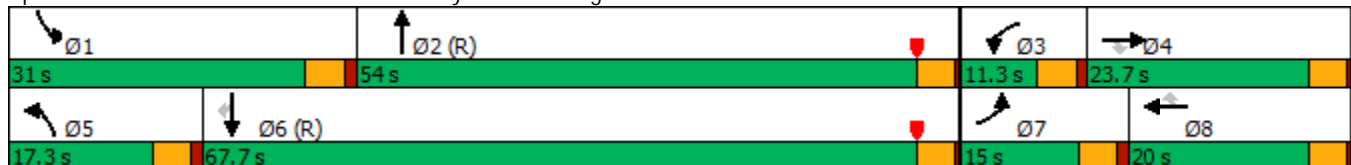
HY (2040) WP AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 60 | 105 | 60 | 33 | 57 | 77 | 83 | 1159 | 126 | 468 | 1902 | 36 |
| Future Volume (vph) | 60 | 105 | 60 | 33 | 57 | 77 | 83 | 1159 | 126 | 468 | 1902 | 36 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 180 | | 180 | 100 | | 0 | 140 | | 140 | 225 | | 295 |
| Storage Lanes | 1 | | 1 | 0 | | 1 | 1 | | 1 | 2 | | 0 |
| Taper Length (ft) | 90 | | | 0 | | | 160 | | | 165 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 35 | | | 35 | | | 55 | | | 55 | |
| Link Distance (ft) | | 473 | | | 452 | | | 1623 | | | 476 | |
| Travel Time (s) | | 9.2 | | | 8.8 | | | 20.1 | | | 5.9 | |
| 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 |
| Adj. Flow (vph) | 67 | 117 | 67 | 37 | 63 | 86 | 92 | 1288 | 140 | 520 | 2113 | 40 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 67 | 117 | 67 | 37 | 63 | 86 | 92 | 1288 | 140 | 520 | 2113 | 40 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Free | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | | 9.5 | 20.0 | 20.0 |
| Total Split (s) | 15.0 | 23.7 | 23.7 | 11.3 | 20.0 | 20.0 | 17.3 | 54.0 | | 31.0 | 67.7 | 67.7 |
| Total Split (%) | 12.5% | 19.8% | 19.8% | 9.4% | 16.7% | 16.7% | 14.4% | 45.0% | | 25.8% | 56.4% | 56.4% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Cook St. & University Park Dr./Berger Dr. W.



HCM 6th Signalized Intersection Summary
 10: Cook St. & University Park Dr./Berger Dr. W.

HY (2040) WP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 60 | 105 | 60 | 33 | 57 | 77 | 83 | 1159 | 126 | 468 | 1902 | 36 |
| Future Volume (veh/h) | 60 | 105 | 60 | 33 | 57 | 77 | 83 | 1159 | 126 | 468 | 1902 | 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 | |
| Adj Sat Flow, veh/h/ln | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 | 1870 |
| Adj Flow Rate, veh/h | 67 | 117 | 67 | 37 | 63 | 0 | 92 | 1288 | 0 | 520 | 2113 | 40 |
| 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 | 86 | 154 | 130 | 53 | 119 | | 114 | 2932 | | 596 | 3484 | 1081 |
| Arrive On Green | 0.05 | 0.08 | 0.08 | 0.03 | 0.06 | 0.00 | 0.13 | 1.00 | 0.00 | 0.17 | 0.68 | 0.68 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 67 | 117 | 67 | 37 | 63 | 0 | 92 | 1288 | 0 | 520 | 2113 | 40 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 4.5 | 7.3 | 4.9 | 2.5 | 3.9 | 0.0 | 6.0 | 0.0 | 0.0 | 17.6 | 26.9 | 1.0 |
| Cycle Q Clear(g_c), s | 4.5 | 7.3 | 4.9 | 2.5 | 3.9 | 0.0 | 6.0 | 0.0 | 0.0 | 17.6 | 26.9 | 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 | 86 | 154 | 130 | 53 | 119 | | 114 | 2932 | | 596 | 3484 | 1081 |
| V/C Ratio(X) | 0.78 | 0.76 | 0.51 | 0.70 | 0.53 | | 0.80 | 0.44 | | 0.87 | 0.61 | 0.04 |
| Avail Cap(c_a), veh/h | 156 | 307 | 260 | 101 | 249 | | 190 | 2932 | | 763 | 3484 | 1081 |
| 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 | 1.00 | 1.00 | 0.00 | 0.67 | 0.67 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 56.5 | 53.9 | 52.8 | 57.7 | 54.5 | 0.0 | 51.6 | 0.0 | 0.0 | 48.4 | 10.3 | 6.2 |
| Incr Delay (d2), s/veh | 13.9 | 7.5 | 3.1 | 15.7 | 3.7 | 0.0 | 8.5 | 0.3 | 0.0 | 9.0 | 0.8 | 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 | 2.3 | 3.8 | 2.0 | 1.3 | 2.0 | 0.0 | 2.7 | 0.1 | 0.0 | 8.0 | 8.2 | 0.3 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 70.3 | 61.4 | 55.9 | 73.4 | 58.1 | 0.0 | 60.1 | 0.3 | 0.0 | 57.3 | 11.1 | 6.3 |
| LnGrp LOS | E | E | E | E | E | | E | A | | E | B | A |
| Approach Vol, veh/h | | 251 | | | 100 | | | 1380 | | | 2673 | |
| Approach Delay, s/veh | | 62.3 | | | 63.8 | | | 4.3 | | | 20.0 | |
| Approach LOS | | E | | | E | | | A | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 25.2 | 72.9 | 8.0 | 13.9 | 12.2 | 85.9 | 10.3 | 11.6 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 26.5 | 50.0 | 6.8 | 19.7 | 12.8 | 63.7 | 10.5 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 19.6 | 2.0 | 4.5 | 9.3 | 8.0 | 28.9 | 6.5 | 5.9 | | | | |
| Green Ext Time (p_c), s | 1.1 | 10.4 | 0.0 | 0.5 | 0.1 | 20.4 | 0.0 | 0.1 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 18.5 | | | | | | | | | |
| HCM 6th LOS | | | B | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
11: Cook St. & Frank Sinatra Dr.

HY (2040) WP AM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 286 | 295 | 148 | 65 | 467 | 296 | 314 | 838 | 53 | 366 | 1448 | 473 |
| Future Volume (vph) | 286 | 295 | 148 | 65 | 467 | 296 | 314 | 838 | 53 | 366 | 1448 | 473 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | | 135 | 135 | | 260 | 140 | | 0 | 210 | | 220 |
| Storage Lanes | 2 | | 1 | 2 | | 1 | 2 | | 0 | 2 | | 1 |
| Taper Length (ft) | 120 | | | 110 | | | 110 | | | 140 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 50 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 1477 | | | 944 | | | 330 | | | 1623 | |
| Travel Time (s) | | 20.1 | | | 12.9 | | | 4.1 | | | 20.1 | |
| 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 |
| Adj. Flow (vph) | 314 | 324 | 163 | 71 | 513 | 325 | 345 | 921 | 58 | 402 | 1591 | 520 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 314 | 324 | 163 | 71 | 513 | 325 | 345 | 979 | 0 | 402 | 1591 | 520 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (s) | 20.0 | 36.7 | 36.7 | 10.3 | 27.0 | 27.0 | 22.0 | 49.0 | | 24.0 | 51.0 | 51.0 |
| Total Split (%) | 16.7% | 30.6% | 30.6% | 8.6% | 22.5% | 22.5% | 18.3% | 40.8% | | 20.0% | 42.5% | 42.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary






























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Cook St. & Frank Sinatra Dr.



HCM 6th Signalized Intersection Summary
 11: Cook St. & Frank Sinatra Dr.

HY (2040) WP AM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|--|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |   | |   |  | |
| Traffic Volume (veh/h) | 286 | 295 | 148 | 65 | 467 | 296 | 314 | 838 | 53 | 366 | 1448 | 473 |
| Future Volume (veh/h) | 286 | 295 | 148 | 65 | 467 | 296 | 314 | 838 | 53 | 366 | 1448 | 473 |
| 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 | 314 | 324 | 163 | 71 | 513 | 325 | 345 | 921 | 58 | 402 | 1591 | 520 |
| 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 | 374 | 932 | 416 | 130 | 681 | 304 | 408 | 1445 | 91 | 459 | 2248 | 698 |
| Arrive On Green | 0.11 | 0.26 | 0.26 | 0.04 | 0.19 | 0.19 | 0.12 | 0.43 | 0.43 | 0.27 | 0.88 | 0.88 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1585 | 3456 | 3395 | 214 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 314 | 324 | 163 | 71 | 513 | 325 | 345 | 482 | 497 | 402 | 1591 | 520 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1585 | 1728 | 1777 | 1832 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 10.7 | 8.9 | 10.1 | 2.4 | 16.4 | 23.0 | 11.7 | 25.7 | 25.7 | 13.4 | 11.8 | 13.7 |
| Cycle Q Clear(g_c), s | 10.7 | 8.9 | 10.1 | 2.4 | 16.4 | 23.0 | 11.7 | 25.7 | 25.7 | 13.4 | 11.8 | 13.7 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.12 | 1.00 | | 1.00 |
| Lane Grp Cap(c), veh/h | 374 | 932 | 416 | 130 | 681 | 304 | 408 | 756 | 780 | 459 | 2248 | 698 |
| V/C Ratio(X) | 0.84 | 0.35 | 0.39 | 0.54 | 0.75 | 1.07 | 0.85 | 0.64 | 0.64 | 0.88 | 0.71 | 0.75 |
| Avail Cap(c_a), veh/h | 446 | 968 | 432 | 167 | 681 | 304 | 504 | 756 | 780 | 562 | 2248 | 698 |
| 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 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.71 | 0.71 | 0.71 |
| Uniform Delay (d), s/veh | 52.5 | 35.9 | 36.4 | 56.7 | 45.8 | 48.5 | 51.8 | 27.2 | 27.2 | 43.1 | 4.7 | 4.8 |
| Incr Delay (d2), s/veh | 11.6 | 0.2 | 0.6 | 3.5 | 4.7 | 71.4 | 10.6 | 4.1 | 4.0 | 9.4 | 1.4 | 5.1 |
| 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 | 5.1 | 3.7 | 3.8 | 1.1 | 7.4 | 14.7 | 5.5 | 10.9 | 11.2 | 5.3 | 2.1 | 2.8 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 64.1 | 36.2 | 37.0 | 60.2 | 50.6 | 119.9 | 62.5 | 31.2 | 31.1 | 52.5 | 6.1 | 9.9 |
| LnGrp LOS | E | D | D | E | D | F | E | C | C | D | A | A |
| Approach Vol, veh/h | | 801 | | | 909 | | | 1324 | | | 2513 | |
| Approach Delay, s/veh | | 47.3 | | | 76.1 | | | 39.3 | | | 14.3 | |
| Approach LOS | | D | | | E | | | D | | | B | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 20.4 | 55.1 | 9.0 | 35.5 | 18.7 | 56.8 | 17.5 | 27.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 19.5 | 45.0 | 5.8 | 32.7 | 17.5 | 47.0 | 15.5 | 23.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 15.4 | 27.7 | 4.4 | 12.1 | 13.7 | 15.7 | 12.7 | 25.0 | | | | |
| Green Ext Time (p_c), s | 0.6 | 5.0 | 0.0 | 2.2 | 0.4 | 16.0 | 0.3 | 0.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 35.2 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved pedestrian interval to be less than phase max green. | | | | | | | | | | | | |

Lanes, Volumes, Timings
12: Main Dwy. & Gerald Ford Dr.

HY (2040) WP AM Peak Hour

| | → | ↘ | ↙ | ← | ↖ | ↗ |
|-----------------------------|--------------|------|------|------|------|------|
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑↑ | ↑ | | ↑↑↑ | | ↑ |
| Traffic Volume (vph) | 802 | 28 | 0 | 1142 | 0 | 38 |
| Future Volume (vph) | 802 | 28 | 0 | 1142 | 0 | 38 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 150 | 0 | | 0 | 0 |
| Storage Lanes | | 1 | 0 | | 0 | 1 |
| Taper Length (ft) | | | 90 | | 90 | |
| Link Speed (mph) | 40 | | | 40 | 30 | |
| Link Distance (ft) | 1749 | | | 549 | 252 | |
| Travel Time (s) | 29.8 | | | 9.4 | 5.7 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 872 | 30 | 0 | 1241 | 0 | 41 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 872 | 30 | 0 | 1241 | 0 | 41 |
| Sign Control | Free | | | Free | Stop | |
| Intersection Summary | | | | | | |
| Area Type: | Other | | | | | |
| Control Type: | Unsignalized | | | | | |

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 0.2 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑↑ | ↑ | | ↑↑↑ | | ↑ |
| Traffic Vol, veh/h | 802 | 28 | 0 | 1142 | 0 | 38 |
| Future Vol, veh/h | 802 | 28 | 0 | 1142 | 0 | 38 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 150 | - | - | - | 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 | 872 | 30 | 0 | 1241 | 0 | 41 |

| Major/Minor | Major1 | Major2 | Minor1 | | |
|----------------------|--------|--------|--------|---|------|
| Conflicting Flow All | 0 | 0 | - | - | 436 |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | 7.14 |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | 3.92 |
| Pot Cap-1 Maneuver | - | - | 0 | - | 486 |
| Stage 1 | - | - | 0 | - | - |
| Stage 2 | - | - | 0 | - | - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | - | - | 486 |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|----|------|
| HCM Control Delay, s | 0 | 0 | 13.1 |
| HCM LOS | | | B |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|-----------------------|-------|-----|-----|-----|
| Capacity (veh/h) | 486 | - | - | - |
| HCM Lane V/C Ratio | 0.085 | - | - | - |
| HCM Control Delay (s) | 13.1 | - | - | - |
| HCM Lane LOS | B | - | - | - |
| HCM 95th %tile Q(veh) | 0.3 | - | - | - |

Lanes, Volumes, Timings
1: Technology Dr. & Gerald Ford Dr.

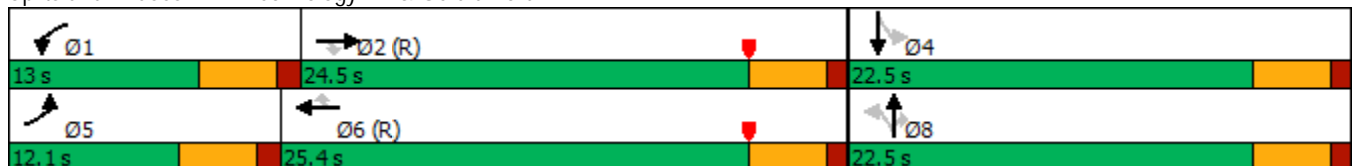
HY (2040) WP PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 131 | 1185 | 71 | 141 | 997 | 156 | 145 | 73 | 126 | 189 | 76 | 143 |
| Future Volume (vph) | 131 | 1185 | 71 | 141 | 997 | 156 | 145 | 73 | 126 | 189 | 76 | 143 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 185 | | 165 | 180 | | 120 | 102 | | 230 | 85 | | 0 |
| Storage Lanes | 1 | | 0 | 1 | | 1 | 1 | | 0 | 1 | | 0 |
| Taper Length (ft) | 60 | | | 90 | | | 60 | | | 60 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 40 | | | 35 | | | | 35 |
| Link Distance (ft) | | 549 | | | 936 | | | 343 | | | | 642 |
| Travel Time (s) | | 9.4 | | | 16.0 | | | 6.7 | | | | 12.5 |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 144 | 1302 | 78 | 155 | 1096 | 171 | 159 | 80 | 138 | 208 | 84 | 157 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 144 | 1302 | 78 | 155 | 1096 | 171 | 159 | 80 | 138 | 208 | 241 | 0 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Perm | NA | Perm | Perm | NA | |
| Protected Phases | 5 | 2 | | 1 | 6 | | | 8 | | | | 4 |
| Permitted Phases | | | 2 | | | 6 | 8 | | 8 | 4 | | |
| Detector Phase | 5 | 2 | 2 | 1 | 6 | 6 | 8 | 8 | 8 | 4 | 4 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (s) | 12.1 | 24.5 | 24.5 | 13.0 | 25.4 | 25.4 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 | 22.5 |
| Total Split (%) | 20.2% | 40.8% | 40.8% | 21.7% | 42.3% | 42.3% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% | 37.5% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | | | | | | |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | | | | | | |
| Recall Mode | None | C-Max | C-Max | None | C-Max | C-Max | Max | Max | Max | Max | Max | Max |

Intersection Summary





























Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 35 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated

Splits and Phases: 1: Technology Dr. & Gerald Ford Dr.























HCM 6th Signalized Intersection Summary
 1: Technology Dr. & Gerald Ford Dr.

HY (2040) WP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |    |  |  |    |  |  |  |  |  |  |  |
| Traffic Volume (veh/h) | 131 | 1185 | 71 | 141 | 997 | 156 | 145 | 73 | 126 | 189 | 76 | 143 |
| Future Volume (veh/h) | 131 | 1185 | 71 | 141 | 997 | 156 | 145 | 73 | 126 | 189 | 76 | 143 |
| Initial Q (Qb), veh | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ped-Bike Adj(A_pbT) | 1.00 | | 0.99 | 1.00 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 144 | 1302 | 78 | 155 | 1096 | 171 | 159 | 80 | 138 | 208 | 84 | 157 |
| 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 | 183 | 1864 | 575 | 196 | 1902 | 586 | 326 | 561 | 473 | 431 | 174 | 326 |
| Arrive On Green | 0.10 | 0.36 | 0.36 | 0.11 | 0.37 | 0.37 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| Sat Flow, veh/h | 1781 | 5106 | 1574 | 1781 | 5106 | 1574 | 1136 | 1870 | 1577 | 1159 | 581 | 1087 |
| Grp Volume(v), veh/h | 144 | 1302 | 78 | 155 | 1096 | 171 | 159 | 80 | 138 | 208 | 0 | 241 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1702 | 1574 | 1781 | 1702 | 1574 | 1136 | 1870 | 1577 | 1159 | 0 | 1668 |
| Q Serve(g_s), s | 4.7 | 13.0 | 2.0 | 5.1 | 10.3 | 4.6 | 8.0 | 1.9 | 4.0 | 9.6 | 0.0 | 7.1 |
| Cycle Q Clear(g_c), s | 4.7 | 13.0 | 2.0 | 5.1 | 10.3 | 4.6 | 15.1 | 1.9 | 4.0 | 11.5 | 0.0 | 7.1 |
| Prop In Lane | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 1.00 | 1.00 | | 0.65 |
| Lane Grp Cap(c), veh/h | 183 | 1864 | 575 | 196 | 1902 | 586 | 326 | 561 | 473 | 431 | 0 | 500 |
| V/C Ratio(X) | 0.79 | 0.70 | 0.14 | 0.79 | 0.58 | 0.29 | 0.49 | 0.14 | 0.29 | 0.48 | 0.00 | 0.48 |
| Avail Cap(c_a), veh/h | 226 | 1864 | 575 | 252 | 1902 | 586 | 326 | 561 | 473 | 431 | 0 | 500 |
| HCM Platoon Ratio | 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 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 1.00 |
| Uniform Delay (d), s/veh | 26.3 | 16.2 | 12.7 | 26.0 | 15.0 | 13.3 | 23.4 | 15.4 | 16.1 | 19.6 | 0.0 | 17.2 |
| Incr Delay (d2), s/veh | 13.9 | 2.2 | 0.5 | 8.1 | 0.8 | 0.8 | 5.1 | 0.5 | 1.6 | 3.8 | 0.0 | 3.3 |
| 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 | 2.5 | 4.6 | 0.7 | 2.4 | 3.5 | 1.5 | 2.4 | 0.8 | 1.5 | 2.8 | 0.0 | 2.9 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 40.2 | 18.4 | 13.2 | 34.1 | 15.9 | 14.1 | 28.5 | 15.9 | 17.7 | 23.4 | 0.0 | 20.5 |
| LnGrp LOS | D | B | B | C | B | B | C | B | B | C | A | C |
| Approach Vol, veh/h | | 1524 | | | 1422 | | | 377 | | | 449 | |
| Approach Delay, s/veh | | 20.2 | | | 17.6 | | | 21.8 | | | 21.8 | |
| Approach LOS | | C | | | B | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | | 4 | 5 | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 11.1 | 26.4 | | 22.5 | 10.7 | 26.8 | | 22.5 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 8.5 | 20.0 | | 18.0 | 7.6 | 20.9 | | 18.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.1 | 15.0 | | 13.5 | 6.7 | 12.3 | | 17.1 | | | | |
| Green Ext Time (p_c), s | 0.1 | 3.4 | | 1.0 | 0.0 | 4.8 | | 0.2 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 19.6 | | | | | | | | |
| HCM 6th LOS | | | | B | | | | | | | | |

Lanes, Volumes, Timings
 2: Technology Dr. & E. Dwy/The Village W. Dwy.

HY (2040) WP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | |  |  |  |  |  |  |
| Traffic Volume (vph) | 63 | 1 | 16 | 9 | 1 | 63 | 14 | 222 | 11 | 18 | 196 | 75 |
| Future Volume (vph) | 63 | 1 | 16 | 9 | 1 | 63 | 14 | 222 | 11 | 18 | 196 | 75 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 0 | 150 | | 175 | 55 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 0 | 1 | | 1 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 60 | | | 60 | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 216 | | | 313 | | | 338 | | | 343 | |
| Travel Time (s) | | 4.9 | | | 7.1 | | | 7.7 | | | 7.8 | |
| 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 |
| Adj. Flow (vph) | 67 | 1 | 17 | 10 | 1 | 67 | 15 | 236 | 12 | 19 | 209 | 80 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 85 | 0 | 0 | 78 | 0 | 15 | 236 | 12 | 19 | 289 | 0 |
| Sign Control | | Stop | | | Stop | | | Free | | | Free | |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

HCM 6th TWSC
 2: Technology Dr. & E. Dwy/The Village W. Dwy.

HY (2040) WP PM Peak Hour

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | ↕ | ↑ | ↑ | ↕ | ↕ | ↑ |
| Traffic Vol, veh/h | 63 | 1 | 16 | 9 | 1 | 63 | 14 | 222 | 11 | 18 | 196 | 75 |
| Future Vol, veh/h | 63 | 1 | 16 | 9 | 1 | 63 | 14 | 222 | 11 | 18 | 196 | 75 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Stop | Stop | Stop | Stop | Free | Free | Free | Free | Free | Free |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | - | - | - | - | - | - | 150 | - | 175 | 55 | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 67 | 1 | 17 | 10 | 1 | 67 | 15 | 236 | 12 | 19 | 209 | 80 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 593 | 565 | 249 | 562 | 593 | 236 | 289 | 0 | 0 | 248 | 0 | 0 |
| Stage 1 | 287 | 287 | - | 266 | 266 | - | - | - | - | - | - | - |
| Stage 2 | 306 | 278 | - | 296 | 327 | - | - | - | - | - | - | - |
| Critical Hdwy | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 | 4.12 | - | - | 4.12 | - | - |
| Critical Hdwy Stg 1 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Critical Hdwy Stg 2 | 6.12 | 5.52 | - | 6.12 | 5.52 | - | - | - | - | - | - | - |
| Follow-up Hdwy | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 | 2.218 | - | - | 2.218 | - | - |
| Pot Cap-1 Maneuver | 417 | 434 | 790 | 438 | 418 | 803 | 1273 | - | - | 1318 | - | - |
| Stage 1 | 720 | 674 | - | 739 | 689 | - | - | - | - | - | - | - |
| Stage 2 | 704 | 680 | - | 712 | 648 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 374 | 423 | 790 | 419 | 407 | 803 | 1273 | - | - | 1318 | - | - |
| Mov Cap-2 Maneuver | 374 | 423 | - | 419 | 407 | - | - | - | - | - | - | - |
| Stage 1 | 711 | 665 | - | 730 | 681 | - | - | - | - | - | - | - |
| Stage 2 | 637 | 672 | - | 686 | 639 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|------|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 15.8 | | 10.7 | | 0.4 | | 0.5 | |
| HCM LOS | C | | B | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h) | 1273 | - | - | 419 | 713 | 1318 | - |
| HCM Lane V/C Ratio | 0.012 | - | - | 0.203 | 0.109 | 0.015 | - |
| HCM Control Delay (s) | 7.9 | - | - | 15.8 | 10.7 | 7.8 | - |
| HCM Lane LOS | A | - | - | C | B | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.8 | 0.4 | 0 | - |

Lanes, Volumes, Timings
 3: College Dr. & Technology Dr.

HY (2040) WP PM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 73 | 196 | 190 | 172 | 130 | 90 |
| Future Volume (vph) | 73 | 196 | 190 | 172 | 130 | 90 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 803 | 445 | | 338 | |
| Travel Time (s) | | 18.3 | 10.1 | | 7.7 | |
| Peak Hour Factor | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 | 0.90 |
| Adj. Flow (vph) | 81 | 218 | 211 | 191 | 144 | 100 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 299 | 402 | 0 | 244 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary





















Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 5.6 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 299 | 402 | 244 |
| Demand Flow Rate, veh/h | 305 | 410 | 249 |
| Vehicles Circulating, veh/h | 147 | 83 | 215 |
| Vehicles Exiting, veh/h | 317 | 369 | 278 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 5.4 | 5.9 | 5.4 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 305 | 410 | 249 |
| Cap Entry Lane, veh/h | 1188 | 1268 | 1108 |
| Entry HV Adj Factor | 0.979 | 0.980 | 0.980 |
| Flow Entry, veh/h | 299 | 402 | 244 |
| Cap Entry, veh/h | 1163 | 1242 | 1086 |
| V/C Ratio | 0.257 | 0.323 | 0.225 |
| Control Delay, s/veh | 5.4 | 5.9 | 5.4 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 1 |

Lanes, Volumes, Timings
 4: University Dr./S. Dwy. & College Dr.

HY (2040) WP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  |  |  | |  |  | | |  | |
| Traffic Volume (vph) | 14 | 220 | 55 | 21 | 239 | 20 | 51 | 1 | 18 | 32 | 1 | 47 |
| Future Volume (vph) | 14 | 220 | 55 | 21 | 239 | 20 | 51 | 1 | 18 | 32 | 1 | 47 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 150 | | 120 | 130 | | 0 | 100 | | 0 | 0 | | 0 |
| Storage Lanes | 1 | | 1 | 1 | | 0 | 1 | | 0 | 0 | | 0 |
| Taper Length (ft) | 60 | | | 65 | | | 60 | | | 90 | | |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | | 30 |
| Link Distance (ft) | | 755 | | | 803 | | | 448 | | | | 197 |
| Travel Time (s) | | 17.2 | | | 18.3 | | | 10.2 | | | | 4.5 |
| 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 |
| Adj. Flow (vph) | 15 | 234 | 59 | 22 | 254 | 21 | 54 | 1 | 19 | 34 | 1 | 50 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 15 | 234 | 59 | 22 | 275 | 0 | 54 | 20 | 0 | 0 | 85 | 0 |
| Sign Control | | Free | | | Free | | | Stop | | | | Stop |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 3.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | | | | | | | | | |
| Traffic Vol, veh/h | 14 | 220 | 55 | 21 | 239 | 20 | 51 | 1 | 18 | 32 | 1 | 47 |
| Future Vol, veh/h | 14 | 220 | 55 | 21 | 239 | 20 | 51 | 1 | 18 | 32 | 1 | 47 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Free | Free | Stop | Stop | Stop | Stop | Stop | Stop |
| RT Channelized | - | - | None | - | - | None | - | - | None | - | - | None |
| Storage Length | 150 | - | 120 | 130 | - | - | 100 | - | - | - | - | - |
| Veh in Median Storage, # | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Grade, % | - | 0 | - | - | 0 | - | - | 0 | - | - | 0 | - |
| Peak Hour Factor | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 | 94 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 15 | 234 | 59 | 22 | 254 | 21 | 54 | 1 | 19 | 34 | 1 | 50 |

| Major/Minor | Major1 | | | Major2 | | | Minor1 | | | Minor2 | | |
|----------------------|--------|---|---|--------|---|---|--------|-------|-------|--------|-------|-------|
| Conflicting Flow All | 275 | 0 | 0 | 293 | 0 | 0 | 598 | 583 | 234 | 613 | 632 | 265 |
| Stage 1 | - | - | - | - | - | - | 264 | 264 | - | 309 | 309 | - |
| Stage 2 | - | - | - | - | - | - | 334 | 319 | - | 304 | 323 | - |
| Critical Hdwy | 4.12 | - | - | 4.12 | - | - | 7.12 | 6.52 | 6.22 | 7.12 | 6.52 | 6.22 |
| Critical Hdwy Stg 1 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Critical Hdwy Stg 2 | - | - | - | - | - | - | 6.12 | 5.52 | - | 6.12 | 5.52 | - |
| Follow-up Hdwy | 2.218 | - | - | 2.218 | - | - | 3.518 | 4.018 | 3.318 | 3.518 | 4.018 | 3.318 |
| Pot Cap-1 Maneuver | 1288 | - | - | 1269 | - | - | 414 | 424 | 805 | 405 | 398 | 774 |
| Stage 1 | - | - | - | - | - | - | 741 | 690 | - | 701 | 660 | - |
| Stage 2 | - | - | - | - | - | - | 680 | 653 | - | 705 | 650 | - |
| Platoon blocked, % | - | - | - | - | - | - | - | - | - | - | - | - |
| Mov Cap-1 Maneuver | 1288 | - | - | 1269 | - | - | 378 | 412 | 805 | 386 | 386 | 774 |
| Mov Cap-2 Maneuver | - | - | - | - | - | - | 378 | 412 | - | 386 | 386 | - |
| Stage 1 | - | - | - | - | - | - | 732 | 682 | - | 693 | 649 | - |
| Stage 2 | - | - | - | - | - | - | 624 | 642 | - | 679 | 642 | - |

| Approach | EB | | | WB | | | NB | | | SB | | |
|----------------------|-----|--|--|-----|--|--|------|--|--|------|--|--|
| HCM Control Delay, s | 0.4 | | | 0.6 | | | 14.4 | | | 12.8 | | |
| HCM LOS | | | | | | | B | | | B | | |

| Minor Lane/Major Mvmt | NBLn1 | NBLn2 | EBL | EBT | EBR | WBL | WBT | WBR | SBLn1 |
|-----------------------|-------|-------|-------|-----|-----|-------|-----|-----|-------|
| Capacity (veh/h) | 378 | 767 | 1288 | - | - | 1269 | - | - | 547 |
| HCM Lane V/C Ratio | 0.144 | 0.026 | 0.012 | - | - | 0.018 | - | - | 0.156 |
| HCM Control Delay (s) | 16.1 | 9.8 | 7.8 | - | - | 7.9 | - | - | 12.8 |
| HCM Lane LOS | C | A | A | - | - | A | - | - | B |
| HCM 95th %tile Q(veh) | 0.5 | 0.1 | 0 | - | - | 0.1 | - | - | 0.5 |

Lanes, Volumes, Timings
5: College Dr. & Pacific Av.

HY (2040) WP PM Peak Hour



| Lane Group | EBL | EBT | WBT | WBR | SBL | SBR |
|-------------------------|------|-------|-------|------|-------|------|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 13 | 221 | 205 | 112 | 88 | 14 |
| Future Volume (vph) | 13 | 221 | 205 | 112 | 88 | 14 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Link Speed (mph) | | 30 | 30 | | 30 | |
| Link Distance (ft) | | 711 | 644 | | 595 | |
| Travel Time (s) | | 16.2 | 14.6 | | 13.5 | |
| Peak Hour Factor | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 | 0.89 |
| Adj. Flow (vph) | 15 | 248 | 230 | 126 | 99 | 16 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 0 | 263 | 356 | 0 | 115 | 0 |
| Sign Control | | Yield | Yield | | Yield | |

Intersection Summary

















Area Type: Other

Control Type: Roundabout

| Intersection | | | |
|-----------------------------|-------|-------|-------|
| Intersection Delay, s/veh | 4.8 | | |
| Intersection LOS | A | | |
| Approach | EB | WB | SB |
| Entry Lanes | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 263 | 356 | 115 |
| Demand Flow Rate, veh/h | 268 | 364 | 117 |
| Vehicles Circulating, veh/h | 101 | 15 | 235 |
| Vehicles Exiting, veh/h | 251 | 354 | 144 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.8 | 5.0 | 4.3 |
| Approach LOS | A | A | A |
| Lane | Left | Left | Left |
| Designated Moves | LT | TR | LR |
| Assumed Moves | LT | TR | LR |
| RT Channelized | | | |
| Lane Util | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 268 | 364 | 117 |
| Cap Entry Lane, veh/h | 1245 | 1359 | 1086 |
| Entry HV Adj Factor | 0.981 | 0.979 | 0.983 |
| Flow Entry, veh/h | 263 | 356 | 115 |
| Cap Entry, veh/h | 1222 | 1330 | 1067 |
| V/C Ratio | 0.215 | 0.268 | 0.108 |
| Control Delay, s/veh | 4.8 | 5.0 | 4.3 |
| LOS | A | A | A |
| 95th %tile Queue, veh | 1 | 1 | 0 |

Lanes, Volumes, Timings
6: College Dr. & University Park Dr.

HY (2040) WP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  | | |  | | |  | | |  | |
| Traffic Volume (vph) | 6 | 46 | 11 | 34 | 69 | 229 | 17 | 119 | 24 | 181 | 140 | 5 |
| Future Volume (vph) | 6 | 46 | 11 | 34 | 69 | 229 | 17 | 119 | 24 | 181 | 140 | 5 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Lane Width (ft) | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 974 | | | 473 | | | 829 | | | 921 | |
| Travel Time (s) | | 22.1 | | | 10.8 | | | 18.8 | | | 20.9 | |
| 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 |
| Adj. Flow (vph) | 7 | 55 | 13 | 41 | 83 | 276 | 20 | 143 | 29 | 218 | 169 | 6 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 75 | 0 | 0 | 400 | 0 | 0 | 192 | 0 | 0 | 393 | 0 |
| Sign Control | | Yield | | | Yield | | | Yield | | | Yield | |

Intersection Summary

Area Type: Other

Control Type: Roundabout

| Intersection | | | | |
|-----------------------------|-------|-------|-------|-------|
| Intersection Delay, s/veh | 6.2 | | | |
| Intersection LOS | A | | | |
| Approach | EB | WB | NB | SB |
| Entry Lanes | 1 | 1 | 1 | 1 |
| Conflicting Circle Lanes | 1 | 1 | 1 | 1 |
| Adj Approach Flow, veh/h | 75 | 400 | 192 | 393 |
| Demand Flow Rate, veh/h | 76 | 409 | 196 | 400 |
| Vehicles Circulating, veh/h | 436 | 173 | 285 | 147 |
| Vehicles Exiting, veh/h | 111 | 308 | 227 | 435 |
| Ped Vol Crossing Leg, #/h | 0 | 0 | 0 | 0 |
| Ped Cap Adj | 1.000 | 1.000 | 1.000 | 1.000 |
| Approach Delay, s/veh | 4.9 | 6.7 | 5.3 | 6.3 |
| Approach LOS | A | A | A | A |
| Lane | Left | Left | Left | Left |
| Designated Moves | LTR | LTR | LTR | LTR |
| Assumed Moves | LTR | LTR | LTR | LTR |
| RT Channelized | | | | |
| Lane Util | 1.000 | 1.000 | 1.000 | 1.000 |
| Follow-Up Headway, s | 2.609 | 2.609 | 2.609 | 2.609 |
| Critical Headway, s | 4.976 | 4.976 | 4.976 | 4.976 |
| Entry Flow, veh/h | 76 | 409 | 196 | 400 |
| Cap Entry Lane, veh/h | 885 | 1157 | 1032 | 1188 |
| Entry HV Adj Factor | 0.986 | 0.979 | 0.980 | 0.982 |
| Flow Entry, veh/h | 75 | 400 | 192 | 393 |
| Cap Entry, veh/h | 872 | 1132 | 1011 | 1166 |
| V/C Ratio | 0.086 | 0.354 | 0.190 | 0.337 |
| Control Delay, s/veh | 4.9 | 6.7 | 5.3 | 6.3 |
| LOS | A | A | A | A |
| 95th %tile Queue, veh | 0 | 2 | 1 | 2 |

Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

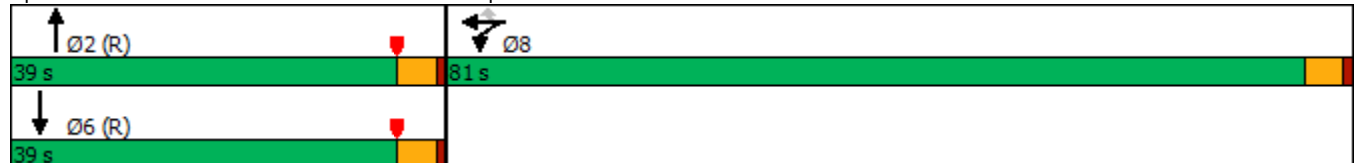
HY (2040) WP PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|-------|------|-------|------|------|-------|------|
| Lane Configurations | | | | | ↕ | ↗ | | ↕↕ | ↗ | | ↕↕↕ | |
| Traffic Volume (vph) | 0 | 0 | 0 | 906 | 0 | 82 | 0 | 766 | 1063 | 0 | 439 | 88 |
| Future Volume (vph) | 0 | 0 | 0 | 906 | 0 | 82 | 0 | 766 | 1063 | 0 | 439 | 88 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 0 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | 497 | |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 12.8 | | | 11.3 | |
| 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 |
| Adj. Flow (vph) | 0 | 0 | 0 | 974 | 0 | 88 | 0 | 824 | 1143 | 0 | 472 | 95 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 0 | 974 | 88 | 0 | 824 | 1143 | 0 | 567 | 0 |
| Turn Type | | | | Split | NA | Perm | | NA | Free | | NA | |
| Protected Phases | | | | 8 | 8 | | | 2 | | | 6 | |
| Permitted Phases | | | | | | 8 | | | Free | | | |
| Detector Phase | | | | 8 | 8 | 8 | | 2 | | | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | 5.0 | | 5.0 | | | 5.0 | |
| Minimum Split (s) | | | | 22.5 | 22.5 | 22.5 | | 22.5 | | | 22.5 | |
| Total Split (s) | | | | 81.0 | 81.0 | 81.0 | | 39.0 | | | 39.0 | |
| Total Split (%) | | | | 67.5% | 67.5% | 67.5% | | 32.5% | | | 32.5% | |
| Yellow Time (s) | | | | 3.5 | 3.5 | 3.5 | | 3.5 | | | 3.5 | |
| All-Red Time (s) | | | | 1.0 | 1.0 | 1.0 | | 1.0 | | | 1.0 | |
| Lost Time Adjust (s) | | | | | 0.0 | 0.0 | | 0.0 | | | 0.0 | |
| Total Lost Time (s) | | | | | 4.5 | 4.5 | | 4.5 | | | 4.5 | |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | None | | C-Max | | | C-Max | |

Intersection Summary



















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 70
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

HY (2040) WP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | | |  |  | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 906 | 0 | 82 | 0 | 766 | 1063 | 0 | 439 | 88 |
| Future Volume (veh/h) | 0 | 0 | 0 | 906 | 0 | 82 | 0 | 766 | 1063 | 0 | 439 | 88 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 974 | 0 | 88 | 0 | 824 | 0 | 0 | 472 | 95 |
| Peak Hour Factor | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 1034 | 0 | 920 | 0 | 1224 | | 0 | 1475 | 290 |
| Arrive On Green | | | | 0.58 | 0.00 | 0.58 | 0.00 | 0.11 | 0.00 | 0.00 | 0.34 | 0.34 |
| Sat Flow, veh/h | | | | 1781 | 0 | 1585 | 0 | 3647 | 1585 | 0 | 4450 | 841 |
| Grp Volume(v), veh/h | | | | 974 | 0 | 88 | 0 | 824 | 0 | 0 | 373 | 194 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 0 | 1585 | 0 | 1777 | 1585 | 0 | 1702 | 1719 |
| Q Serve(g_s), s | | | | 60.7 | 0.0 | 3.0 | 0.0 | 26.7 | 0.0 | 0.0 | 9.7 | 10.0 |
| Cycle Q Clear(g_c), s | | | | 60.7 | 0.0 | 3.0 | 0.0 | 26.7 | 0.0 | 0.0 | 9.7 | 10.0 |
| Prop In Lane | | | | 1.00 | | 1.00 | 0.00 | | 1.00 | 0.00 | | 0.49 |
| Lane Grp Cap(c), veh/h | | | | 1034 | 0 | 920 | 0 | 1224 | | 0 | 1173 | 592 |
| V/C Ratio(X) | | | | 0.94 | 0.00 | 0.10 | 0.00 | 0.67 | | 0.00 | 0.32 | 0.33 |
| Avail Cap(c_a), veh/h | | | | 1136 | 0 | 1010 | 0 | 1224 | | 0 | 1173 | 592 |
| 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 | 0.09 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 23.3 | 0.0 | 11.2 | 0.0 | 46.7 | 0.0 | 0.0 | 29.0 | 29.1 |
| Incr Delay (d2), s/veh | | | | 14.2 | 0.0 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.7 | 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 |
| %ile BackOfQ(50%),veh/ln | | | | 27.9 | 0.0 | 1.0 | 0.0 | 12.8 | 0.0 | 0.0 | 4.1 | 4.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 37.5 | 0.0 | 11.2 | 0.0 | 47.0 | 0.0 | 0.0 | 29.7 | 30.5 |
| LnGrp LOS | | | | D | A | B | A | D | | A | C | C |
| Approach Vol, veh/h | | | | | 1062 | | | 824 | | | 567 | |
| Approach Delay, s/veh | | | | | 35.3 | | | 47.0 | | | 30.0 | |
| Approach LOS | | | | | D | | | D | | | C | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 45.8 | | | | 45.8 | | 74.2 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 34.5 | | | | 34.5 | | 76.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 28.7 | | | | 12.0 | | 62.7 | | | | |
| Green Ext Time (p_c), s | | 2.7 | | | | 3.7 | | 6.9 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 38.0 | | | | | | | | |
| HCM 6th LOS | | | | D | | | | | | | | |
| Notes | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
7: Cook St. & I-10 WB Ramps

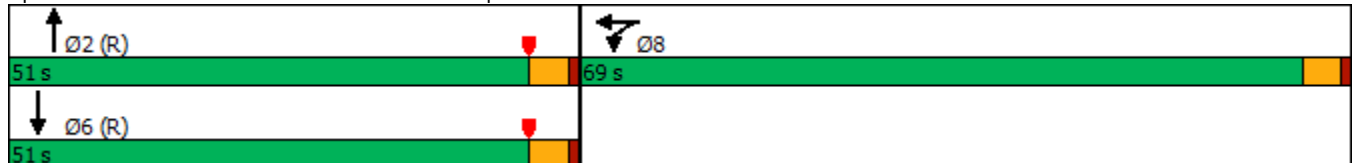
HY (2040) WP PM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|------|------|------|-------|-------|------|------|-------|------|------|------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 0 | 906 | 0 | 82 | 0 | 766 | 1063 | 0 | 439 | 88 |
| Future Volume (vph) | 0 | 0 | 0 | 906 | 0 | 82 | 0 | 766 | 1063 | 0 | 439 | 88 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 0 | 240 | | 240 | 0 | | 0 | 0 | | 0 |
| Storage Lanes | 0 | | 0 | 0 | | 1 | 0 | | 1 | 0 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | | 30 |
| Link Distance (ft) | | 1233 | | | 745 | | | 562 | | | | 497 |
| Travel Time (s) | | 28.0 | | | 16.9 | | | 12.8 | | | | 11.3 |
| 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 |
| Adj. Flow (vph) | 0 | 0 | 0 | 974 | 0 | 88 | 0 | 824 | 1143 | 0 | 472 | 95 |
| Shared Lane Traffic (%) | | | | 45% | | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 0 | 536 | 526 | 0 | 0 | 824 | 1143 | 0 | 567 | 0 |
| Turn Type | | | | Split | NA | | | NA | Free | | | NA |
| Protected Phases | | | | 8 | 8 | | | 2 | | | | 6 |
| Permitted Phases | | | | | | | | | Free | | | |
| Detector Phase | | | | 8 | 8 | | | 2 | | | | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | | | | 5.0 | 5.0 | | | 5.0 | | | | 5.0 |
| Minimum Split (s) | | | | 22.5 | 22.5 | | | 22.5 | | | | 22.5 |
| Total Split (s) | | | | 69.0 | 69.0 | | | 51.0 | | | | 51.0 |
| Total Split (%) | | | | 57.5% | 57.5% | | | 42.5% | | | | 42.5% |
| Yellow Time (s) | | | | 3.5 | 3.5 | | | 3.5 | | | | 3.5 |
| All-Red Time (s) | | | | 1.0 | 1.0 | | | 1.0 | | | | 1.0 |
| Lost Time Adjust (s) | | | | 0.0 | 0.0 | | | 0.0 | | | | 0.0 |
| Total Lost Time (s) | | | | 4.5 | 4.5 | | | 4.5 | | | | 4.5 |
| Lead/Lag | | | | | | | | | | | | |
| Lead-Lag Optimize? | | | | | | | | | | | | |
| Recall Mode | | | | None | None | | | C-Max | | | | C-Max |

Intersection Summary



















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 50
 Control Type: Actuated-Coordinated

Splits and Phases: 7: Cook St. & I-10 WB Ramps



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

HY (2040) WP PM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | | |  |  | | |  |  | |  |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 906 | 0 | 82 | 0 | 766 | 1063 | 0 | 439 | 88 |
| Future Volume (veh/h) | 0 | 0 | 0 | 906 | 0 | 82 | 0 | 766 | 1063 | 0 | 439 | 88 |
| 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 | 0 | 1870 | 1870 |
| Adj Flow Rate, veh/h | | | | 1056 | 0 | 0 | 0 | 824 | 0 | 0 | 472 | 95 |
| Peak Hour Factor | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | | | | 2 | 2 | 2 | 0 | 2 | 2 | 0 | 2 | 2 |
| Cap, veh/h | | | | 1195 | 627 | 0 | 0 | 2095 | | 0 | 2524 | 496 |
| Arrive On Green | | | | 0.34 | 0.00 | 0.00 | 0.00 | 0.59 | 0.00 | 0.00 | 0.59 | 0.59 |
| Sat Flow, veh/h | | | | 3563 | 1870 | 0 | 0 | 3647 | 1585 | 0 | 4450 | 841 |
| Grp Volume(v), veh/h | | | | 1056 | 0 | 0 | 0 | 824 | 0 | 0 | 373 | 194 |
| Grp Sat Flow(s),veh/h/ln | | | | 1781 | 1870 | 0 | 0 | 1777 | 1585 | 0 | 1702 | 1719 |
| Q Serve(g_s), s | | | | 33.6 | 0.0 | 0.0 | 0.0 | 14.9 | 0.0 | 0.0 | 6.1 | 6.3 |
| Cycle Q Clear(g_c), s | | | | 33.6 | 0.0 | 0.0 | 0.0 | 14.9 | 0.0 | 0.0 | 6.1 | 6.3 |
| Prop In Lane | | | | 1.00 | | 0.00 | 0.00 | | 1.00 | 0.00 | | 0.49 |
| Lane Grp Cap(c), veh/h | | | | 1195 | 627 | 0 | 0 | 2095 | | 0 | 2007 | 1013 |
| V/C Ratio(X) | | | | 0.88 | 0.00 | 0.00 | 0.00 | 0.39 | | 0.00 | 0.19 | 0.19 |
| Avail Cap(c_a), veh/h | | | | 1915 | 1005 | 0 | 0 | 2095 | | 0 | 2007 | 1013 |
| 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 | 0.00 | 0.60 | 0.00 | 0.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | | | | 37.7 | 0.0 | 0.0 | 0.0 | 13.2 | 0.0 | 0.0 | 11.4 | 11.4 |
| Incr Delay (d2), s/veh | | | | 3.2 | 0.0 | 0.0 | 0.0 | 0.3 | 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 | | | | 15.0 | 0.0 | 0.0 | 0.0 | 5.9 | 0.0 | 0.0 | 2.3 | 2.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | | | | 40.9 | 0.0 | 0.0 | 0.0 | 13.5 | 0.0 | 0.0 | 11.6 | 11.8 |
| LnGrp LOS | | | | D | A | A | A | B | | A | B | B |
| Approach Vol, veh/h | | | | | 1056 | | | 824 | | | 567 | |
| Approach Delay, s/veh | | | | | 40.9 | | | 13.5 | | | 11.6 | |
| Approach LOS | | | | | D | | | B | | | B | |
| Timer - Assigned Phs | | 2 | | | | 6 | | 8 | | | | |
| Phs Duration (G+Y+Rc), s | | 75.2 | | | | 75.2 | | 44.8 | | | | |
| Change Period (Y+Rc), s | | 4.5 | | | | 4.5 | | 4.5 | | | | |
| Max Green Setting (Gmax), s | | 46.5 | | | | 46.5 | | 64.5 | | | | |
| Max Q Clear Time (g_c+I1), s | | 16.9 | | | | 8.3 | | 35.6 | | | | |
| Green Ext Time (p_c), s | | 6.6 | | | | 4.1 | | 4.7 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | | 24.9 | | | | | | | | |
| HCM 6th LOS | | | | C | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |
| Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

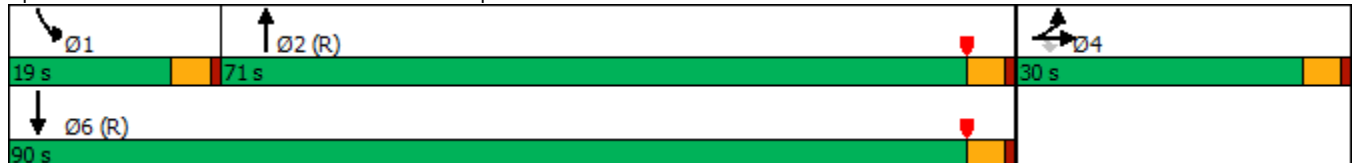
HY (2040) WP PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 339 | 1 | 823 | 0 | 0 | 0 | 0 | 1490 | 1343 | 220 | 1125 | 0 |
| Future Volume (vph) | 339 | 1 | 823 | 0 | 0 | 0 | 0 | 1490 | 1343 | 220 | 1125 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 0 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 0 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 17.3 | | | 12.8 | |
| 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 |
| Adj. Flow (vph) | 365 | 1 | 885 | 0 | 0 | 0 | 0 | 1602 | 1444 | 237 | 1210 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 365 | 444 | 442 | 0 | 0 | 0 | 0 | 3046 | 0 | 237 | 1210 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 30.0 | 30.0 | 30.0 | | | | | 71.0 | | 19.0 | 90.0 | |
| Total Split (%) | 25.0% | 25.0% | 25.0% | | | | | 59.2% | | 15.8% | 75.0% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary























Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 120
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

HY (2040) WP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |    | |  |    | |
| Traffic Volume (veh/h) | 339 | 1 | 823 | 0 | 0 | 0 | 0 | 1490 | 1343 | 220 | 1125 | 0 |
| Future Volume (veh/h) | 339 | 1 | 823 | 0 | 0 | 0 | 0 | 1490 | 1343 | 220 | 1125 | 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 | 365 | 0 | 886 | | | | 0 | 1602 | 1444 | 237 | 1210 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 379 | 0 | 674 | | | | 0 | 1886 | 878 | 215 | 3638 | 0 |
| Arrive On Green | 0.21 | 0.00 | 0.21 | | | | 0.00 | 0.55 | 0.55 | 0.24 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 3572 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 365 | 0 | 886 | | | | 0 | 1602 | 1444 | 237 | 1210 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 24.4 | 0.0 | 25.5 | | | | 0.0 | 47.6 | 66.5 | 14.5 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 24.4 | 0.0 | 25.5 | | | | 0.0 | 47.6 | 66.5 | 14.5 | 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 | 379 | 0 | 674 | | | | 0 | 1886 | 878 | 215 | 3638 | 0 |
| V/C Ratio(X) | 0.96 | 0.00 | 1.32 | | | | 0.00 | 0.85 | 1.64 | 1.10 | 0.33 | 0.00 |
| Avail Cap(c_a), veh/h | 379 | 0 | 674 | | | | 0 | 1886 | 878 | 215 | 3638 | 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 | 1.00 | 1.00 | 0.93 | 0.93 | 0.00 |
| Uniform Delay (d), s/veh | 46.8 | 0.0 | 47.3 | | | | 0.0 | 22.5 | 26.8 | 45.5 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 36.8 | 0.0 | 152.2 | | | | 0.0 | 5.0 | 294.9 | 88.9 | 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 | 14.6 | 0.0 | 24.2 | | | | 0.0 | 19.4 | 95.5 | 10.8 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 83.6 | 0.0 | 199.5 | | | | 0.0 | 27.5 | 321.7 | 134.4 | 0.2 | 0.0 |
| LnGrp LOS | F | A | F | | | | A | C | F | F | A | A |
| Approach Vol, veh/h | | 1251 | | | | | | 3046 | | | 1447 | |
| Approach Delay, s/veh | | 165.7 | | | | | | 167.0 | | | 22.2 | |
| Approach LOS | | F | | | | | | F | | | C | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | | | 6 | | | | |
| Phs Duration (G+Y+Rc), s | 19.0 | 71.0 | | 30.0 | | | | 90.0 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | | | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 14.5 | 66.5 | | 25.5 | | | | 85.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 16.5 | 68.5 | | 27.5 | | | | 2.0 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | | 0.0 | | | | 12.6 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 130.2 | | | | | | | | | |
| HCM 6th LOS | | | F | | | | | | | | | |
| Notes | | | | | | | | | | | | |
| User approved volume balancing among the lanes for turning movement. | | | | | | | | | | | | |

Lanes, Volumes, Timings
8: Cook St. & I-10 EB Ramps

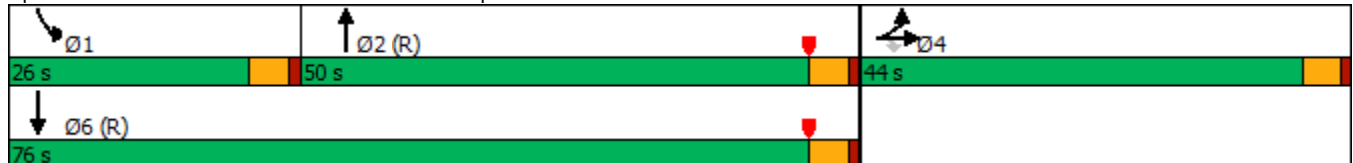
HY (2040) WP PM Peak Hour
WITH IMPROVEMENTS

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|------|------|------|------|-------|------|-------|-------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 339 | 1 | 823 | 0 | 0 | 0 | 0 | 1490 | 1343 | 220 | 1125 | 0 |
| Future Volume (vph) | 339 | 1 | 823 | 0 | 0 | 0 | 0 | 1490 | 1343 | 220 | 1125 | 0 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 0 | | 415 | 0 | | 0 | 0 | | 150 | 280 | | 0 |
| Storage Lanes | 1 | | 1 | 0 | | 0 | 0 | | 1 | 1 | | 0 |
| Taper Length (ft) | 90 | | | 90 | | | 90 | | | 80 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1245 | | | 719 | | | 760 | | | 562 | |
| Travel Time (s) | | 28.3 | | | 16.3 | | | 17.3 | | | 12.8 | |
| 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 |
| Adj. Flow (vph) | 365 | 1 | 885 | 0 | 0 | 0 | 0 | 1602 | 1444 | 237 | 1210 | 0 |
| Shared Lane Traffic (%) | | | 50% | | | | | | | | | |
| Lane Group Flow (vph) | 365 | 444 | 442 | 0 | 0 | 0 | 0 | 1602 | 1444 | 237 | 1210 | 0 |
| Turn Type | Split | NA | Perm | | | | | NA | Free | Prot | NA | |
| Protected Phases | 4 | 4 | | | | | | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | | | | Free | | | |
| Detector Phase | 4 | 4 | 4 | | | | | 2 | | 1 | 6 | |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | 5.0 | | | | | 5.0 | | 5.0 | 5.0 | |
| Minimum Split (s) | 22.5 | 22.5 | 22.5 | | | | | 22.5 | | 9.5 | 22.5 | |
| Total Split (s) | 44.0 | 44.0 | 44.0 | | | | | 50.0 | | 26.0 | 76.0 | |
| Total Split (%) | 36.7% | 36.7% | 36.7% | | | | | 41.7% | | 21.7% | 63.3% | |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | | | | | 3.5 | | 3.5 | 3.5 | |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | | | | | 1.0 | | 1.0 | 1.0 | |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | | | | | 0.0 | | 0.0 | 0.0 | |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | | | | | 4.5 | | 4.5 | 4.5 | |
| Lead/Lag | | | | | | | | Lag | | Lead | | |
| Lead-Lag Optimize? | | | | | | | | Yes | | Yes | | |
| Recall Mode | None | None | None | | | | | C-Max | | None | C-Max | |

Intersection Summary





















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 65
 Control Type: Actuated-Coordinated

Splits and Phases: 8: Cook St. & I-10 EB Ramps



HCM 6th Signalized Intersection Summary
8: Cook St. & I-10 EB Ramps

HY (2040) WP PM Peak Hour
WITH IMPROVEMENTS

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |  |  |  | | | | |  |  |  |  |  |
| Traffic Volume (veh/h) | 339 | 1 | 823 | 0 | 0 | 0 | 0 | 1490 | 1343 | 220 | 1125 | 0 |
| Future Volume (veh/h) | 339 | 1 | 823 | 0 | 0 | 0 | 0 | 1490 | 1343 | 220 | 1125 | 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 | 365 | 0 | 886 | | | | 0 | 1602 | 0 | 237 | 1210 | 0 |
| Peak Hour Factor | 0.93 | 0.93 | 0.93 | | | | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 | 0.93 |
| Percent Heavy Veh, % | 2 | 2 | 2 | | | | 0 | 2 | 2 | 2 | 2 | 0 |
| Cap, veh/h | 546 | 0 | 973 | | | | 0 | 2215 | | 262 | 3157 | 0 |
| Arrive On Green | 0.31 | 0.00 | 0.31 | | | | 0.00 | 0.43 | 0.00 | 0.29 | 1.00 | 0.00 |
| Sat Flow, veh/h | 1781 | 0 | 3170 | | | | 0 | 5274 | 1585 | 1781 | 5274 | 0 |
| Grp Volume(v), veh/h | 365 | 0 | 886 | | | | 0 | 1602 | 0 | 237 | 1210 | 0 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 0 | 1585 | | | | 0 | 1702 | 1585 | 1781 | 1702 | 0 |
| Q Serve(g_s), s | 21.4 | 0.0 | 32.3 | | | | 0.0 | 31.1 | 0.0 | 15.4 | 0.0 | 0.0 |
| Cycle Q Clear(g_c), s | 21.4 | 0.0 | 32.3 | | | | 0.0 | 31.1 | 0.0 | 15.4 | 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 | 546 | 0 | 973 | | | | 0 | 2215 | | 262 | 3157 | 0 |
| V/C Ratio(X) | 0.67 | 0.00 | 0.91 | | | | 0.00 | 0.72 | | 0.91 | 0.38 | 0.00 |
| Avail Cap(c_a), veh/h | 586 | 0 | 1043 | | | | 0 | 2215 | | 319 | 3157 | 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 | 1.00 | 0.00 | 0.87 | 0.87 | 0.00 |
| Uniform Delay (d), s/veh | 36.3 | 0.0 | 40.0 | | | | 0.0 | 28.0 | 0.0 | 41.6 | 0.0 | 0.0 |
| Incr Delay (d2), s/veh | 2.7 | 0.0 | 11.3 | | | | 0.0 | 2.1 | 0.0 | 22.5 | 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 |
| %ile BackOfQ(50%),veh/ln | 9.7 | 0.0 | 14.0 | | | | 0.0 | 12.9 | 0.0 | 7.4 | 0.1 | 0.0 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 38.9 | 0.0 | 51.3 | | | | 0.0 | 30.1 | 0.0 | 64.1 | 0.3 | 0.0 |
| LnGrp LOS | D | A | D | | | | A | C | | E | A | A |
| Approach Vol, veh/h | | 1251 | | | | | | 1602 | | | 1447 | |
| Approach Delay, s/veh | | 47.7 | | | | | | 30.1 | | | 10.8 | |
| Approach LOS | | D | | | | | | C | | | B | |
| Timer - Assigned Phs | 1 | 2 | | 4 | | | | 6 | | | | |
| Phs Duration (G+Y+Rc), s | 22.1 | 56.6 | | 41.3 | | | | 78.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | | 4.5 | | | | 4.5 | | | | |
| Max Green Setting (Gmax), s | 21.5 | 45.5 | | 39.5 | | | | 71.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 17.4 | 33.1 | | 34.3 | | | | 2.0 | | | | |
| Green Ext Time (p_c), s | 0.3 | 8.5 | | 2.5 | | | | 12.5 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 28.7 |
| HCM 6th LOS | C |

Notes

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

Lanes, Volumes, Timings
9: Cook St. & Gerald Ford Dr.

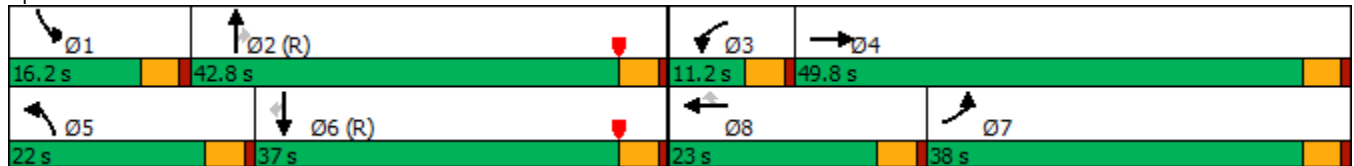
HY (2040) WP PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 859 | 371 | 325 | 90 | 337 | 303 | 405 | 1386 | 30 | 265 | 1013 | 593 |
| Future Volume (vph) | 859 | 371 | 325 | 90 | 337 | 303 | 405 | 1386 | 30 | 265 | 1013 | 593 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 225 | | 230 | 160 | | 200 | 210 | | 120 | 290 | | 360 |
| Storage Lanes | 2 | | 0 | 2 | | 1 | 2 | | 1 | 2 | | 1 |
| Taper Length (ft) | 130 | | | 160 | | | 140 | | | 90 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 40 | | | 50 | | | 55 | | | 55 | |
| Link Distance (ft) | | 936 | | | 424 | | | 1144 | | | 831 | |
| Travel Time (s) | | 16.0 | | | 5.8 | | | 14.2 | | | 10.3 | |
| Confl. Peds. (#/hr) | 5 | | 5 | 5 | | 5 | 5 | | 5 | 5 | | 5 |
| 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 |
| Adj. Flow (vph) | 904 | 391 | 342 | 95 | 355 | 319 | 426 | 1459 | 32 | 279 | 1066 | 624 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 904 | 391 | 342 | 95 | 355 | 319 | 426 | 1459 | 32 | 279 | 1066 | 624 |
| Turn Type | Prot | NA | Free | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | Free | | | 8 | | | 2 | | | 6 |
| Detector Phase | 7 | 4 | | 3 | 8 | 8 | 5 | 2 | 2 | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 5.0 | | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 | 5.0 |
| Minimum Split (s) | 9.5 | 22.5 | | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 | 9.5 | 22.5 | 22.5 |
| Total Split (s) | 38.0 | 49.8 | | 11.2 | 23.0 | 23.0 | 22.0 | 42.8 | 42.8 | 16.2 | 37.0 | 37.0 |
| Total Split (%) | 31.7% | 41.5% | | 9.3% | 19.2% | 19.2% | 18.3% | 35.7% | 35.7% | 13.5% | 30.8% | 30.8% |
| Yellow Time (s) | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lag | Lag | | Lead | Lead | Lead | Lead | Lag | Lag | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Recall Mode | None | None | | None | None | None | None | C-Max | C-Max | None | C-Max | C-Max |

Intersection Summary



































Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 65.2 (54%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 9: Cook St. & Gerald Ford Dr.



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

HY (2040) WP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |    |  |   |    |  |
| Traffic Volume (veh/h) | 859 | 371 | 325 | 90 | 337 | 303 | 405 | 1386 | 30 | 265 | 1013 | 593 |
| Future Volume (veh/h) | 859 | 371 | 325 | 90 | 337 | 303 | 405 | 1386 | 30 | 265 | 1013 | 593 |
| 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 | | 0.99 | 1.00 | | 1.00 | 1.00 | | 1.00 |
| Parking Bus, Adj | 1.00 | 1.00 | 1.00 | 1.00 | 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 | 904 | 391 | 0 | 95 | 355 | 319 | 426 | 1459 | 32 | 279 | 1066 | 624 |
| 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 | 948 | 1362 | | 146 | 520 | 218 | 478 | 1975 | 556 | 331 | 1744 | 490 |
| Arrive On Green | 0.53 | 0.73 | 0.00 | 0.08 | 0.28 | 0.28 | 0.27 | 0.70 | 0.70 | 0.19 | 0.62 | 0.62 |
| Sat Flow, veh/h | 3563 | 3741 | 1585 | 3563 | 3741 | 1568 | 3563 | 5611 | 1578 | 3563 | 5611 | 1577 |
| Grp Volume(v), veh/h | 904 | 391 | 0 | 95 | 355 | 319 | 426 | 1459 | 32 | 279 | 1066 | 624 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1568 | 1781 | 1870 | 1578 | 1781 | 1870 | 1577 |
| Q Serve(g_s), s | 28.9 | 4.3 | 0.0 | 3.1 | 10.2 | 13.4 | 13.8 | 19.2 | 0.8 | 9.1 | 13.9 | 18.8 |
| Cycle Q Clear(g_c), s | 28.9 | 4.3 | 0.0 | 3.1 | 10.2 | 13.4 | 13.8 | 19.2 | 0.8 | 9.1 | 13.9 | 18.8 |
| 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 | 948 | 1362 | | 146 | 520 | 218 | 478 | 1975 | 556 | 331 | 1744 | 490 |
| V/C Ratio(X) | 0.95 | 0.29 | | 0.65 | 0.68 | 1.46 | 0.89 | 0.74 | 0.06 | 0.84 | 0.61 | 1.27 |
| Avail Cap(c_a), veh/h | 995 | 1412 | | 199 | 577 | 242 | 520 | 1975 | 556 | 347 | 1744 | 490 |
| HCM Platoon Ratio | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I) | 0.74 | 0.74 | 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 | 27.3 | 10.9 | 0.0 | 54.2 | 41.0 | 28.1 | 43.1 | 14.4 | 11.6 | 48.0 | 18.3 | 5.8 |
| Incr Delay (d2), s/veh | 14.5 | 0.1 | 0.0 | 4.8 | 2.9 | 232.4 | 16.6 | 2.5 | 0.2 | 16.5 | 1.6 | 138.0 |
| 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 | 10.1 | 1.6 | 0.0 | 1.4 | 4.2 | 18.1 | 6.1 | 4.9 | 0.3 | 4.3 | 4.4 | 24.4 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 41.9 | 11.0 | 0.0 | 59.1 | 43.9 | 260.5 | 59.7 | 16.9 | 11.8 | 64.5 | 19.9 | 143.8 |
| LnGrp LOS | D | B | | E | D | F | E | B | B | E | B | F |
| Approach Vol, veh/h | | 1295 | | | 769 | | | 1917 | | | 1969 | |
| Approach Delay, s/veh | | 32.6 | | | 135.6 | | | 26.3 | | | 65.5 | |
| Approach LOS | | C | | | F | | | C | | | E | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 15.6 | 46.7 | 9.4 | 48.2 | 20.6 | 41.8 | 36.4 | 21.2 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 11.7 | 38.3 | 6.7 | 45.3 | 17.5 | 32.5 | 33.5 | 18.5 | | | | |
| Max Q Clear Time (g_c+I1), s | 11.1 | 21.2 | 5.1 | 6.3 | 15.8 | 20.8 | 30.9 | 15.4 | | | | |
| Green Ext Time (p_c), s | 0.1 | 8.7 | 0.0 | 2.6 | 0.3 | 6.7 | 1.0 | 1.0 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 54.8 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |
| 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. | | | | | | | | | | | | |

Lanes, Volumes, Timings
 10: Cook St. & University Park Dr./Berger Dr. W.

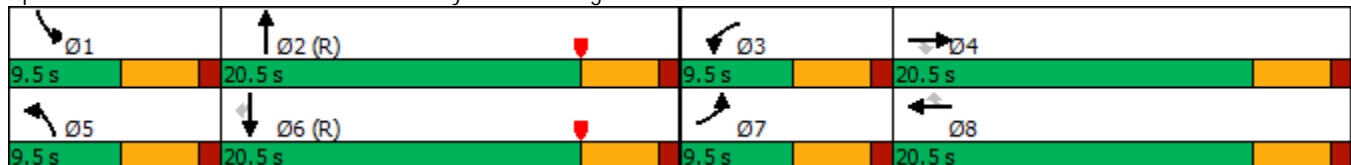
HY (2040) WP PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 67 | 125 | 90 | 118 | 154 | 392 | 107 | 1504 | 80 | 267 | 1272 | 71 |
| Future Volume (vph) | 67 | 125 | 90 | 118 | 154 | 392 | 107 | 1504 | 80 | 267 | 1272 | 71 |
| Ideal Flow (vphp) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | 180 | | 180 | 100 | | 0 | 140 | | 140 | 225 | | 295 |
| Storage Lanes | 1 | | 1 | 0 | | 1 | 1 | | 1 | 2 | | 0 |
| Taper Length (ft) | 90 | | | 0 | | | 160 | | | 165 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 473 | | | 452 | | | 1623 | | | 476 | |
| Travel Time (s) | | 10.8 | | | 10.3 | | | 36.9 | | | 10.8 | |
| 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 |
| Adj. Flow (vph) | 74 | 139 | 100 | 131 | 171 | 436 | 119 | 1671 | 89 | 297 | 1413 | 79 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 74 | 139 | 100 | 131 | 171 | 436 | 119 | 1671 | 89 | 297 | 1413 | 79 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | Free | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | Free | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (s) | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | 20.5 | 9.5 | 20.5 | | 9.5 | 20.5 | 20.5 |
| Total Split (%) | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | 34.2% | 15.8% | 34.2% | | 15.8% | 34.2% | 34.2% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | | 1.0 | 1.0 | 1.0 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | 4.5 | 4.5 | 4.5 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 80
 Control Type: Actuated-Coordinated

Splits and Phases: 10: Cook St. & University Park Dr./Berger Dr. W.



HCM 6th Signalized Intersection Summary
 10: Cook St. & University Park Dr./Berger Dr. W.

HY (2040) WP PM Peak Hour



| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (veh/h) | 67 | 125 | 90 | 118 | 154 | 392 | 107 | 1504 | 80 | 267 | 1272 | 71 |
| Future Volume (veh/h) | 67 | 125 | 90 | 118 | 154 | 392 | 107 | 1504 | 80 | 267 | 1272 | 71 |
| 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 | 139 | 100 | 131 | 171 | 0 | 119 | 1671 | 0 | 297 | 1413 | 79 |
| 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 | 105 | 217 | 184 | 148 | 263 | | 148 | 2130 | | 288 | 2130 | 661 |
| Arrive On Green | 0.06 | 0.12 | 0.12 | 0.08 | 0.14 | 0.00 | 0.06 | 0.28 | 0.00 | 0.08 | 0.42 | 0.42 |
| Sat Flow, veh/h | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 5106 | 1585 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 74 | 139 | 100 | 131 | 171 | 0 | 119 | 1671 | 0 | 297 | 1413 | 79 |
| Grp Sat Flow(s),veh/h/ln | 1781 | 1870 | 1585 | 1781 | 1870 | 1585 | 1781 | 1702 | 1585 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 2.4 | 4.3 | 3.6 | 4.4 | 5.2 | 0.0 | 4.0 | 18.1 | 0.0 | 5.0 | 13.4 | 1.8 |
| Cycle Q Clear(g_c), s | 2.4 | 4.3 | 3.6 | 4.4 | 5.2 | 0.0 | 4.0 | 18.1 | 0.0 | 5.0 | 13.4 | 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 | 105 | 217 | 184 | 148 | 263 | | 148 | 2130 | | 288 | 2130 | 661 |
| V/C Ratio(X) | 0.70 | 0.64 | 0.54 | 0.88 | 0.65 | | 0.80 | 0.78 | | 1.03 | 0.66 | 0.12 |
| Avail Cap(c_a), veh/h | 148 | 499 | 423 | 148 | 499 | | 148 | 2130 | | 288 | 2130 | 661 |
| 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 | 1.00 | 1.00 | 0.00 | 0.36 | 0.36 | 0.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh | 27.7 | 25.3 | 25.0 | 27.2 | 24.4 | 0.0 | 27.8 | 19.1 | 0.0 | 27.5 | 14.1 | 10.7 |
| Incr Delay (d2), s/veh | 8.3 | 3.1 | 2.5 | 41.6 | 2.7 | 0.0 | 10.8 | 1.1 | 0.0 | 61.4 | 1.6 | 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 | 1.2 | 2.0 | 1.4 | 3.5 | 2.4 | 0.0 | 2.1 | 7.4 | 0.0 | 4.4 | 4.8 | 0.6 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 36.0 | 28.4 | 27.5 | 68.8 | 27.1 | 0.0 | 38.7 | 20.2 | 0.0 | 88.9 | 15.7 | 11.1 |
| LnGrp LOS | D | C | C | E | C | | D | C | | F | B | B |
| Approach Vol, veh/h | | 313 | | | 302 | | | 1790 | | | 1789 | |
| Approach Delay, s/veh | | 29.9 | | | 45.2 | | | 21.4 | | | 27.7 | |
| Approach LOS | | C | | | D | | | C | | | C | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 9.5 | 29.5 | 9.5 | 11.5 | 9.5 | 29.5 | 8.0 | 12.9 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | | | | |
| Max Green Setting (Gmax), s | 5.0 | 16.0 | 5.0 | 16.0 | 5.0 | 16.0 | 5.0 | 16.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.0 | 20.1 | 6.4 | 6.3 | 6.0 | 15.4 | 4.4 | 7.2 | | | | |
| Green Ext Time (p_c), s | 0.0 | 0.0 | 0.0 | 0.7 | 0.0 | 0.5 | 0.0 | 0.5 | | | | |

Intersection Summary

| | |
|--------------------|------|
| HCM 6th Ctrl Delay | 26.4 |
| HCM 6th LOS | C |

Notes

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

Lanes, Volumes, Timings
11: Cook St. & Frank Sinatra Dr.

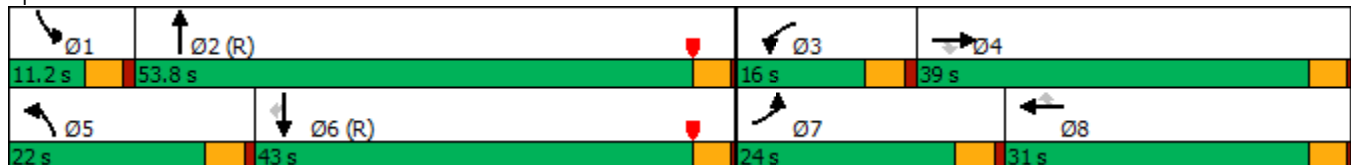
HY (2040) WP PM Peak Hour

| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 453 | 654 | 348 | 170 | 676 | 102 | 291 | 1164 | 83 | 142 | 1022 | 322 |
| Future Volume (vph) | 453 | 654 | 348 | 170 | 676 | 102 | 291 | 1164 | 83 | 142 | 1022 | 322 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | | 135 | 135 | | 260 | 140 | | 0 | 210 | | 220 |
| Storage Lanes | 2 | | 1 | 2 | | 1 | 2 | | 0 | 2 | | 1 |
| Taper Length (ft) | 120 | | | 110 | | | 110 | | | 140 | | |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Link Speed (mph) | | 30 | | | 30 | | | 30 | | | 30 | |
| Link Distance (ft) | | 1477 | | | 944 | | | 330 | | | 1623 | |
| Travel Time (s) | | 33.6 | | | 21.5 | | | 7.5 | | | 36.9 | |
| 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 |
| Adj. Flow (vph) | 492 | 711 | 378 | 185 | 735 | 111 | 316 | 1265 | 90 | 154 | 1111 | 350 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 492 | 711 | 378 | 185 | 735 | 111 | 316 | 1355 | 0 | 154 | 1111 | 350 |
| Turn Type | Prot | NA | Perm | Prot | NA | Perm | Prot | NA | | Prot | NA | Perm |
| Protected Phases | 7 | 4 | | 3 | 8 | | 5 | 2 | | 1 | 6 | |
| Permitted Phases | | | 4 | | | 8 | | | | | | 6 |
| Detector Phase | 7 | 4 | 4 | 3 | 8 | 8 | 5 | 2 | | 1 | 6 | 6 |
| Switch Phase | | | | | | | | | | | | |
| Minimum Initial (s) | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | 4.0 | 5.0 | 4.0 | | 5.0 | 4.0 | 4.0 |
| Minimum Split (s) | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | 20.0 | 9.5 | 20.0 | | 9.5 | 20.0 | 20.0 |
| Total Split (s) | 24.0 | 39.0 | 39.0 | 16.0 | 31.0 | 31.0 | 22.0 | 53.8 | | 11.2 | 43.0 | 43.0 |
| Total Split (%) | 20.0% | 32.5% | 32.5% | 13.3% | 25.8% | 25.8% | 18.3% | 44.8% | | 9.3% | 35.8% | 35.8% |
| Yellow Time (s) | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | | 3.5 | 3.5 | 3.5 |
| All-Red Time (s) | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | 0.5 | 1.0 | 0.5 | | 1.0 | 0.5 | 0.5 |
| Lost Time Adjust (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Lost Time (s) | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | 4.0 | 4.5 | 4.0 | | 4.5 | 4.0 | 4.0 |
| Lead/Lag | Lead | Lag | Lag | Lead | Lag | Lag | Lead | Lag | | Lead | Lag | Lag |
| Lead-Lag Optimize? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | Yes |
| Recall Mode | None | None | None | None | None | None | None | C-Max | | None | C-Max | C-Max |

Intersection Summary

































Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow
 Natural Cycle: 90
 Control Type: Actuated-Coordinated

Splits and Phases: 11: Cook St. & Frank Sinatra Dr.



HCM 6th Signalized Intersection Summary
11: Cook St. & Frank Sinatra Dr.

HY (2040) WP PM Peak Hour

| |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations |   |   |  |   |   |  |   |   | |   |    |  |
| Traffic Volume (veh/h) | 453 | 654 | 348 | 170 | 676 | 102 | 291 | 1164 | 83 | 142 | 1022 | 322 |
| Future Volume (veh/h) | 453 | 654 | 348 | 170 | 676 | 102 | 291 | 1164 | 83 | 142 | 1022 | 322 |
| 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 | 492 | 711 | 378 | 185 | 735 | 111 | 316 | 1265 | 90 | 154 | 1111 | 350 |
| 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 | 545 | 1101 | 491 | 244 | 791 | 353 | 381 | 1421 | 101 | 193 | 1877 | 583 |
| Arrive On Green | 0.16 | 0.31 | 0.31 | 0.07 | 0.22 | 0.22 | 0.11 | 0.42 | 0.42 | 0.06 | 0.37 | 0.37 |
| Sat Flow, veh/h | 3456 | 3554 | 1585 | 3456 | 3554 | 1585 | 3456 | 3365 | 239 | 3456 | 5106 | 1585 |
| Grp Volume(v), veh/h | 492 | 711 | 378 | 185 | 735 | 111 | 316 | 667 | 688 | 154 | 1111 | 350 |
| Grp Sat Flow(s),veh/h/ln | 1728 | 1777 | 1585 | 1728 | 1777 | 1585 | 1728 | 1777 | 1827 | 1728 | 1702 | 1585 |
| Q Serve(g_s), s | 16.8 | 20.7 | 25.9 | 6.3 | 24.3 | 7.0 | 10.7 | 41.7 | 41.9 | 5.3 | 21.1 | 21.5 |
| Cycle Q Clear(g_c), s | 16.8 | 20.7 | 25.9 | 6.3 | 24.3 | 7.0 | 10.7 | 41.7 | 41.9 | 5.3 | 21.1 | 21.5 |
| 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 | 545 | 1101 | 491 | 244 | 791 | 353 | 381 | 750 | 771 | 193 | 1877 | 583 |
| V/C Ratio(X) | 0.90 | 0.65 | 0.77 | 0.76 | 0.93 | 0.31 | 0.83 | 0.89 | 0.89 | 0.80 | 0.59 | 0.60 |
| Avail Cap(c_a), veh/h | 562 | 1101 | 491 | 331 | 800 | 357 | 504 | 750 | 771 | 193 | 1877 | 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 | 0.51 | 0.51 | 0.51 |
| Uniform Delay (d), s/veh | 49.6 | 35.7 | 37.5 | 54.8 | 45.7 | 39.0 | 52.3 | 32.1 | 32.1 | 56.0 | 30.7 | 30.8 |
| Incr Delay (d2), s/veh | 17.5 | 1.3 | 7.3 | 6.8 | 17.0 | 0.5 | 8.6 | 14.8 | 14.8 | 11.4 | 0.7 | 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 | 8.5 | 9.1 | 11.0 | 3.0 | 12.5 | 2.8 | 5.1 | 20.6 | 21.3 | 2.6 | 8.7 | 8.5 |
| Unsig. Movement Delay, s/veh | | | | | | | | | | | | |
| LnGrp Delay(d),s/veh | 67.1 | 37.0 | 44.8 | 61.5 | 62.8 | 39.5 | 60.8 | 46.9 | 46.9 | 67.4 | 31.4 | 33.1 |
| LnGrp LOS | E | D | D | E | E | D | E | D | D | E | C | C |
| Approach Vol, veh/h | | 1581 | | | 1031 | | | 1671 | | | 1615 | |
| Approach Delay, s/veh | | 48.3 | | | 60.0 | | | 49.6 | | | 35.2 | |
| Approach LOS | | D | | | E | | | D | | | D | |
| Timer - Assigned Phs | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | | |
| Phs Duration (G+Y+Rc), s | 11.2 | 54.7 | 13.0 | 41.2 | 17.7 | 48.1 | 23.4 | 30.7 | | | | |
| Change Period (Y+Rc), s | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | 4.5 | 4.0 | | | | |
| Max Green Setting (Gmax), s | 6.7 | 49.8 | 11.5 | 35.0 | 17.5 | 39.0 | 19.5 | 27.0 | | | | |
| Max Q Clear Time (g_c+I1), s | 7.3 | 43.9 | 8.3 | 27.9 | 12.7 | 23.5 | 18.8 | 26.3 | | | | |
| Green Ext Time (p_c), s | 0.0 | 4.1 | 0.2 | 3.5 | 0.5 | 8.2 | 0.2 | 0.4 | | | | |
| Intersection Summary | | | | | | | | | | | | |
| HCM 6th Ctrl Delay | | | 47.1 | | | | | | | | | |
| HCM 6th LOS | | | D | | | | | | | | | |

Lanes, Volumes, Timings
 12: Main Dwy. & Gerald Ford Dr.

HY (2040) WP PM Peak Hour

| | → | ↘ | ↙ | ← | ↖ | ↗ |
|-------------------------|------|------|------|------|------|------|
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑↑ | ↗ | | ↑↑↑ | | ↗ |
| Traffic Volume (vph) | 1228 | 14 | 0 | 1285 | 0 | 158 |
| Future Volume (vph) | 1228 | 14 | 0 | 1285 | 0 | 158 |
| Ideal Flow (vphpl) | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Storage Length (ft) | | 150 | 0 | | 0 | 0 |
| Storage Lanes | | 1 | 0 | | 0 | 1 |
| Taper Length (ft) | | | 90 | | 90 | |
| Link Speed (mph) | 30 | | | 30 | 30 | |
| Link Distance (ft) | 1749 | | | 549 | 252 | |
| Travel Time (s) | 39.8 | | | 12.5 | 5.7 | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Adj. Flow (vph) | 1335 | 15 | 0 | 1397 | 0 | 172 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 1335 | 15 | 0 | 1397 | 0 | 172 |
| Sign Control | Free | | | Free | Stop | |

Intersection Summary

Area Type: Other

Control Type: Unsignalized

| Intersection | | | | | | |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh | 1.5 | | | | | |
| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
| Lane Configurations | ↑↑↑ | ↑ | | ↑↑↑ | | ↑ |
| Traffic Vol, veh/h | 1228 | 14 | 0 | 1285 | 0 | 158 |
| Future Vol, veh/h | 1228 | 14 | 0 | 1285 | 0 | 158 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | Free | Free | Free | Stop | Stop |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | - | 150 | - | - | - | 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 | 1335 | 15 | 0 | 1397 | 0 | 172 |

| Major/Minor | Major1 | Major2 | Minor1 | | |
|----------------------|--------|--------|--------|---|------|
| Conflicting Flow All | 0 | 0 | - | - | 668 |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |
| Critical Hdwy | - | - | - | - | 7.14 |
| Critical Hdwy Stg 1 | - | - | - | - | - |
| Critical Hdwy Stg 2 | - | - | - | - | - |
| Follow-up Hdwy | - | - | - | - | 3.92 |
| Pot Cap-1 Maneuver | - | - | 0 | - | 344 |
| Stage 1 | - | - | 0 | - | - |
| Stage 2 | - | - | 0 | - | - |
| Platoon blocked, % | - | - | - | - | - |
| Mov Cap-1 Maneuver | - | - | - | - | 344 |
| Mov Cap-2 Maneuver | - | - | - | - | - |
| Stage 1 | - | - | - | - | - |
| Stage 2 | - | - | - | - | - |

| Approach | EB | WB | NB |
|----------------------|----|----|------|
| HCM Control Delay, s | 0 | 0 | 25.5 |
| HCM LOS | | | D |

| Minor Lane/Major Mvmt | NBLn1 | EBT | EBR | WBT |
|-----------------------|-------|-----|-----|-----|
| Capacity (veh/h) | 344 | - | - | - |
| HCM Lane V/C Ratio | 0.499 | - | - | - |
| HCM Control Delay (s) | 25.5 | - | - | - |
| HCM Lane LOS | D | - | - | - |
| HCM 95th %tile Q(veh) | 2.7 | - | - | - |

Intersection: 2: Technology Dr. & E. Dwy/The Village W. Dwy.

| Movement | EB | WB | NB | SB |
|-----------------------|-----|-----|-----|----|
| Directions Served | LTR | LTR | L | L |
| Maximum Queue (ft) | 30 | 35 | 25 | 35 |
| Average Queue (ft) | 15 | 24 | 9 | 8 |
| 95th Queue (ft) | 38 | 47 | 33 | 33 |
| Link Distance (ft) | 177 | 263 | | |
| Upstream Blk Time (%) | | | | |
| Queuing Penalty (veh) | | | | |
| Storage Bay Dist (ft) | | | 150 | 55 |
| Storage Blk Time (%) | | | | 0 |
| Queuing Penalty (veh) | | | | 0 |

Intersection: 4: University Dr./S. Dwy. & College Dr.

| Movement | EB | WB | NB | NB | SB |
|-----------------------|-----|-----|-----|-----|-----|
| Directions Served | L | L | L | TR | LTR |
| Maximum Queue (ft) | 11 | 11 | 45 | 25 | 30 |
| Average Queue (ft) | 2 | 3 | 27 | 16 | 16 |
| 95th Queue (ft) | 15 | 17 | 54 | 32 | 40 |
| Link Distance (ft) | | | | 403 | 160 |
| Upstream Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |
| Storage Bay Dist (ft) | 150 | 130 | 100 | | |
| Storage Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |

Intersection: 12: Main Dwy. & Gerald Ford Dr.

| Movement | EB | NB |
|-----------------------|------|-----|
| Directions Served | T | R |
| Maximum Queue (ft) | 6 | 51 |
| Average Queue (ft) | 1 | 24 |
| 95th Queue (ft) | 11 | 56 |
| Link Distance (ft) | 1728 | 180 |
| Upstream Blk Time (%) | | |
| Queuing Penalty (veh) | | |
| Storage Bay Dist (ft) | | |
| Storage Blk Time (%) | | |
| Queuing Penalty (veh) | | |

Zone Summary

Zone wide Queuing Penalty: 0

Intersection: 2: Technology Dr. & E. Dwy/The Village W. Dwy.

| Movement | EB | WB | NB | SB |
|-----------------------|-----|-----|-----|----|
| Directions Served | LTR | LTR | L | L |
| Maximum Queue (ft) | 49 | 38 | 18 | 18 |
| Average Queue (ft) | 34 | 28 | 4 | 5 |
| 95th Queue (ft) | 55 | 47 | 19 | 23 |
| Link Distance (ft) | 177 | 263 | | |
| Upstream Blk Time (%) | | | | |
| Queuing Penalty (veh) | | | | |
| Storage Bay Dist (ft) | | | 150 | 55 |
| Storage Blk Time (%) | | | | |
| Queuing Penalty (veh) | | | | |

Intersection: 4: University Dr./S. Dwy. & College Dr.

| Movement | EB | WB | NB | NB | SB |
|-----------------------|-----|-----|-----|-----|-----|
| Directions Served | L | L | L | TR | LTR |
| Maximum Queue (ft) | 11 | 12 | 34 | 22 | 53 |
| Average Queue (ft) | 2 | 4 | 22 | 12 | 36 |
| 95th Queue (ft) | 15 | 22 | 44 | 29 | 64 |
| Link Distance (ft) | | | | 403 | 160 |
| Upstream Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |
| Storage Bay Dist (ft) | 150 | 130 | 100 | | |
| Storage Blk Time (%) | | | | | |
| Queuing Penalty (veh) | | | | | |

Intersection: 12: Main Dwy. & Gerald Ford Dr.

| Movement | EB | EB | EB | NB |
|-----------------------|------|------|------|-----|
| Directions Served | T | T | T | R |
| Maximum Queue (ft) | 421 | 335 | 169 | 172 |
| Average Queue (ft) | 195 | 122 | 46 | 112 |
| 95th Queue (ft) | 516 | 431 | 266 | 211 |
| Link Distance (ft) | 1728 | 1728 | 1728 | 180 |
| Upstream Blk Time (%) | | | | 24 |
| Queuing Penalty (veh) | | | | 0 |
| Storage Bay Dist (ft) | | | | |
| Storage Blk Time (%) | | | | |
| Queuing Penalty (veh) | | | | |

Zone Summary

Zone wide Queuing Penalty: 0