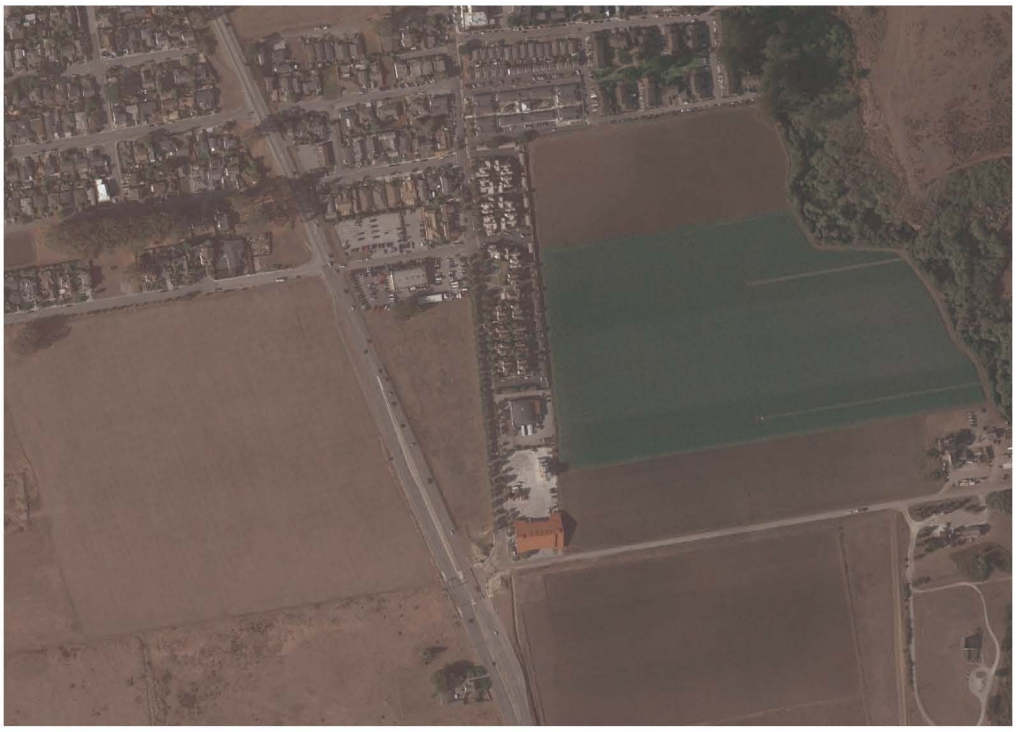
Appendix H: Traffic Impact Study

This page intentionally left blank.

Traffic Impact Study for the Hyatt Place Hotel



Prepared for the City of Half Moon Bay

Submitted by
W-Trans

July 13, 2020

TRAFFIC ENGINEERING
TRANSPORTATION PLANNING
Balancing Functionality and Livability since 1995
w-trans.com

This page intentionally left blank

Table of Contents

Appendices

A. Traffic Count Data
B. Intersection Level of Service Calculations
C. San Mateo County Travel Demand Model Forecasted Link Volume Plots
D. Peak Hour Volume Warrant Worksheets

Executive Summary

The proposed project is a new 129-room hotel with 148 parking spaces to be located at the northeast corner of the intersection of State Route (SR) 1/South Main Street in Half Moon Bay, California. This project is expected to generate an average of 575 trips per day, including 44 trips during the weekday a.m. peak hour, 46 during the p.m. peak hour and 93 during the weekend midday peak hour.

This analysis addresses the potential impacts at eight study intersections. All study intersections are expected to continue operating acceptably under all conditions with and without the project, except for the signalized intersection at SR-1/North Main Street and the unsignalized intersection at SR-1/Seymour Street. The project's contribution to these intersections would not be considered an adverse impact.

The anticipated amount of vehicle traffic passing through the unsignalized intersection of SR-1/Seymour Street during the weekend peak hour under the Background plus Project and Cumulative Conditions would be insufficient to satisfy the peak hour volume warrant indicating potential need for a traffic signal, either with or without the proposed project.

Ten roadway segments along State Routes 1 and 92 within the study area were evaluated and determined to operate at acceptable levels of service, with or without the project, under all volumes evaluated.

The proposed project would have a less-than-significant transportation impact on vehicle miles traveled with the implementation of the recommended Transportation Demand Management Plan.

Pedestrian and bicycle facility connectivity would be improved by the project through provision of sidewalks along the street frontages, a Class II bike lane connecting South Main Street and Seymore Street, secure parking for 30 bikes, and a fleet of bikes owned by the hotel for their guests to use.

The sight distance at the project driveways along South Main Street were evaluated and deemed to be adequate since they are greater than the recommended minimum distance according to Caltrans *Highway Design Manual*. It is recommended that on-street parking be restricted for 15 feet on either side of the proposed project driveways on South Main Street and vegetation be trimmed to maintain adequate sight distance.

The proposed exit only driveway on Seymour Street would have inadequate sight lines between the driveway and SR-1. This is considered a significant safety impact. To improve the site access and reduce the project safety impact to a less-than-significant level, it is recommended that the driveway be eliminated, or a gate installed at the exit only driveway on Seymour Street and the driveway converted to an emergency vehicle access (EVA) drive only. An additional driveway access point on South Main Street could be accommodated if desired.

The proposed parking supply of 148 spaces exceeds both the City of Half Moon Bay parking requirements and the estimated demand based on standard rates published by the Institute of Transportation Engineers *Parking Generation Manual*.

Introduction

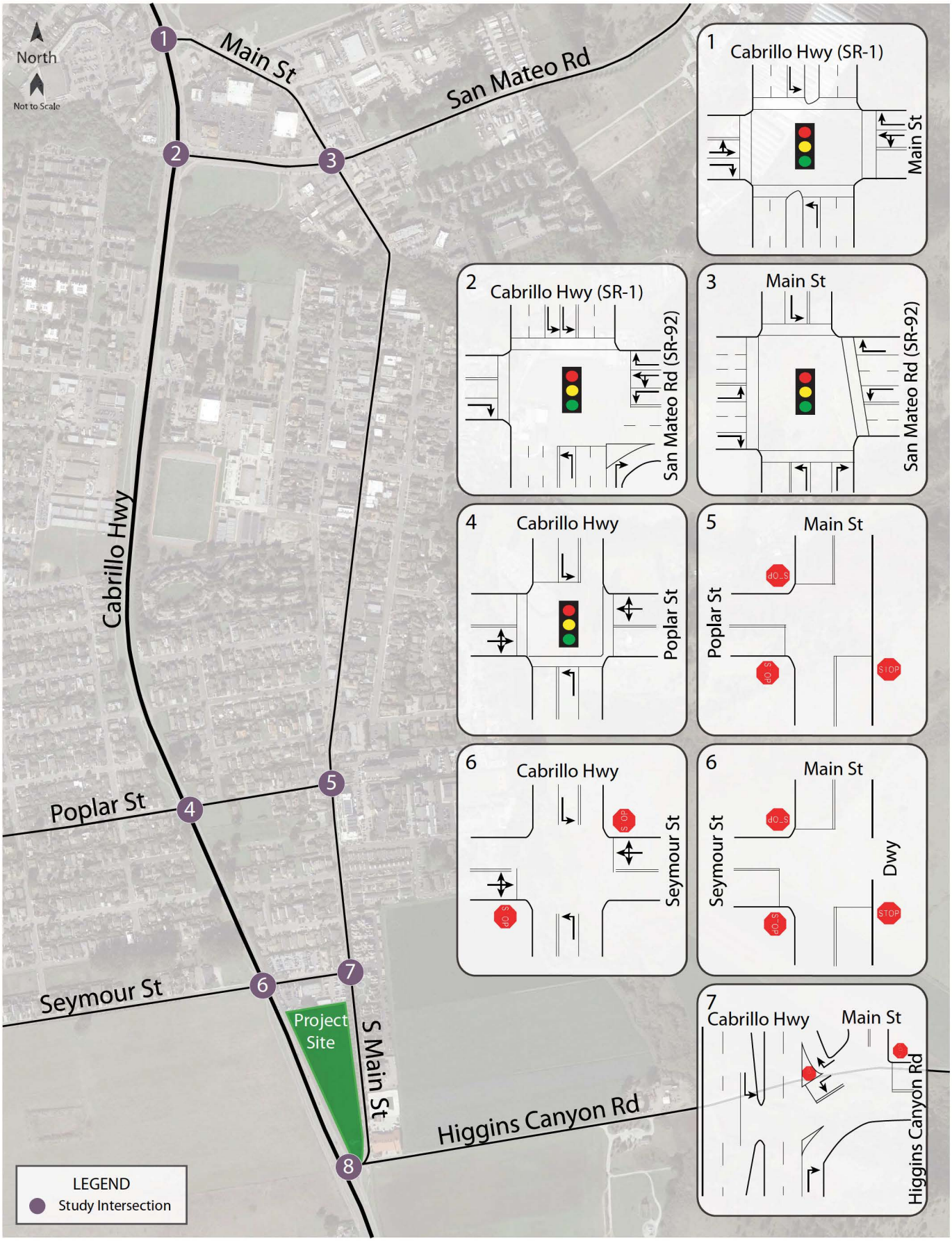
This report presents an analysis of the potential traffic impacts that would be associated with the proposed Hyatt Hotel project to be located at the northeast corner of State Route 1 and South Main Street in the City of Half Moon Bay. The traffic study was completed in accordance with the criteria established by the City of Half Moon Bay and County of San Mateo and is consistent with standard traffic engineering techniques.

Prelude

The purpose of a traffic impact study is to provide City staff and policy makers with data that they can use to make an informed decision regarding the potential traffic impacts of a proposed project, and any associated improvements that would be required in order to mitigate these impacts to a level of insignificance as defined by the City's General Plan or other policies. Vehicular traffic impacts are typically evaluated by determining the number of new trips that the proposed use would be expected to generate, distributing these trips to the surrounding street system based on existing travel patterns or anticipated travel patterns specific to the proposed project, then analyzing the impact the new traffic would be expected to have on critical intersections or roadway segments. Impacts relative to access for pedestrians, bicyclists, and to transit are also addressed.

Project Profile

The proposed project consists of construction a 129-room hotel on a vacant and undeveloped parcel. The project is located within the triangular area bounded by State Route 1, South Main Street and Seymour Street, as shown in Figure 1. The site plan is shown in Figure 2.



hmb003.ai 6/19

Traffic Impact Study for the Hyatt Place Hotel

Figure 1 – Study Area and Lane Configurations

W-Trans

North

Not to Scale

Source: Mason Architects 1/19

hmb003.ai 6/19

Traffic Impact Study for the Hyatt Place Hotel

Figure 2 – Site Plan

W-Trans

Transportation Setting

Operational Analysis

Study Area and Periods

A list of study intersections is provided below along with an indication as to whether the facility is included in the San Mateo County Congestion Management Program (CMP) network or not:

Intersections

1. State Route 1/North Main Street
2. State Route 1/State Route 92 (CMP)
3. Main Street/State Route 92 (CMP)
4. State Route 1/Poplar Street
5. Main Street/Poplar Street
6. State Route 1/Seymour Street
7. Main Street/Seymour Street
8. State Route 1/South Main Street

Roadway Segments:

1. State Route 1 from Linda Mar Boulevard to Frenchmans Creek Road (CMP)
2. State Route 1 from Frenchmans Creek Road to Miramontes Road (CMP)
3. State Route 92 from State Route 1 to I-280 (CMP)

Operating conditions during the weekday a.m. (7:00 – 9:00 a.m.), p.m. (4:00 – 6:00 p.m.) and Saturday midday (12:00 p.m. – 2:00 p.m.) peak periods were evaluated to capture the highest potential impacts for the proposed project as well as the highest volumes on the local transportation network. The morning peak (a.m. peak) hour reflects conditions during the home to work commute as well as the school morning drop-off period; the evening peak (p.m. peak) hour typically reflects the highest level of congestion during the homeward bound commute; and the Saturday midday peak represents the period of highest volumes occurring on a weekend attributable to recreational or leisure trips. Intersection counts are included in Appendix A. Conditions during the a.m., p.m. and Saturday midday peak hours were evaluated for the following scenarios:

1. **Existing Conditions**. Existing peak hour volume, lane geometry, and traffic control (e.g., signal timing, signal phasing, etc.)

2. **Existing plus Project Conditions**. Existing peak hour volumes plus net-new Project-generated trips estimated for the proposed hotel.

3. **Background Conditions.** (Existing + Near-Term Growth). Existing plus five years of traffic growth based on an interpolation between the base model and cumulative year model run using the growth projections from the Local Coastal Land Use Plan Update.

4. **Background plus Project Conditions.** (Existing + Near-Term Growth + Project). Background Condition volumes plus net-new Project-generated trips estimated for the proposed hotel.

5. **Cumulative Conditions**. Existing peak hour volumes plus anticipated forecasted growth for the year 2040 derived from the Local Coastal Land Use Plan Update.

6. **Cumulative plus Project Conditions**. Cumulative Year Condition volumes plus net-new Project-generated trips estimated for the proposed hotel.

Study Intersections

State Route 1 (SR-1)/North Main Street is a signalized intersection with protected left-turn phasing on all four approaches. Marked crosswalks and pedestrian signals are provided at each leg. This intersection is operated by the California Department of Transportation (Caltrans).

State Route 1 (SR-1)/State Route 92 (SR-92) is a signalized, four-legged intersection with protected left-turn phasing on all approaches. The intersection has a channelized right-turn lane on the south leg. Marked crosswalks and pedestrian signals are provided across the north and west legs only. This intersection is part of the County of San Mateo Congestion Management Program and is operated by Caltrans.

Main Street/State Route 92 (SR-92) is a signalized, four-legged intersection with protected left-turn phasing on all approaches. Marked crosswalks and pedestrian signals are provided across every approach. This intersection is part of the County of San Mateo Congestion Management Program and is operated by Caltrans.

State Route 1 (SR-1)/Poplar Street is a signalized, four-legged intersection with protected left-turn phasing on the northbound and southbound approaches and permissive left-turns for the Poplar Street approaches. Marked crosswalks and pedestrian signals are provided across the west, east and south legs only. This intersection is operated by the Caltrans.

Main Street/Poplar Street is an unsignalized all-way stop-controlled tee-intersection. Marked crosswalks are provided on the north and west legs.

State Route 1 (SR-1)/Seymour Street is a four-legged unsignalized side-street stop-controlled intersection. Marked crosswalks are not provided on any approach. This intersection is operated by the Caltrans.

Main Street/Seymour Street is an unsignalized all-way stop-controlled tee-intersection. Marked crosswalks are not provided on any approach.

State Route 1 (SR-1)/South Main Street/Higgins Canyon Road is an unsignalized, three-legged intersection. Marked crosswalks are not provided on any approach. This intersection is operated by the Caltrans.

The locations of the study intersections and the existing lane configurations and controls are shown in Figure 1.

Study Roadways

State Route 1 (SR-1) is a major north–south state highway that runs along most of the Pacific coastline of California. Through the project study area there are median left-turn lanes and one lane each for both the northbound and southbound directions. This portion of SR-1 is also known as the Cabrillo Highway. SR-1 facilitates major regional travel along California's coastline. The posted speed limit for SR-1 is 50 miles per hour (mph).

State Route 92 (SR-92) is a major east-west state highway that serves regional traffic between SR-1, I-280, the San Mateo Bridge and the City of Hayward. Within the study area, there is raised median with one or two through lanes in each direction.

Main Street is a north-south arterial roadway that primarily serves local City of Half Moon Bay traffic. This street has one travel lane in each direction with on-street parking. Adjacent land uses are mainly agricultural, public

facilities, commercial and residential. Main Street traverses the historic Main Street shopping district of Half Moon Bay. The posted speed limit is 25 mph.

Poplar Street is an east-west local street that provides access to the beach as well as local access for the residential areas surrounding SR-1 and Main Street. Poplar Street has one lane in each direction with residential land uses along both the north and south sides. The posted speed limit is 25 mph.

Seymour Street is an east-west local street that provides local access for the residential areas surrounding SR-1 and Main Street. Seymour Street has one lane in each direction. West of SR-1, Seymour Street has single family homes along the north side only. East of SR-1, the adjacent land uses are comprised mostly of commercial land uses. The posted speed limit is 25 mph.

Alternative Modes

Pedestrian Facilities

Pedestrian facilities in the study area include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians in the project vicinity, primarily along Main Street.

- **State Route 1 (SR-1**) – Pedestrian crosswalks are provided at the signalized intersections of SR-1 with SR-92, Kelly Avenue and Poplar Street. Sidewalks are not provided anywhere along SR-1 except at the intersections with SR-92 and Kelly Avenue. The intersection with Poplar Street has crosswalks but does not provide any conventional pedestrian amenities such as sidewalks or curb ramps.
- **State Route 92 (SR-92)** – Continuous sidewalk is provided along the north side of SR-92 between Main Street and SR-1, and along the south side of SR-92 for approximately 330 feet west of Main Street. Crosswalks are provided at the signalized intersections at SR-1 and Main Street.
- **Main Street** – Sidewalks are provided along both sides of Main Street with curb ramps and overhead lighting at intersections between SR-92 and Higgins Canyon Road. Crosswalks are also provided at the Main Street intersections with SR-92, Stone Pine Road, Mill Street, Kelly Street, Miramontes Street, and Correas Street. Between SR-1 and Seymour Street sidewalks are non-existent on the west side of Main Street, except for a 170-foot portion adjacent to the James Ford dealership parking lot.
- **Poplar Street** – Sidewalks are not provided along Poplar Street between SR-1 and Main Street. Pedestrians who wish to walk on Poplar Street either use the roadside shoulder or walk within the vehicle travel way.
- **Seymour Street** – Sidewalks are not provided along Seymour Street between SR-1 and Main Street. Pedestrians who wish to walk on Seymour Street either use the roadside shoulder or walk within the vehicle travel way.

Bicycle Facilities

The *Highway Design Manual*, California Department of Transportation (Caltrans), 2016, classifies bikeways into four categories:

- **Class I Multi-Use Path** – a completely separated right-of-way for the exclusive use of bicycles and pedestrians with cross flows of motorized traffic minimized.
- **Class II Bike Lane** – a striped and signed lane for one-way bike travel on a street or highway.
- **Class III Bike Route** – signing only for shared use with motor vehicles within the same travel lane on a street or highway.

- **Class IV Bikeway** – also known as a separated bikeway, a Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and the motor vehicle traffic lane. The separation may include, but is not limited to, grade separation, flexible posts, inflexible physical barriers, or on-street parking.

In the project area, bike facilities are provided as presented in Table 1, which shows a brief summary of the existing and planned bicycle facilities in the project vicinity, as contained in the *City of Half Moon Bay Bicycle & Pedestrian Master Plan*, 2019.

Table 1 – Bicycle Facility Summary

Status Facility	Class	Length (miles)	Begin Point	End Point
Existing				
California (Half Moon Bay) Coastal Trail	I	4.7	Seymour Bridge	Pillar Point Harbour Blvd
Naomi Patridge Trail	I	2.0	Purisima Way	Oak Ave
Pilarcitos Creek Trail	I	0.4	Oak Ave Park	State Route 92
State Route 1	I	1.2	Kelly Ave	Wavecrest Ave
Kelly Avenue Bike Lane	II	0.6	Balboa Blvd	State Route 1
Main Street Bike Lane	II	0.3	State Route 1	State Route 92
Miramontes Point Road Bike Lane	II	0.6	Coastal Trail	State Route 1
Kelly Avenue	III	0.3	State Route 1	Main St
Main Street	III	1.2	State Route 92	Higgins Canyon Rd
Mirada Road	III	0.3	Magellan Ave	Mirada Rd
Pilarcitos Avenue	III	0.3	Kelly Ave	Oak Ave
Planned				
State Route 1	I	6.0	Montara State Beach	Purisima Way
State Route 1	I	1.6	Wavecrest Rd	Dehoff Canyon Rd
State Route 92	I	1.0	Main Street	Eastern City Limit
Higgins Canyon Road	III	14.0	S. Main St	Purisima Creek Rd

Source: *City of Half Moon Bay Bicycle & Pedestrian Master Plan*, Alta Planning & Design, 2019

Transit Facilities

SamTrans provides multiple fixed route bus service in the City of Half Moon Bay. Routes 17 and 294 operates daily and Route 18 operates only on school days. All three routes have stops in Half Moon Bay primarily along SR-1 and Main Street.

Route 17 operates daily between Linda Mar Park & Ride in Pacifica and Miramontes Point Road along SR-1 in Half Moon Bay, with limited service to the town of Pescadero. Service is provided from 5:30 a.m. to 9:00 p.m. on weekdays and 5:00 a.m. to 8:00 p.m. on weekends. On weekdays, headways are around 1 hour, and on weekends, approximately 2 hours.

Route 18 operates on school days only and provides service between the town of Montara and the Moonridge Apartments in Half Moon Bay via SR-1 and Main Street. During the mornings, the northbound service departs

from the Moonridge Apartments at 7:27 a.m. and 8:22 a.m. while the southbound service departs from Montara at 7:09 a.m., 7:39 a.m., 8:04 a.m. and 8:43 a.m. In the afternoons, the northbound service departs at 3:48 p.m. and 4:19 p.m. while the southbound service departs at 3:28 p.m. and 3:58 p.m.

Route 294 operates daily from approximately 5:00 a.m. to 9:00 p.m. with headways ranging from 1 to 2 hours. Route 294 connects Half Moon Bay with the San Mateo Medical Center with stops along Main Street and SR-92.

Two bicycles can be carried on most SamTrans buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on SamTrans buses at the discretion of the driver.

SamTrans also provides a door-to-door service for those who are unable to independently use the transit system due to a physical or mental disability. The SamTrans Paratransit service is designed to serve the needs of individuals with disabilities within San Mateo County.

On-Demand Transportation Services

On-demand private taxi services are available in Half Moon Bay 24 hours a day. Taxis can be used for trips within the local Planning Area and farther destinations, including nearby airports. Other ride-hailing applications are also available in Half Moon Bay and provide transportation throughout the Bay Area.

Capacity Analysis

Intersection Level of Service Methodologies

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, Level of Service A represents free flow conditions and Level of Service F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation.

In accordance with the City of Half Moon Bay evaluation standards the study intersections were analyzed using methodologies published in the *Highway Capacity Manual* (HCM), Transportation Research Board, 2000 using the Synchro analysis software. This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle.

The Levels of Service for the intersections with side-street stop controls, or those which are unsignalized and have one or two approaches stop controlled, were analyzed using the "Two-Way Stop-Controlled" intersection capacity method from the HCM. This methodology determines a level of service for each minor turning movement by estimating the level of average delay in seconds per vehicle. Results are presented for individual movements together with the weighted overall average delay for the intersection.

The study intersections with stop signs on all approaches were analyzed using the "All-Way Stop-Controlled" Intersection methodology from the HCM. This methodology evaluates delay for each approach based on turning movements, opposing and conflicting traffic volumes, and the number of lanes. Average vehicle delay is computed for the intersection as a whole and then related to a Level of Service.

The study intersections that are currently controlled by a traffic signal, or may be in the future, were evaluated using the signalized methodology from the HCM. This methodology is based on factors including traffic volumes, green time for each movement, phasing, whether or not the signals are coordinated, truck traffic, and pedestrian activity. Average stopped delay per vehicle in seconds is used as the basis for evaluation in this LOS methodology. For purposes of this study, delays were calculated using signal timing provided by the City of Half Moon Bay Staff.

The ranges of delay associated with the various levels of service are indicated in Table 2.

Table 2 – Intersection Level of Service Criteria			
LOS	**Two-Way Stop-Controlled**	**All-Way Stop-Controlled**	**Signalized**
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Upon stopping, drivers are immediately able to proceed.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 15 seconds. Drivers may wait for one or two vehicles to clear the intersection before proceeding from a stop.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 15 to 25 seconds. Drivers will enter a queue of one or two vehicles on the same approach and wait for vehicle to clear from one or more approaches prior to entering the intersection.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 25 to 35 seconds. Queues of more than two vehicles are encountered on one or more approaches.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 35 to 50 seconds. Longer queues are encountered on more than one approach to the intersection.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 50 seconds. Drivers enter long queues on all approaches.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

Reference: *Highway Capacity Manual,* Transportation Research Board, 2000

Roadway Segment Analysis

Freeway operations were evaluated using methods adopted by the City/County Association of Governments of San Mateo County (C/CAG) which uses the 2000 HCM volume-to-capacity (V/C) ratio methodology. For two-lane highways, the selected methodology, based on V/C ratios, accounts for the volume in both directions. The total volume is divided by the total bi-directional capacity of 2,800 vehicles per hour to establish the v/c ratio. The LOS criteria for multilane highways are based on calculating V/C ratios for each direction of travel. The capacity is estimated as the number of lanes multiplied by 2,200 vehicles per lane per hour. SR-92 between Main Street and I-280 is considered a two-lane highway with an 80 percent No-Passing Zone. The free-flow speed for SR-1 is 50 mph. The level of service descriptions and the maximum volume-to-capacity ratios for two-Lane and multilane highways are presented in Table 3.

Table 3 – Roadway Level of Service Criteria			
LOS	**Description**	**Two Lane Highways (for Rolling Terrain with 80% No-Passing Zone)**	**Multilane Highways (for 50 mph Free-Flow Speed)**
A	Free flow operations with average operating speeds at, or above, the speed limit. Vehicles are unimpeded in their ability to maneuver.	0.04	0.30
B	Free flow operations with average operating speeds at the speed limit. Ability to maneuver is slightly restricted. Minor incidents cause some local deterioration in operations.	0.15	0.50
C	Stable operations with average operating speeds near the speed limit. Freedom to maneuver is noticeably restricted. Minor incidents cause substantial local deterioration in service.	0.30	0.70
D	Speeds begin to decline slightly with increasing flows. Freedom to maneuver is more noticeably restricted. Minor incidents create queuing.	0.46	0.84
E	Operations at capacity. Vehicle spacing causes little room to maneuver but speeds exceed 50 miles per hour (mph). Any disruption to the traffic stream can cause a wave of delay that propagates throughout the upstream traffic flow. Minor incidents cause serious breakdown of service with extensive queuing. Maneuverability is extremely limited.	0.90	1.00
F	Operations with breakdowns in vehicle flow. Volumes exceed capacity causing bottlenecks and queue formation.	Greater than 0.90	Greater than 1.00

Reference: *C/CAG Congestion Management Plan, 2017*

Regulatory Context

This section describes federal, State, regional, and local environmental laws and policies that are relevant to the California Environmental Quality Act (CEQA) review process for transportation and circulation. These policies provide a context for the impact discussion related to the proposed Plan's consistency with the applicable regulatory conditions.

Federal Regulations

Americans with Disabilities Act

The Americans with Disabilities Act (ADA) of 1990 provides comprehensive rights and protections to individuals with disabilities. The goal of the ADA is to assure equality of opportunity, full participation, independent living, and economic self-sufficiency for people with disabilities. To implement this goal, the US Access Board, an independent Federal agency created in 1973 to ensure accessibility for people with disabilities, has created accessibility guidelines for public rights-of-way. While these guidelines have not been formally adopted, they have been widely followed by jurisdictions and agencies nationwide in the last decade. These guidelines, last revised in July 2011, address various issues, including roadway design practices, slope and terrain issues, and

pedestrian access to streets, sidewalks, curb ramps, street furnishings, pedestrian signals, parking, public transit, and other components of public rights-of-way. These guidelines would apply to proposed roadways in the study area.

State Regulations

California Department of Transportation

The California Department of Transportation (Caltrans) is the primary State agency responsible for transportation issues. One of its duties is the construction and maintenance of the State highway system. Caltrans approves the planning, design, and construction of improvements for all State-controlled facilities including State Route (SR) 1, SR-92, and the associated interchanges for these facilities in the study area. Caltrans has established standards for roadway traffic flow and developed procedures to determine if State-controlled facilities require improvements. For projects that may physically affect facilities under its administration, Caltrans requires encroachment permits before any construction work may be undertaken. For projects that would not physically affect facilities but may influence traffic flow and levels of service at such facilities, Caltrans may recommend measures to mitigate the traffic impacts of such projects.

The following Caltrans procedures and directives are relevant to the proposed Plan, particularly to State roadway facilities:

- **Level of Service Target**. Caltrans maintains a minimum level of service (LOS) at the transition between LOS C and LOS D for all its facilities. Where an existing facility is operating at less than the LOS C/D threshold, the existing measure of effectiveness should be maintained.
- **Caltrans Project Development Procedures Manual**. This manual outlines pertinent statutory requirements, planning policies, and implementing procedures regarding transportation facilities. It is continually and incrementally updated to reflect changes in policy and procedures. For example, the most recent revision incorporates the Complete Streets policy from Deputy Directive 64-R1, which is detailed below.
- **Caltrans Deputy Directive 64**. This directive requires Caltrans to consider the needs of non-motorized travelers, including pedestrians, bicyclists, and persons with disabilities, in all programming, planning, maintenance, construction, operations, and project development activities and products. This includes incorporation of the best available standards in all of Caltrans' practices.
- **Caltrans Deputy Directive 64-RI**. This directive requires Caltrans to provide for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the State highway system. Caltrans supports bicycle, pedestrian, and transit travel with a focus on "complete streets" that begins early in system planning and continues through project construction and maintenance and operations.
- **Caltrans Director's Policy 22**. This policy establishes support for balancing transportation needs with community goals. Caltrans seeks to involve and integrate community goals in the planning, design, construction, and maintenance and operations processes, including accommodating the needs of bicyclists and pedestrians.

California Senate Bill 743

Senate Bill (SB) 743 (Steinberg 2013) adds Public Resources Code Section 21099 to CEQA and changes the way that transportation impacts are analyzed under CEQA to better align local environmental review with statewide objectives to reduce greenhouse gas (GHG) emissions, encourage infill mixed-use development in designated priority development areas, reduce regional sprawl development, and reduce vehicle miles traveled (VMT) in California. SB 743 supports and complements the following:

- Assembly Bill 32 (AB 32), which requires statewide greenhouse gas reductions to 1990 levels by 2020, and continued reductions beyond 2020.

- SB 375 and California Air Resources Board established greenhouse gas reduction targets for metropolitan planning organizations to achieve in Regional Transportation Plans and Sustainable Community Strategies. Targets for the largest metropolitan planning organizations range from 13 percent to 16 percent reduction by 2035.
- SB 391 requires the California Transportation Plan to support an 80 percent reduction in GHGs below 1990 levels by 2050.
- Executive Order B-30-15, which sets a GHG emissions reduction target of 40 percent below 1990 levels by 2030, Executive Order S-3-05, which sets a GHG emissions reduction target of 80 percent below 1990 levels by 2050, and Executive Order B-16-12, which specifies a GHG emissions reduction target of 80 percent below 1990 levels by 2050 specifically for transportation.

In January 2019, the Natural Resources Agency finalized updates to the CEQA Guidelines including the incorporation of SB 743 modifications. These provisions will be effective beginning on July 1, 2020 and shall be applied to all qualifying development projects statewide. Additionally, the California Governor's Office of Planning and Research (OPR) in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, 2018, provides guidance recommended criteria to evaluate Vehicle Miles Traveled.

Regional Regulations

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county Bay Area, including San Mateo County. It also functions as the federally-mandated metropolitan planning organization (MPO) for the region. It is responsible for regularly updating the Regional Transportation Plan (RTP), a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities.

City/County Association of Governments of San Mateo County (C/CAG)

The City/County Association of Governments of San Mateo County (C/CAG) is a regional planning agency involved with various public services, including transportation. In this role, the CMA makes decisions on what local projects can utilize federal and State funding. The CMA prepares, adopts and updates the County's CMP, last updated in January 2018.

Bay Area Air Quality Management District

The Bay Area Air Quality Management District (BAAQMD) is the public agency tasked with regulating air pollution in the nine-county Bay Area, including San Mateo County. As a primary source of air pollution in the Bay Area region is from motor vehicles, air district regulations affect transportation planning in the Project Study Area. The BAAQMD's goals include reducing health disparities due to air pollution, achieving and maintaining air quality standards, and implementing exemplary regulatory programs and compliance with federal, State, and regional regulations.

Metropolitan Transportation Commission

The Metropolitan Transportation Commission (MTC) is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area. The MTC functions as both the State-mandated regional transportation planning agency and the federally-mandated metropolitan planning organization (MPO) for the region. As such, it is responsible for regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of transportation facilities within the region. The Commission also screens requests from local agencies for State and federal grants for transportation projects to determine their compatibility with the Plan.

Local Regulations

Half Moon Bay General Plan

The City of Half Moon Bay's General Plan Circulation Element (adopted November 2013) provides a framework for development within the City. Policies and strategies that are pertinent to the transportation analysis for the proposed project are summarized below:

Policy 2-1: Provide acceptable Levels of Service by improving the road network and incorporating adopted traffic improvements. The City will support Level-of-Service (LOS) C as the desired Level-of-Service on Highway 1 and SR-92, except during the peak commuting and recreational periods when LOS E will be considered the minimum acceptable standard.

Policy 2-2: To the maximum extent practicable, limit future access along Highway 1 and SR-92 to signalized intersections located in accordance with adopted traffic improvements exercising flexibility to reflect changes in conditions and mobility needs over time. Access to existing properties will be modified and consolidated at these designated locations when possible. Additional signalization of the existing intersections along Highway 1 will be considered if warranted and necessary to provide safe and convenient access to and egress from established residential neighborhoods and commercial districts.

Policy 3-2: Promote the development of projects that incorporate all modes of transportation, accommodate all mode users and facilitate balanced mode share use within the context of the community and the roadway facility purpose.

Policy 4-2: Maximize pedestrian and bicycle safety, accessibility, connectivity, and education throughout Half Moon Bay to create neighborhoods where people choose to walk or ride between nearby destinations.

Policy 4-6: Require new developments to dedicate land as necessary to accommodate pedestrian infrastructure, including sidewalks as required by the adopted City Roadway Cross Sections.

Policy 4-8: Encourage pedestrian links between existing and future residential and commercial development.

Policy 7-1: Explore and support TDM programs that reduce the reliance of Half Moon Bay residents and visitors on use of the private automobile.

Traffic Operation Standards

Signalized Intersections

The City of Half Moon Bay has established criteria to determine the level of significance of traffic impacts based on standards set by the City's *General Plan Circulation Element*, *County of San Mateo Traffic Impact Study Requirements (2013)*, and the San *Mateo County Congestion Management Program (CMP), Appendix L: Traffic Impact Analysis Policy*.

For intersections in the CMP network, a project is considered to have an adverse impact if it causes one or more of the following:

1. For a CMP Intersection currently in compliance with the adopted LOS standard:
   a. A project will be considered to have an adverse impact if the project will cause the CMP intersection to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP).
   b. A project will be considered to have an adverse impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand will result in the CMP

intersection to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP) *and* the proposed project increases the average control delay at the intersection by four seconds or more.

c. For a CMP Intersection currently not in compliance with the adopted LOS standard, a project is considered to have an adverse impact if the project will add any additional traffic to the CMP intersection that is currently not in compliance with its adopted level of service standard as established in the CMP.

The City's policy has established that LOS C is the desired level of service on SR-1 and SR-92, except during the peak two-hour commuting period and the peak recreational hour when LOS E is considered the minimum acceptable standard.

For local intersections, not on the CMP network, a traffic impact is considered to be adverse if the addition of project-generated traffic causes operation of an intersection along either SR-1 or SR-92 to deteriorate from an acceptable level of service (LOS E or better) to LOS F or increases the average control delay at the intersection by four seconds or more if the intersection was operating at LOS F without project-generated traffic added.

Unsignalized Intersections

The City of Half Moon Bay does not have a formally adopted minimum threshold for unsignalized intersections. For the purposes of this report, a traffic impact is considered to be adverse if all three of these conditions are met at an unsignalized intersection:

1. The addition of project-generated traffic causes operation of an unsignalized intersection to deteriorate from an acceptable level of service (LOS E or better) to LOS F;
2. The peak hour traffic warrant as defined in the *California Manual on Uniform Traffic Control Devices* (CA-MUTCD), is satisfied; and
3. The project-generated traffic adds a minimum of ten vehicles to the critical movement (typically side street turning movements or mainline turning movements).

Roadway Segments

For freeway segments currently in compliance with the adopted LOS standard:

1. A project is considered to have an adverse impact if the project will cause the freeway segment to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP).
2. A project will be considered to have an adverse impact if the cumulative analysis indicates that the combination of the proposed project and future cumulative traffic demand will result in the freeway segment to operate at a level of service that violates the standard adopted in the current Congestion Management Program (CMP) and the proposed project increases traffic demand on the freeway segment by an amount equal to one percent or more of the segment capacity, or causes the freeway segment volume-to-capacity (v/c) ratio to increase by one percent.

For freeway segments currently not in compliance with the adopted LOS standard:

1. A project is considered to have an adverse impact if the project will add traffic demand equal to one percent or more of the segment capacity or causes the freeway segment volume-to-capacity (v/c) ratio to increase by one percent if the freeway segment is currently not in compliance with the adopted LOS standard.

Existing Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing traffic volumes during the weekday a.m. and p.m. peak periods as well as weekend midday peak period. This condition does not

include project-generated traffic volumes. Traffic volume data representative of the typical weekday was collected on May 8, 2019, while local schools were in session. Since there are typically special events of varying sizes occurring every Saturday, counts for this period were conducted over two Saturdays (May 11, 2019 and June 1, 2019) and the larger of the two were applied in the analysis. These counts represent typical conditions as they were conducted on days with clear weather and reflect local, regional and visitor travel activity.

Intersection Levels of Service

Under existing conditions, all study intersections currently operate at acceptable levels of service during the weekday a.m., p.m., and weekend midday peak hours. This includes intersections operating at LOS E, which is considered the minimum acceptable standard during the peak two-hour commuting period and peak recreational hour. The existing traffic volumes are shown in Figure 3. A summary of the intersection level of service calculations is provided in Table 4, and a copy of the Level of Service calculations is provided in Appendix B.

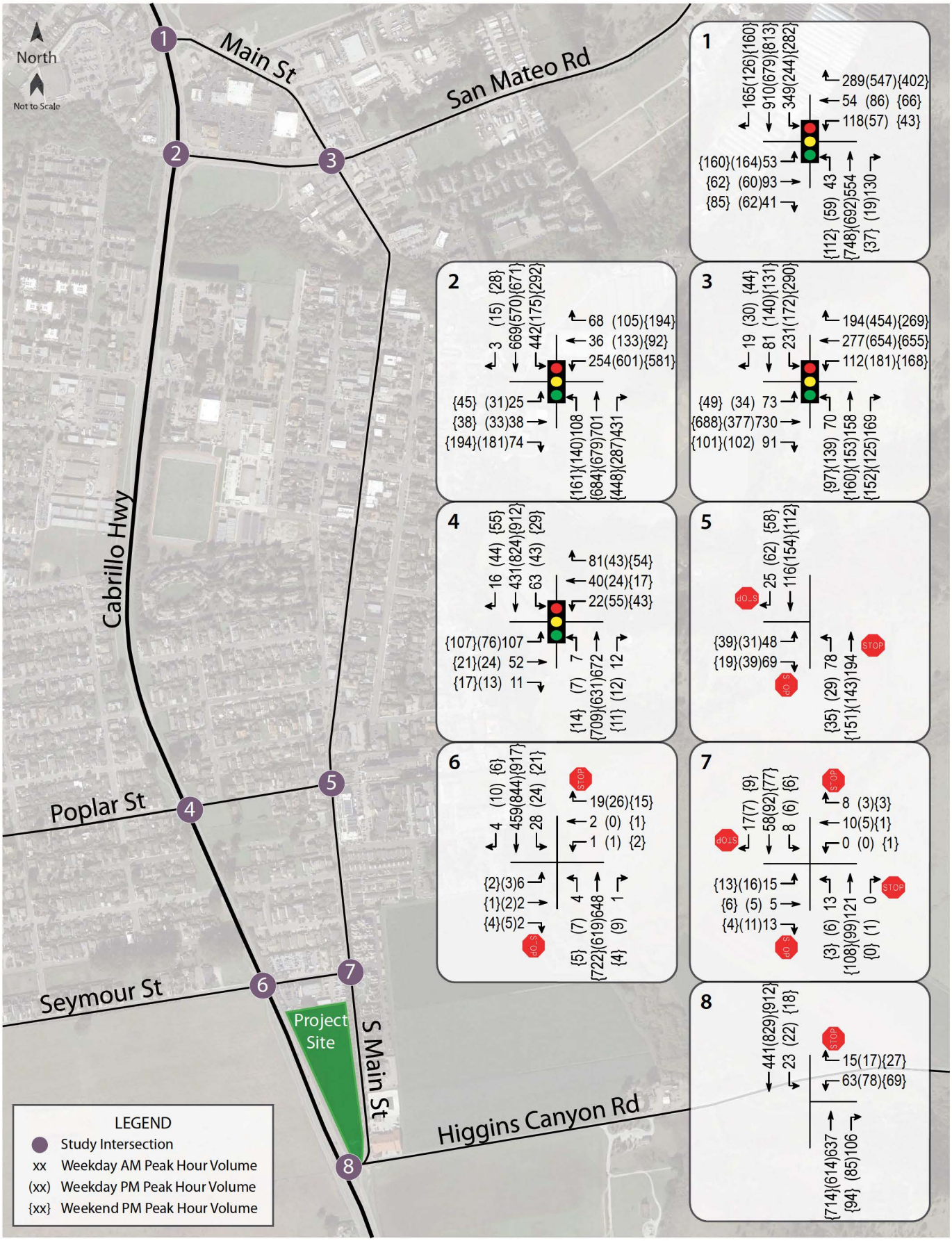
Table 4 – Existing Peak Hour Intersection Levels of Service

Study Intersection *Approach*	AM Peak		PM Peak		Weekend Peak	
	Delay	LOS	Delay	LOS	Delay	LOS
1. SR-1/N. Main St	37.1	D	39.4	D	43.4	D
2. SR-1/SR-92 (CMP)	41.8	D	37.4	D	31.2	C
3. Main St/SR-92 (CMP)	40.5	D	35.8	D	31.8	C
4. SR-1/Poplar St	31.4	C	20.1	C	22.5	C
5. Main St/Poplar St	4.3	A	2.2	A	2.3	A
6. SR-1/Seymour St	0.8	A	0.6	A	0.5	A
Eastbound (Seymour St) Approach	*27.1*	*D*	*33.6*	*D*	*39.1*	*E*
7. Main St/Seymour St	7.9	A	7.8	A	7.7	A
8. SR-1/S. Main St	1.5	A	1.9	A	2.0	A
Westbound (S. Main St) Approach	*21.7*	*C*	*31.1*	*D*	*36.8*	*E*

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Roadway Segments

Under Existing Conditions, all roadway segments currently operate within the acceptable LOS standard during all three peak hours evaluated. A summary of roadway segment LOS is provided in Table 5.



hmb003.ai 6/19

Traffic Impact Study for the Hyatt Place Hotel

Figure 3 – Existing Traffic Volumes

Table 5 – Existing Roadway Segment Analysis Summary

Study Segment	Peak Hour	Direction	Capacity (vph)	Existing Condition		
				Volume	V/C	LOS
A. SR-1 from Frenchmans Creek Rd to Grand Blvd	AM	NB	2,200	896	0.407	B
		SB	2,200	1,424	0.647	C
	PM	NB	2,200	1,403	0.638	C
		SB	2,200	1,049	0.477	B
	WKD	NB	2,200	1,310	0.595	C
		SB	2,200	1,255	0.570	C
B. SR-1 from Grand Blvd to N. Main St	AM	NB	4,400	896	0.204	A
		SB	4,400	1,424	0.324	B
	PM	NB	4,400	1,403	0.319	B
		SB	4,400	1,049	0.238	A
	WKD	NB	4,400	1,310	0.298	A
		SB	4,400	1,255	0.285	A
C. SR-1 from N. Main St to SR-92	AM	NB	4,400	794	0.180	A
		SB	4,400	1,114	0.253	A
	PM	NB	4,400	815	0.185	A
		SB	4,400	760	0.173	A
	WKD	NB	4,400	923	0.210	A
		SB	4,400	991	0.225	A
D. SR-1 from SR-92 to Kelly Ave	AM	NB	4,400	1,240	0.282	A
		SB	4,400	997	0.227	A
	PM	NB	4,400	1,106	0.251	A
		SB	4,400	1,352	0.307	B
	WKD	NB	4,400	1,293	0.294	A
		SB	4,400	1,446	0.329	B
E. SR-1 from Kelly Ave to Poplar St	AM	NB	2,200	860	0.391	B
		SB	2,200	510	0.232	A
	PM	NB	2,200	750	0.341	B
		SB	2,200	911	0.414	B
	WKD	NB	2,200	870	0.395	B
		SB	2,200	996	0.453	B
F. SR-1 from Poplar St to Seymour St	AM	NB	2,200	673	0.306	B
		SB	2,200	491	0.223	A
	PM	NB	2,200	648	0.295	A
		SB	2,200	878	0.399	B
	WKD	NB	2,200	739	0.336	B

Table 5 – Existing Roadway Segment Analysis Summary						
Study Segment	**Peak Hour**	**Direction**	**Capacity (vph)**	**Existing Condition**		
				Volume	**V/C**	**LOS**
		SB	2,200	944	0.429	B
G. SR-1 from Seymour St to S. Main St	AM	NB	4,400	653	0.148	A
		SB	4,400	462	0.105	A
	PM	NB	4,400	635	0.144	A
		SB	4,400	850	0.193	A
	WKD	NB	4,400	731	0.166	A
		SB	4,400	923	0.210	A
H. SR-1 from S. Main St to Miramontes Point Rd	AM	NB	4,400	743	0.169	A
		SB	4,400	504	0.115	A
	PM	NB	4,400	699	0.159	A
		SB	4,400	907	0.206	A
	WKD	NB	4,400	808	0.184	A
		SB	4,400	981	0.223	A
I. SR-92 from SR-1 to Main St	AM	EB + WB	2,800	1,260	0.450	D
	PM	EB + WB	2,800	1,336	0.477	E
	WKD	EB + WB	2,800	1,634	0.584	E
J. SR-92 from Main St to I-280	AM	EB + WB	2,800	1,713	0.612	E
	PM	EB + WB	2,800	1,963	0.701	E
	WKD	EB +WB	2,800	2,222	0.794	E

Notes: SR-1 segments are assumed to be a "Level Multi-lane Highway" with 50-mph average speed. SR-92 segments are assumed to be a "Two-Lane Highway" with Rolling Hills and a 40-mph average speed.

Background Conditions

The background condition includes existing condition traffic plus the forecasted traffic demand due to local and regional growth for the near-term condition, defined to occur by the year 2024 (or existing condition plus five years).

Recent a.m. and p.m. peak hour traffic demand forecasts from the San Mateo County (C/CAG-VTA) Travel Demand Model produced for the Local Coastal Land Use Plan update were reviewed for changes in traffic demand along roadway segments within the study area. The year 2018 and 2040 growth forecasts (roadway segment link volumes) were used to derive an annual growth rate of 0.93-percent for the a.m. and 1.19-percent for the p.m. peak hours. Since a separate version of the San Mateo County Travel Demand Model for the weekend peak hour is not available, the p.m. peak hour growth rate was also used for the weekend peak hour as a reasonable substitute. These growth rates were applied to existing traffic volumes for the weekday a.m., p.m., and weekend peak hours to forecast the Background Condition future traffic demand. In general, changes in future traffic demands are reflected in these growth rates as they are derived from the county travel demand model that incorporates land use and future development assumptions across the region. Model forecast output sheets for the study area are included in Appendix C.

The City of Half Moon Bay is planning a capital improvement project which would enhance the safety and operations along SR-1 in the vicinity of the project. The improvements would be comprised of the signalization of the intersection of SR-1/South Main Street (including the addition of protected pedestrian crossings) and widening SR-1 from two to four lanes. These improvements are assumed to be completed by the year 2024 and as such are reflected in the background condition intersection analysis. Geometrics and controls at all remaining study intersections are assumed to be the same under background conditions as under the existing conditions.

Under the anticipated background conditions, all study intersections would be expected to continue operating at acceptable levels of service during the a.m., p.m., and weekend peak hours. These results are summarized in Table 6 and background condition traffic volumes are shown in Figure 4.

Table 6 – Background Peak Hour Intersection Levels of Service

Study Intersection *Approach*	AM Peak		PM Peak		Weekend Peak	
	Delay	LOS	Delay	LOS	Delay	LOS
1. SR-1/N. Main St	37.1	D	39.7	D	41.7	D
2. SR-1/SR-92 (CMP)	42.2	D	37.5	D	33.8	C
3. Main St/SR-92 (CMP)	40.9	D	36.1	D	36.6	D
4. SR-1/Poplar St	42.5	D	21.2	C	25.6	C
5. Main St/Poplar St	4.0	A	2.2	A	2.3	A
6. SR-1/Seymour St	0.9	A	0.8	A	0.7	A
Eastbound (Seymour St) Approach	*27.2*	*D*	*37.3*	*E*	*43.6*	*E*
7. Main St/Seymour St	7.7	A	7.7	A	7.7	A
8. SR-1/S. Main St	6.6	A	5.7	A	5.0	A

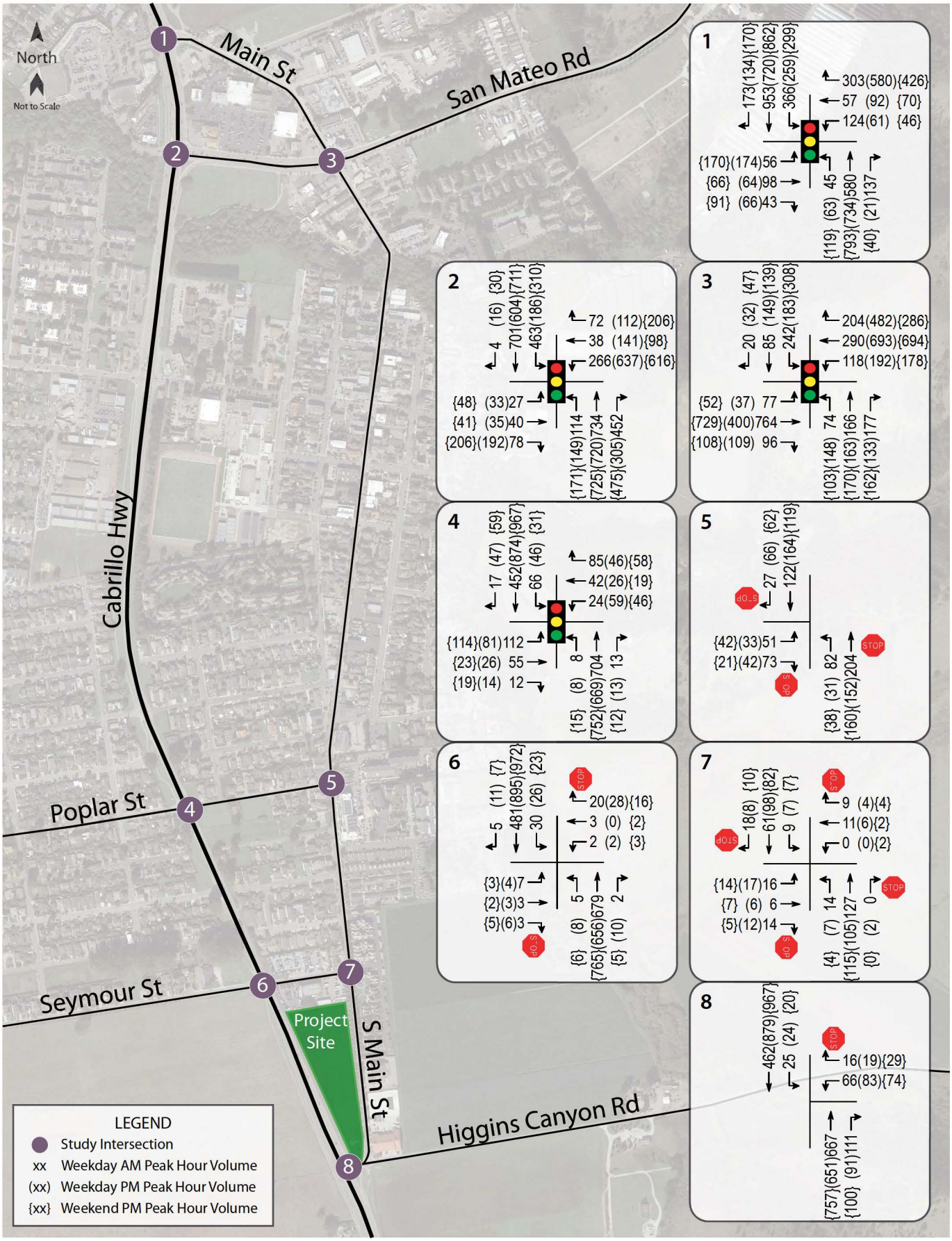
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Cumulative Conditions

The cumulative condition is comprised of existing condition traffic plus the forecasted traffic demand due to local and regional growth for the long-term condition defined to occur by the year 2040 (or existing condition plus 21 years). Determination of the cumulative condition traffic demand volumes used the same annual growth rates to forecast the background condition volumes. Additionally, anticipated vehicle trips associated with key development projects along the coastal regional were added to the forecasted traffic volumes. A brief description of the development projects where trips were added is provided below:

- The Dunes at Half Moon Bay (212-Room Hotel, 15,060 square feet conference center, 177 RV parking spaces, 10 cabins and a retail store in Half Moon Bay)
- Cypress Point Affordable Housing Community Project (71 affordable housing units in Moss Beach)
- Harbor View Inn 15-room Expansion (51 Alhambra Avenue in El Granada)
- Main Street, Montara 3-story 22-room hotel (1390 Main Street in Montara)
- Harbor Village RV Park (50 space RV and 7 tent cabins at Capistrano/Hwy 1 in Princeton)

All study intersections are assumed to have the same geometry under cumulative conditions as under the background conditions. Under the anticipated cumulative condition volumes, the study intersections are expected to operate within acceptable service levels, except for the following locations and periods:



hmb003.ai 6/19

Traffic Impact Study for the Hyatt Place Hotel

Figure 4 – Background Traffic Volumes

- SR-1/North Main Street would operate at LOS F during the weekend peak hour.
- SR-1/Seymour Street would operate acceptably with an overall LOS A during the p.m. peak hour and weekend peak hour, but with an LOS F at the eastbound (Seymour Street) approach for both peak hours.

Cumulative volumes are shown in Figure 5 and operating conditions are summarized in Table 7.

Table 7 – Cumulative Peak Hour Intersection Levels of Service

Study Intersection *Approach*	AM Peak		PM Peak		Weekend Peak	
	Delay	LOS	Delay	LOS	Delay	LOS
1. SR-1/N. Main St	37.2	D	50.3	D	**84.4**	**F**
2. SR-1/SR-92 (CMP)	42.0	D	40.6	D	39.7	D
3. Main St/SR-92 (CMP)	40.9	D	38.9	D	41.6	D
4. SR-1/Poplar St	42.0	D	26.2	C	34.0	C
5. Main St/Poplar St	3.9	A	2.4	A	2.4	A
6. SR-1/Seymour St	1.1	A	1.0	A	1.0	A
Eastbound (Seymour St) Approach	*29.4*	*D*	***59.1***	***F***	***77.2***	***F***
7. Main St/Seymour St	7.8	A	7.9	A	7.8	A
8. SR-1/S. Main St	9.1	A	7.4	A	6.0	A

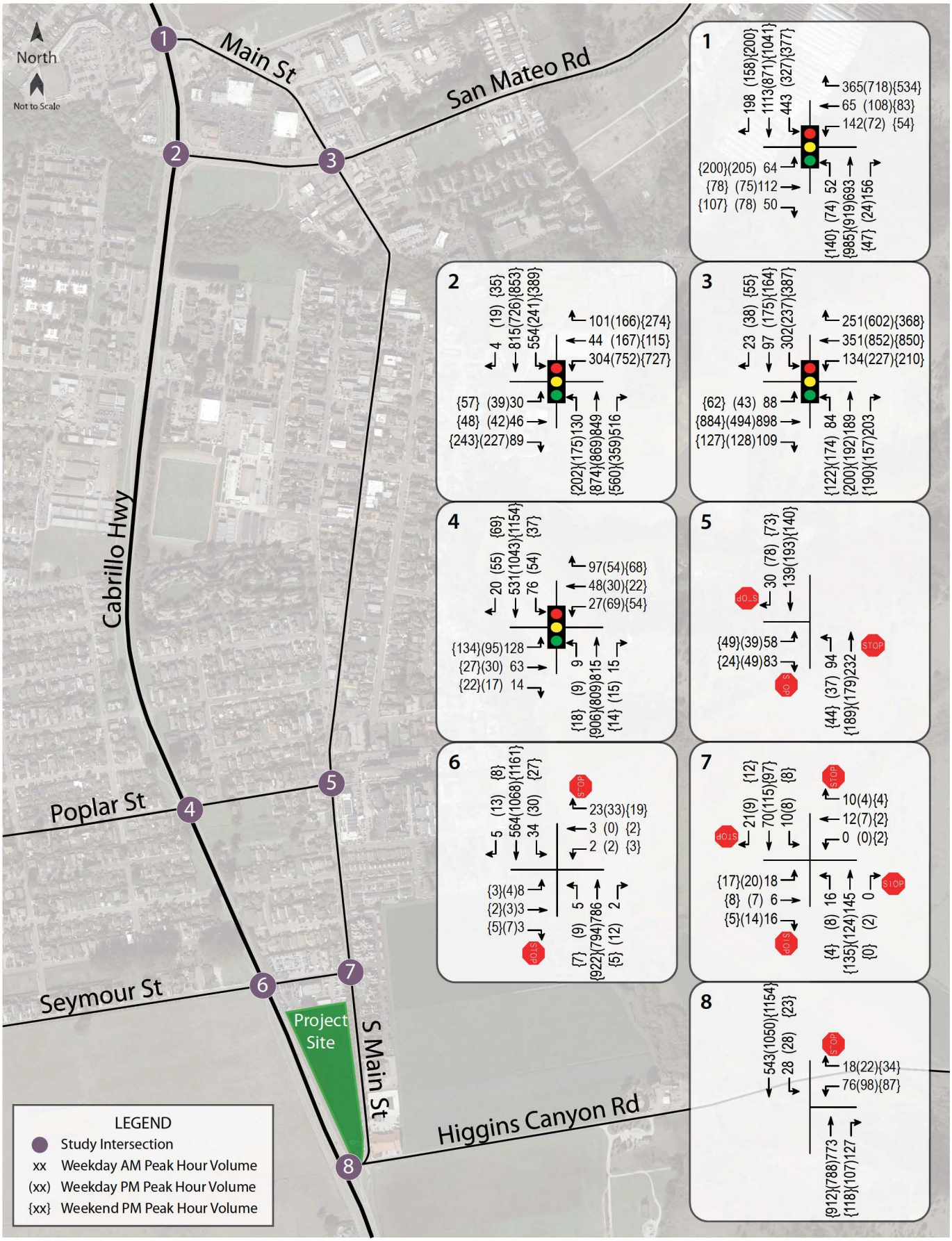
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; **Bold** text = deficient operation; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Project Description

The proposed 129-room hotel would be located on the triangular shaped parcel roughly bounded by SR-1, South Main Street and Seymour Street in Half Moon Bay. The hotel would include 148 parking spaces and 90,784 square feet of hotel land use. The project also includes a Class I Bike Path and a series of adjacent pedestrian walking paths to be constructed within the open space between SR-1 and the main hotel building. The site is currently vacant and undeveloped. The proposed project site plan is shown in Figure 2.

Trip Generation

The project applicant intends to hire staff comprised mostly of Half Moon Bay residents. Doing so would potentially reduce the trip generation estimates as a portion of the staff would be able to walk or ride a bicycle to and from the hotel. Since the applicant cannot ensure that only Half Moon Bay residents would be hired, and to provide a conservative approach, the standard trip generation rates were applied with no trip reduction factor for employees within walking or biking distance.



hmb003.ai 6/19

Traffic Impact Study for the Hyatt Place Hotel

Figure 5 – Cumulative (2040) Traffic Volumes

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 10th Edition, 2017 for "All Suites Hotel" (ITE LU #311)[1]. The *Trip Generation Manual* does not specify a standard rate for "All Suites Hotel" during the weekend peak hour. Thus, the more conservative standard rate for "Hotel" (ITE LU #310) was used instead to estimate the trip potential for the weekend peak hour. The site is currently undeveloped and therefore not generating any trips. The project is not anticipated to generate any internal capture trip, pass-by trip credits or trip reductions resulting from nearby land use or transportation options.

The resulting expected trip generation potential for the proposed project is indicated in Table 8. The proposed project is expected to generate an average of 575 trips per day, including 44 trips during the a.m. peak hour, 46 during the p.m. peak hour and 93 during the weekend peak hour; these new trips represent the increase in traffic associated with the project.

Table 8 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour[1]				PM Peak Hour[1]				Weekend Peak Hour[2]			
	Rooms	Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out	Rate	Trips	In	Out
Proposed															
All Suites Hotel	129	4.46	575	0.34	44	23	21	0.36	46	22	24	0.72	93	52	41
Total			**575**		**44**	**23**	**21**		**46**	**22**	**24**		**93**	**52**	**41**

Notes: [1]Standard Rates using the Peak Hour of Adjacent Street Traffic applied.
[2]Standard Rates using the Peak Hour of Generator applied since rates for Peak Hour of Adjacent Street Traffic are not available.

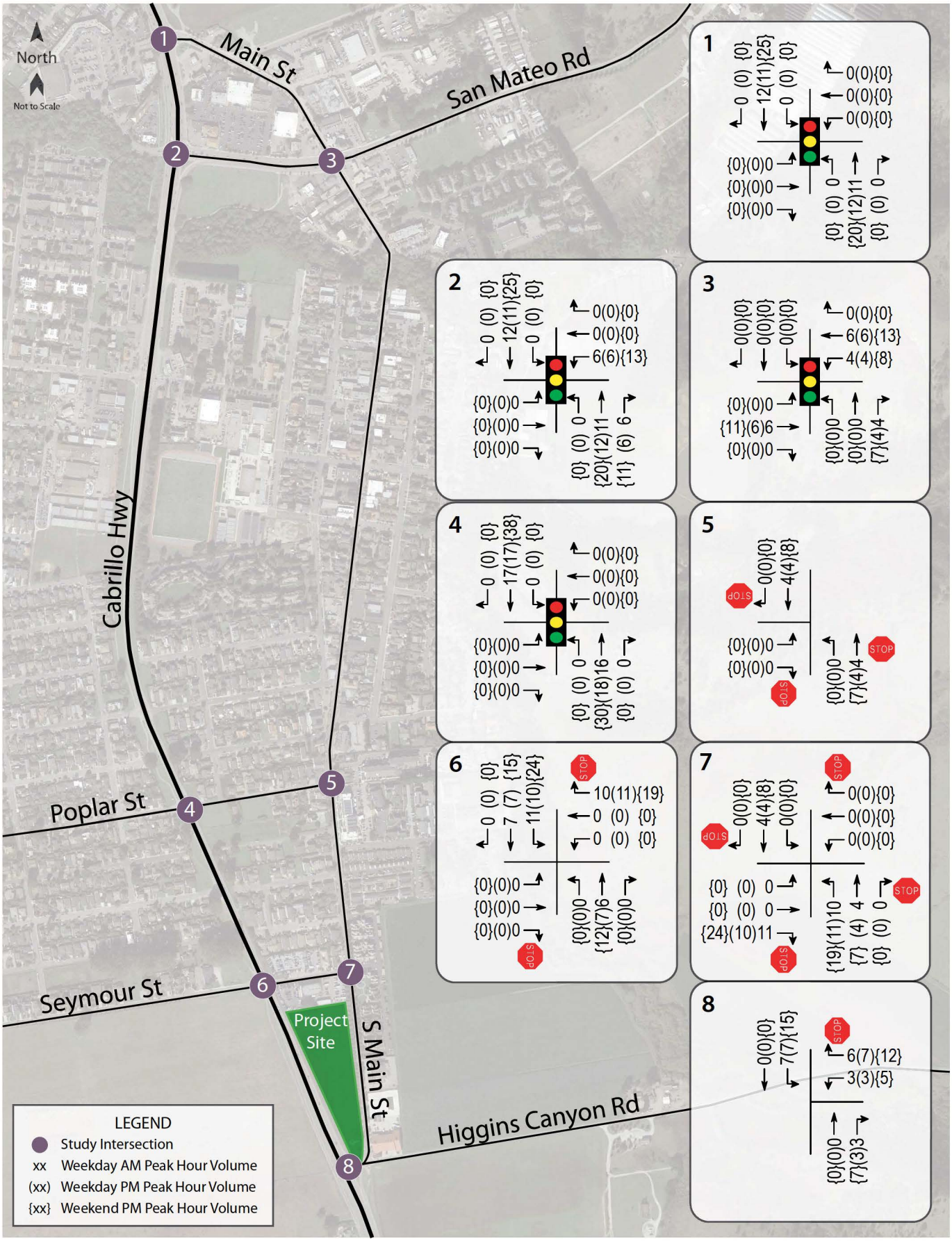
Trip Distribution

The San Mateo County (C/CAG-VTA) Travel Demand Model was used to estimate trip distribution patterns within the study area by comparing relative traffic on major roadways and then applying manual adjustments based on knowledge of the area and the application of professional judgment. The applied distribution assumptions and resulting trips are shown in Table 9 and Figure 6.

Table 9 – Trip Distribution Assumptions

Route	Percent	Daily	AM Trips	PM Trips	Weekend Trips
To/From North via SR-1	48%	276	21	22	45
To/From East via SR-92	40%	230	18	18	37
To/From South via SR-1	12%	69	5	6	11
TOTAL	**100%**	**575**	**44**	**46**	**93**

[1] The ITE Trip Generation Manual describes an All Suites Hotel as a place of lodging that provides sleeping accommodations, a small restaurant and lounge, and small amounts of meeting space. Each suite includes a sitting room and separate bedroom; limited kitchen facilities are provided within the suite.



hmb003.ai 6/19

Traffic Impact Study for the Hyatt Place Hotel

Figure 6 – Project Traffic Volumes

Intersection Operation

Existing plus Project Conditions

Upon the addition of project-related traffic to the existing condition volumes, all study intersections would continue to operate at acceptable levels of service. These results are summarized in Table 10. Existing plus Project traffic volumes are shown in Figure 7.

Table 10 – Existing and Existing plus Project Peak Hour Intersection Levels of Service

Study Intersection *Approach*	Existing Condition						Existing + Project					
	AM Peak		PM Peak		Weekend Peak		AM Peak		PM Peak		Weekend Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. SR-1/N. Main St	37.1	D	39.4	D	43.4	D	37.2	D	39.4	D	38.1	D
2. SR-1/SR-92 (CMP)	41.8	D	37.4	D	31.2	C	41.7	D	37.4	D	35.7	D
3. Main St/SR-92 (CMP)	40.5	D	35.8	D	31.8	C	40.7	D	35.9	D	36.3	D
4. SR-1/Poplar St	31.4	C	20.1	C	22.5	C	41.1	D	20.5	C	25.6	C
5. Main St/Poplar St	4.3	A	2.2	A	2.3	A	4.3	A	2.2	A	2.3	A
6. SR-1/Seymour St	0.8	A	0.6	A	0.5	A	1.0	A	0.8	A	0.9	A
EB (Seymour St) Approach	*27.1*	*D*	*33.6*	*D*	*39.1*	*E*	*29.5*	*D*	*36.2*	*E*	*46.4*	*E*
7. Main St/Seymour St	7.9	A	7.8	A	7.7	A	8.0	A	7.9	A	8.0	A
8. SR-1/S. Main St	1.5	A	1.9	A	2.0	A	1.7	A	2.1	A	2.6	A
WB (S. Main St) Approach	*21.7*	*C*	*31.1*	*D*	*36.8*	*E*	*22.0*	*C*	*31.7*	*D*	*39.8*	*E*

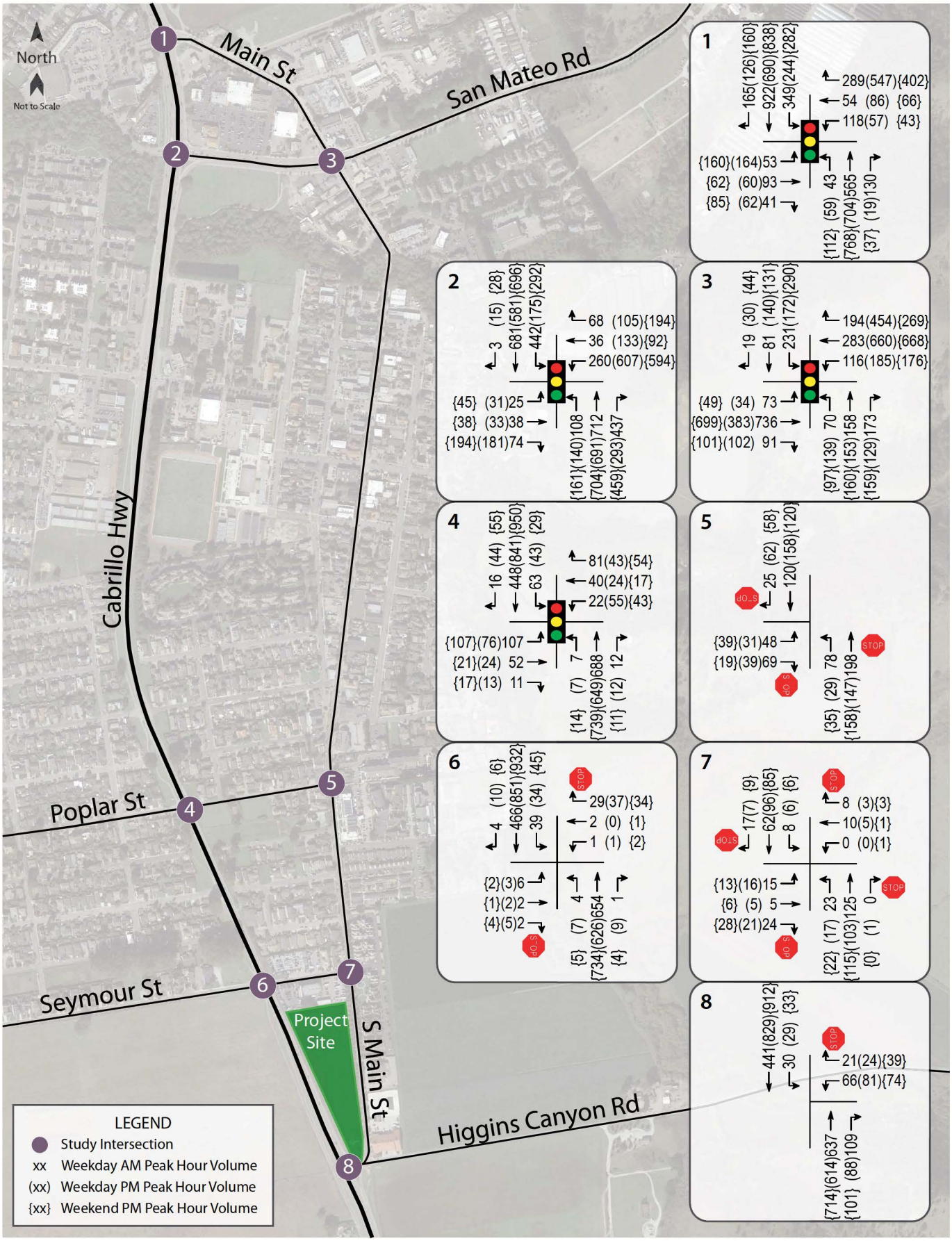
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; CMP = Congestion Management Program; EB = Eastbound; WB = Westbound; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

It should be noted that with the addition of project-related traffic volumes, average delay at the intersection of SR-1/SR-92 would decrease during the a.m. peak hour. While this is counter-intuitive, this occurs when trips are added to movements that are currently underutilized or have delays that are below the intersection average, resulting in a better balance between approaches and lower overall average delay. The conclusion could incorrectly be drawn that the project improves operation based on this data alone; however, it would be more appropriate to conclude that the project trips are expected to make use of excess capacity, so drivers would experience little, if any, change in conditions as a result of the project at these locations.

Finding – The study intersections are expected to continue operating within acceptable levels of service upon the addition of project-generated traffic.

Background plus Project Conditions

Upon the addition of project-related traffic to the background condition volumes, all the study intersections would continue to operate at acceptable levels of service, with the exception of SR-1/Seymour Street where operation would be expected to deteriorate from LOS E to F during the weekend peak hour. Since the peak hour volume warrant indicating potential need for a traffic signal would not be satisfied, the standards applied



hmb003.ai 6/19

Traffic Impact Study for the Hyatt Place Hotel

Figure 7 – Existing plus Project Traffic Volumes

this is not considered to be an adverse impact. These results are summarized in Table 11. Background plus Project traffic volumes are shown in Figure 8.

Table 11 – Background and Background plus Project Peak Hour Intersection Levels of Service

Study Intersection *Approach*	Background Condition						Background + Project					
	AM Peak		PM Peak		Weekend Peak		AM Peak		PM Peak		Weekend Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. SR-1/N. Main St	37.1	D	39.7	D	41.7	D	37.2	D	39.7	D	42.1	D
2. SR-1/SR-92 (CMP)	42.2	D	37.5	D	33.8	C	42.0	D	37.6	D	33.9	C
3. Main St/SR-92 (CMP)	40.9	D	36.1	D	36.6	D	40.9	D	36.2	D	36.8	D
4. SR-1/Poplar St	42.5	D	21.2	C	25.6	C	42.0	D	21.2	C	26.2	C
5. Main St/Poplar St	4.0	A	2.2	A	2.3	A	3.9	A	2.2	A	2.3	A
6. SR-1/Seymour St	0.9	A	0.8	A	0.7	A	1.1	A	0.9	A	1.1	A
EB (Seymour St) Approach	*27.2*	*D*	*37.3*	*E*	*43.6*	*E*	*29.4*	*D*	*40.3*	*E*	***51.8***	***F***
7. Main St/Seymour St	7.7	A	7.7	A	7.7	A	7.8	A	7.8	A	7.8	A
8. SR-1/S. Main St	6.6	A	5.7	A	5.0	A	9.1	A	8.5	A	9.5	A

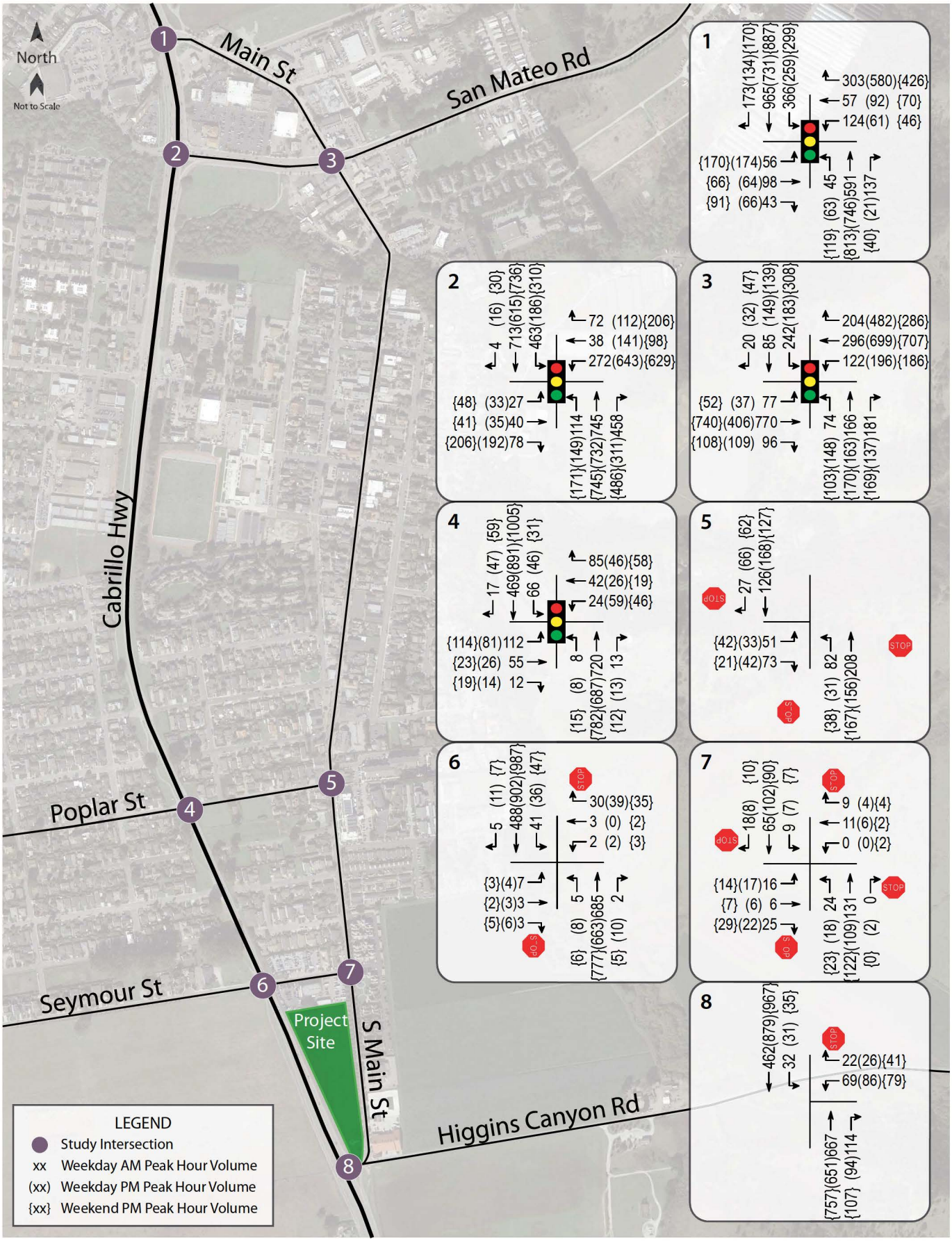
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; CMP = Congestion Management Program; EB = Eastbound; WB = Westbound; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* **Bold** text = deficient operation

It should be noted that with the addition of project-related traffic volumes, average delay at the intersections of SR-1/SR-92, SR-1/Poplar Street and Main Street/Polar Street would decrease during the a.m. peak hour. As noted previously, this condition reflects use of excess capacity and should not be interpreted as meaning that the project improves operation for other movements.

Finding – The study intersections are expected to continue operating at acceptable levels of service upon the addition of project-generated traffic, except at the intersection of SR-1/Seymour Street during the weekend peak hour, where the eastbound approach would have an average delay of 51.8 seconds per vehicle and operate at LOS F. However, the project would not result in an adverse impact at this intersection, since the volumes, even including project-related trips, would not satisfy the peak hour volume warrant for signalization.

Cumulative plus Project Conditions

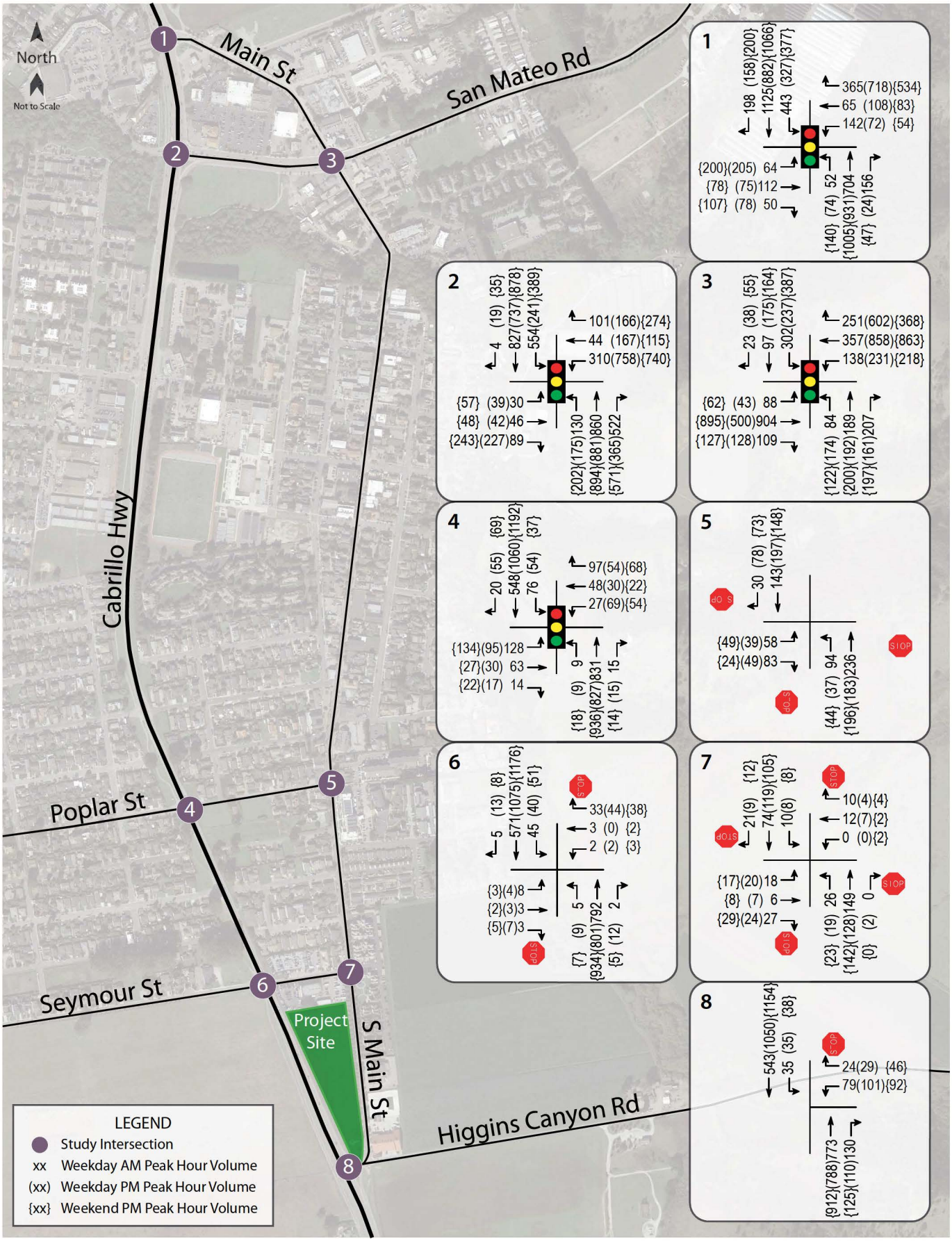
Upon the addition of project-generated traffic to the anticipated cumulative condition volumes, all the study intersections would continue to operate at acceptable levels of service, except at the signalized intersection at SR-1/North Main Street which operates at LOS F during the weekend peak hour and unsignalized intersection of SR-1/Seymour Street which would operate at an overall LOS A during the p.m. and weekend peak hours, but with an LOS F at the eastbound (Seymour Street) approach. The Cumulative plus Project operating conditions are summarized in Table 12. Cumulative plus project traffic volumes are shown in Figure 9.



hmb003.ai 6/19

Traffic Impact Study for the Hyatt Place Hotel

Figure 8 – Background plus Project Traffic Volumes



hmb003.ai 6/19

Traffic Impact Study for the Hyatt Place Hotel

Figure 9 – Cumulative (2040) plus Project Traffic Volumes

Table 12 – Cumulative plus Project Peak Hour Intersection Levels of Service												
Study Intersection ***Approach***		**Cumulative Condition**						**Cumulative + Project**					
		AM Peak		**PM Peak**		**Weekend Peak**		**AM Peak**		**PM Peak**		**Weekend Peak**	
		Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1.	SR-1/N. Main St	37.2	D	50.3	D	**84.4**	**F**	59.9	E	51.0	D	**87.9**	**F**
2.	SR-1/SR-92 (CMP)	42.0	D	40.6	D	39.7	D	37.4	D	41.0	D	40.4	D
3.	Main St/SR-92 (CMP)	40.9	D	38.9	D	41.6	D	43.3	D	39.0	D	42.0	D
4.	SR-1/Poplar St	42.0	D	26.2	C	34.0	C	48.7	D	26.6	C	35.1	D
5.	Main St/Poplar St	3.9	A	2.4	A	2.4	A	4.2	A	2.3	A	2.4	A
6.	SR-1/Seymour St	1.1	A	1.0	A	1.0	A	1.2	A	1.2	A	1.4	A
	EB (Seymour St) Approach	*29.4*	*D*	***59.1***	***F***	***77.2***	***F***	*41.3*	*E*	***65.0***	***F***	***96.6***	***F***
7.	Main St/Seymour St	7.8	A	7.9	A	7.8	A	8.0	A	8.0	A	8.0	A
8.	SR-1/S. Main St	9.1	A	7.4	A	6.0	A	10.8	B	9.5	A	6.4	A

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; CMP = Congestion Management Program; EB = Eastbound; WB = Westbound; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics;* **Bold** text = deficient operation

The intersection of SR-1/North Main Street would operate at an unacceptable LOS F with or without the addition of project-generated vehicle trips during the weekend peak hour. The addition of project-generated trips would not increase the average control delay by more than four seconds. The project's contribution to this intersection is not considered an adverse impact.

Under the p.m. and weekend peak hours, the stop-controlled Seymour Street approach at the intersection of SR-1/Seymour Street would operate at an unacceptable LOS F with or without the addition of project-generated vehicle trips. Also, under these conditions, the signalization peak hour volume warrant would not be satisfied. Therefore, the project's contribution would not be considered an adverse impact at this intersection.

It should be noted that with the addition of project-related traffic volumes, average delay at the intersections of SR-1/SR-92 and Main Street/Poplar Street would decrease during the a.m. and p.m. peak hours, respectively. As noted previously, this condition reflects use of excess capacity and should not be interpreted as meaning that the project improves operation for other movements.

Finding – The study intersections are expected to continue operating at acceptable levels of service upon the addition of project-generated traffic, except at the intersections of SR-1/North Main Street during the weekend peak hour and SR-1/Seymour Street during the weekday p.m. and weekend peak hours. The project would not be considered an adverse impact at these intersections since the degradation of the average control delay at the signalized intersection of SR-1/North Main Street is less than four seconds and the unsignalized intersection at SR-1/Seymour Street would not satisfy the peak hour volume warrant for signalization.

Roadway Segment Analysis

Potential changes to the level of service of roadway segments near the project site were analyzed during the weekday a.m. and p.m. and weekend midday peak hours to determine if a significant amount of project traffic would be added to these roadway segments. Under Existing plus Project Conditions, all study roadway segments would continue to operate within the acceptable LOS standards during the three peak hours evaluated. A summary of roadway segment LOS is provided in Table 13.

Table 13 – Existing Plus Project Roadway Segment Analysis Summary										
Study Segment	**Peak Hour**	**Direction**	**Existing Condition**			**Existing plus Project**				
			Volume	**V/C**	**LOS**	**Added Trips**	**% of Capacity**	**Volume**	**V/C**	**LOS**
A. SR-1 from Frenchmans Creek Rd to Grand Blvd	AM	NB	896	0.407	B	11	0.50%	907	0.412	B
		SB	1,424	0.647	C	12	0.55%	1,436	0.653	C
	PM	NB	1,403	0.638	C	12	0.55%	1,415	0.643	C
		SB	1,049	0.477	B	11	0.50%	1,060	0.482	B
	WKD	NB	1,310	0.595	C	20	0.91%	1,330	0.605	C
		SB	1,255	0.570	C	25	1.14%	1,280	0.582	C
B. SR-1 from Grand Blvd to N. Main St	AM	NB	896	0.204	A	11	0.25%	907	0.206	A
		SB	1,424	0.324	B	12	0.27%	1,436	0.326	B
	PM	NB	1,403	0.319	B	12	0.27%	1,415	0.322	B
		SB	1,049	0.238	A	11	0.25%	1,060	0.241	A
	WKD	NB	1,310	0.298	A	20	0.45%	1,330	0.302	B
		SB	1,255	0.285	A	25	0.57%	1,280	0.291	A
C. SR-1 from N. Main St to SR-92	AM	NB	794	0.180	A	11	0.25%	805	0.183	A
		SB	1,114	0.253	A	12	0.27%	1,126	0.256	A
	PM	NB	815	0.185	A	12	0.27%	827	0.188	A
		SB	760	0.173	A	11	0.25%	771	0.175	A
	WKD	NB	923	0.210	A	20	0.45%	943	0.214	A
		SB	991	0.225	A	25	0.57%	1,016	0.231	A
D. SR-1 from SR-92 to Kelly Ave	AM	NB	1,240	0.282	A	17	0.39%	1,257	0.286	A
		SB	997	0.227	A	18	0.41%	1,015	0.231	A
	PM	NB	1,106	0.251	A	18	0.41%	1,124	0.255	A
		SB	1,352	0.307	B	17	0.39%	1,369	0.311	B
	WKD	NB	1,293	0.294	A	31	0.70%	1,324	0.301	B
		SB	1,446	0.329	B	38	0.86%	1,484	0.337	B
E. SR-1 from Kelly Ave to Poplar St	AM	NB	860	0.391	B	17	0.77%	877	0.399	B
		SB	510	0.232	A	18	0.82%	528	0.240	A
	PM	NB	750	0.341	B	18	0.82%	768	0.349	B
		SB	911	0.414	B	17	0.77%	928	0.422	B
	WKD	NB	870	0.395	B	31	1.41%	901	0.410	B
		SB	996	0.453	B	38	1.73%	1,034	0.470	B

Table 13 – Existing Plus Project Roadway Segment Analysis Summary										
Study Segment	**Peak Hour**	**Direction**	**Existing Condition**			**Existing plus Project**				
			Volume	**V/C**	**LOS**	**Added Trips**	**% of Capacity**	**Volume**	**V/C**	**LOS**
F. SR-1 from Poplar St to Seymour St	AM	NB	673	0.306	B	17	0.77%	690	0.314	B
		SB	491	0.223	A	18	0.82%	509	0.231	A
	PM	NB	648	0.295	A	18	0.82%	666	0.303	B
		SB	878	0.399	B	17	0.77%	895	0.407	B
	WKD	NB	739	0.336	B	31	1.41%	770	0.350	B
		SB	944	0.429	B	38	1.73%	982	0.446	B
G. SR-1 from Seymour St to S. Main St	AM	NB	653	0.148	A	6	0.14%	659	0.150	A
		SB	462	0.105	A	7	0.16%	469	0.107	A
	PM	NB	635	0.144	A	7	0.16%	642	0.146	A
		SB	850	0.193	A	7	0.16%	857	0.195	A
	WKD	NB	731	0.166	A	12	0.27%	743	0.169	A
		SB	923	0.210	A	15	0.34%	938	0.213	A
H. SR-1 from S. Main St to Miramontes Point Rd	AM	NB	743	0.169	A	3	0.07%	746	0.170	A
		SB	504	0.115	A	3	0.07%	507	0.115	A
	PM	NB	699	0.159	A	3	0.07%	702	0.160	A
		SB	907	0.206	A	3	0.07%	910	0.207	A
	WKD	NB	808	0.184	A	7	0.16%	815	0.185	A
		SB	981	0.223	A	5	0.11%	986	0.224	A
I. SR-92 from SR-1 to Main St	AM	EB +WB	1,260	0.450	D	12	0.43%	1,272	0.454	D
	PM	EB +WB	1,336	0.477	E	12	0.43%	1,348	0.481	E
	WKD	EB +WB	1,634	0.584	E	24	0.86%	1,658	0.592	E
J. SR-92 from Main St to I-280	AM	EB +WB	1,713	0.612	E	20	0.71%	1,733	0.619	E
	PM	EB +WB	1,963	0.701	E	20	0.71%	1,983	0.708	E
	WKD	EB +WB	2,222	0.794	E	39	1.39%	2,261	0.808	E

Notes: V/C = Volume-to-Capacity Ratio; SR-1 segments are assumed to be a "Level Multi-lane Highway" with 50 mph average speed; SR-92 segments are assumed to be a "Two-Lane Highway" with Rolling Hills and a 40-mph average speed.
Source: W-Trans, 2020

Finding – The study roadway segments are expected to continue operating at acceptable levels of service upon the addition of project-generated traffic to Existing volumes.

Vehicle Miles Traveled

Consideration was given to the project's potential generation of Vehicle Miles Traveled (VMT). Because the City of Half Moon Bay has not yet adopted a standard of significance for evaluating VMT, guidance provided by the California Governor's Office of Planning and Research (OPR) in the publication *Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory*, 2018, was used.

To estimate the average distance traveled per employee, commuting to work data available from the US Census (2017) for the City of Half Moon Bay was used. This data summarizes the "home to work" distance traveled within the study area and does not include nuances like short distance midday trips, shopping-related trips or chained trips between the workplace and home. City Staff estimates that the average distance traveled between the project site and the two nearest commercial airports is 29.0 miles. (The distances to San Francisco Airport (SFO) and the San Jose Airport (SJC) are 38 miles and 20 miles, respectively.) The City of Half Moon Bay is approximately 4 miles long and this distance was assumed to be the average distance traveled for a local guest trip.

The unmitigated project condition was estimated by separating the total number of daily trips into three trip categories; employee trips, guest trip to/from the airport and local guest trips. The number of trips for each category was then multiplied by the average distance traveled for each trip category. A summary of the unmitigated VMT findings for this project is provided in Table 14.

Table 14 – Unmitigated Vehicle Miles Traveled Summary

Trip Type	No. Daily Trips	Avg. Distance (mi)	VMT[1]
Employees	48	18.9	907
Guests Trips (Airport)	79[2]	29.0	2,304
Guests Trips (Local)	448	4.0	1,790
Total	**575**		**5,002**

Note: 1) VMT estimates provided are subject to rounding error.
2) Guest trips were estimated considering the peak room occupancy, number of rooms, and average length of stay

Standards of Significance

The OPR *Technical Advisory* includes suggested VMT significance thresholds for residential, employment, and retail uses but does not address hotel or other visitor-based land uses. The Technical Advisory indicates that lead agencies may develop their own thresholds for other land use types. For the purposes of this study, the City of Half Moon Bay Staff has defined that a project, with the implementation of Transportation Demand Management (TDM) measures, which generates 15 (or more) percent less than the project unmitigated VMT would indicate a less-than-significant impact.

Recommended TDM Program

Transportation Demand Management (TDM) measures aim to reduce single-occupancy vehicle trips, parking demand, and total VMT through use of alternative modes of transportation and more efficiently planned trips. The following section describes the proposed guest and employee TDM program.

Guest TDM Programs

Airport/Coastal Shuttle

The hotel should offer a free shuttle service to both San Francisco and San Jose airports to encourage guests to stay without renting a vehicle. Shuttles should operate frequently enough to provide guests with timely service while maximizing the potential for ridesharing. In addition, the shuttle should also stop at appropriate at tourist destinations and beaches along the coast so that guests can make short-distance trips without a car.

Parking Price Incentive

Many hotels in more remote coastal locations offer parking to be included in the cost of a room and by doing so, inadvertently encourage guests to bring cars and generate more congestion. As an alternative, the hotel should offer, and advertise, reduced room rates for those who do not arrive in a private vehicle. As an initial step, the hotel can offer a reduced rate of $10 per night weekdays and $20 on weekends and holidays, and adjust the price as necessary to manage parking demand.

Bike Share Program

A bike share program operates by having the hotel provide bicycles for guest use. By covering the access costs to the bike share program, the hotel provides guests with a non-auto mode option for exploring Half Moon Bay, enabling guests to feel more comfortable taking a shuttle to the hotel, knowing that they will have a way to get around once they arrive. In addition, the hotel should provide guests with bicycle helmets and locks free of charge to further encourage the use of bicycles.

Transportation Information

Providing guests with information regarding transportation options to the hotel can help encourage guests to consider non-auto or rideshare options. This information should be emailed or mailed to guests as part of their registration confirmation process providing guests with the information early on to assist in their logistics planning for arrival to the hotel. Information regarding the availability of shuttle service to the hotel and lower room rates for guests without cars should be highlighted. In addition, an on-site transportation board including bicycle maps, trails, transit routes and schedules, and contact numbers for taxi and town car services should be included in the reception area to assist guests.

Employee TDM Programs

Bicycle Parking

The hotel should provide secure storage where employees will be able securely store their bicycles while at work. Providing secure long-term parking for employees is a critical component of encouraging employees to bike to work as the lack of secure parking is often cited by employees as a deterrent. In addition, the hotel should provide hotel-maintained racks outside for visitors or other short-term users.

Parking Pricing and Cash-Out

As noted above, many hotels offer free parking for guests and the same is often given as a fringe benefit to employees. This serves as a strong disincentive for employees to not drive to work. Instead, the hotel should both price parking for employees on a daily basis and offer a "cash-out" to those who don't drive to work. Under a parking cash-out program, an employer offers the cash value of the parking subsidy to any employee who does not drive to work. Offering employees the option of a "cash out" incentive to use an alternative mode of transportation (transit, bike, walk, or carpool to work) will help to reduce vehicle commute trips and emissions. This analysis assumes an initial parking price of $7 per day.

In addition to pricing parking for employees (and guests), the hotel should work actively with the community to ensure parking demand does not "spillover" onto nearby streets. This can be accomplished either by educating and monitoring guests and employees or simply creating an on-street permit area around the hotel with parking prioritized for residents.

Ridematching

The greatest barrier to workplace carpooling is often simply being able to identify and travel with other nearby employees. Fortunately, there are services that can assist in pairing employees within the same organization or across organizations. The most basic publicly available service is 511.org's free ridematching service that is also

offered through commute.org. As an alternative, the hotel may wish to set up a basic internal ridematching program among employees to facilitate carpooling.

Priority Parking

An easy way of promoting ridesharing is to designate priority employee parking spaces for carpools. The cost of this improvement is limited to the paint or sign used and can help market ridesharing as a priority in the organization.

Guaranteed Ride Home Program

Guaranteed Ride Home (GRH) is a program that provides a "back-up" ride to employees who carpool, use transit, bike/walk, or use other alternatives as their commute mode; in San Mateo County, it is provided through commute.org. If an employee who carpools to work, so does not have their own vehicle, needs to leave work for an emergency, such as a sick child or other unexpected need, they will be redeemed for the cost of taxi ride to get them home. This is an important supportive measure to encourage employees not to drive alone to work and often goes as a welcome, but unused benefit.

Transportation Coordinator

The presence of a staff person dedicated part-time to overseeing and managing the TDM program will be helpful in ensuring the ongoing success of these programs. This would not be a distinct position, but instead would be a role that is integrated into the on-site manager. The duties can include:

- Managing the shuttle program
- Create and distribute employee transportation information welcome packets
- Maintain and update a bulletin board or other physical source of transportation information
- Distribute local bicycle and walking maps
- Monitor bicycle facilities
- Administer the parking and cash-out program
- Oversee and manage the Guaranteed Ride Home program
- Promote the ride-matching program

Welcome Packet for New Employees

New employees should be provided with a welcome packet containing relevant transportation information. The packet could include material regarding ride-matching services, the guaranteed ride home program, the cash-out program as well as resources for those walking or biking to work.

Monitor Performance

It is important to continually monitor the performance of a TDM program and adjust measures as necessary to ensure its success. The hotel should conduct mode split and VMT surveys each year to both make adjustments and use as marketing material. Guest and employee satisfaction surveys are also an effective way of ensuring a quality TDM program.

TDM Program Impact Analysis

The suite of TDM measures outlined above will have a profound impact on reducing both guest and employee vehicle trips and VMT. The expected VMT reductions associated with the various TDM measures were estimated based on information published in the California Air Pollution Officers Association (CAPCOA) report *Quantifying Greenhouse Gas Mitigation Measures*, CAPCOA, 2010, the most utilized current resource to measure VMT reductions. As Table 15 shows, overall hotel VMT is expected to be reduced by 15.4% using this suite of TDM strategies.

Table 15 – Estimated Vehicle Miles Traveled Reductions						
Trip Type	**No. Daily Trips**	**Avg. Distance (mi)**	**Total VMT[1]**	**VMT[1] Reduction**	**Mitigated VMT[1]**	**Percent Reduction**
Employees	48	18.9	907	127	780	14.0%
Guests Trips (Airport)	79[2]	29.0	2,304	378	1,926	16.4%
Guests Trips (Local)	448	4.0	1,790	267	1,523	14.9%
Total	**575**		**5,002**	**772**	**4,230**	**15.4%**

Note: 1) VMT estimates provided are subject to rounding error.
2) Guest trips were estimated considering the peak room occupancy, number of rooms, and average length of stay

Finding – The TDM program results in a 15.4 percent VMT reduction, resulting in a *less-than-significant* VMT impact.

Recommendation – The project should implement the TDM measures identified in this report to reduce its VMT by 15.4 percent below unmitigated project conditions.

Signal Warrant Analysis

A traffic signal warrant analysis was conducted to determine the potential need for a traffic signal at each unsignalized study intersection that is projected to operate at LOS E or F. Chapter 4C of the *California Manual on Uniform Traffic Control Devices* (CA-MUTCD) provides guidance on when a traffic signal should be considered. For the purposes of this study, only Warrant 3 (Peak Hour) was considered.

Warrant 3 is satisfied when an engineering study finds that finds that the criteria in either of the following two categories are met:

A. If all three of the following conditions exist for the same one hour (any four consecutive 15-minute periods) of an average day:

   1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: four vehicle-hours for a one-lane approach; or five vehicle-hours for a two-lane approach, and
   2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes, and
   3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

The peak hour warrant would not be satisfied at the intersection of SR-1/Seymour Street for any of the scenarios analyzed in this study. It should be noted that the satisfaction of a traffic signal warrant or warrants does not require the installation of a traffic control signal, as other factors (warrants) should also be considered. Warrant 3 worksheets are included in Appendix D.

Findings – The intersection of SR-1/Seymour Street is projected to operate at LOS F during the weekend peak hour under Background plus Project conditions, and under Cumulative Conditions with or without project-generated trips during the weekday p.m. and weekend peak hours. The evaluation confirmed that volumes at the intersection of SR-1/Seymour Street would be insufficient to satisfy Warrant 3 under any of these scenarios. Thus, the project would not result in an adverse impact at this intersection.

Vehicular Access and Circulation

Vehicular Access

Internal Circulation

On-site circulation was evaluated to determine if the layout would provide adequate circulation for vehicles and pedestrians. Based on a review of the site plan (dated January 29, 2019), the internal roadways are expected to provide acceptable circulation for motorized vehicles. This site plan also indicates clearly marked paths for pedestrians between the building entrances, the parking lot, and sidewalks along South Main Street and Seymour Street.

Site development standards published by the *Coastside Fire Protection District* stipulate that all new emergency access roads shall have 15.5 feet of vertical clearance and an unobstructed minimum width of 20 feet. Where hydrants are located, the road shall be a minimum of 26 feet wide for a length of 20 feet on each side of the hydrant (40 feet total length). A detailed review of the site plan for compliance with Coastside Fire Protection District standards was not conducted as the site plan does not include the level of detail necessary. It is recommended that representatives from the Coastside Fire Protection District review the detailed construction plans as they become available.

Site Access

Vehicle access to the project site would be accomplished via three driveways: two driveways on South Main Street and one driveway on Seymour Street. The driveways on South Main Street as proposed would be full-access and allow all vehicle movements. The driveway on Seymour Street would be limited to right-turn exit movements only. The southernmost driveway on South Main Street is intended as a service access for deliveries and other operational needs of the hotel. All hotel guests are expected to use the main (northern) driveway on South Main Street as the primary access point for the project.

Project Driveway Sight Distances

Sight distances along South Main Street and Seymour Street at each project driveway were evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. The recommended sight distances for minor street approaches that are either a private road or a driveway are based on stopping sight distance associated with the approach travel speeds on the public street. Additionally, the stopping sight distance needed for a following driver to stop if there is a vehicle waiting to turn into a side street or driveway is evaluated based on the stopping sight distance criterion and the approach speed on the major street.

Sight distance at each proposed driveway was field measured. Based on a design speed of 25 mph, the minimum stopping sight distance needed is 150 feet.

The distance between SR-1 and the exit only project driveway on Seymour Street is 100 feet, which is less than the minimum required sight distance for a 25-mph facility. A driver exiting the project site from the Seymour Street driveway would not be able to see an approaching vehicle from northbound SR-1 turning onto eastbound Seymour Street. Additionally, due to the position of the driveway relative to SR-1, a driver exiting from the Seymour Street driveway would be required to turn and look nearly 180 degrees over their left shoulder to gain the line of sight to properly view an inbound northbound right-turning vehicle from SR-1. The inadequate sight distance at the Seymour Street Driveway is considered a significant project impact.

The available sight distances at each driveway along South Main Street would exceed 150 feet in both directions, which would be adequate for the anticipated travel speeds. To maintain this sight distance, it is noted that any vegetation near the project's driveways should be trimmed to an appropriate height of less than three feet and trees trimmed so that nothing hangs below a height of seven feet from the surface of the roadway. Additionally, it is recommended that on-street parking be restricted for 15 feet on either side of the two project driveways on South Main Street.

Finding – Sight distances at each driveway exit would be hindered by the presence of on-street parking and vegetation along South Main Street. The proposed exit only access on Seymour Street would have an inadequate sight distance toward SR-1, which is considered a significant project impact.

Mitigations – To achieve a minimum sight distance of 150 feet at each driveway access point, it is recommended that on-street parking be restricted for 15 feet on either side of each driveway. Also, it is recommended that vegetation along the project frontage on South Main Street be trimmed.

To reduce the project safety impact to a less-than-significant level, it is recommended that the Seymour Street egress should be removed from the project plans or converted to an emergency-vehicle-only access. Additionally, the following optional improvements should be considered as potential site improvements:

1. Include a gate at the Seymour Street egress to prevent daily use. The gate should be maintained so that opening the gate during an emergency evacuation condition is possible.
2. Modify the site plan to include an additional driveway access on South Main Street at the northern end of the parking lot located approximately 260 feet south of the Main Street/Seymour Street intersection.

Alternative Modes

Given the proximity to nearby residences, the historic Main Street shopping district and Poplar Beach relative to the hotel site, it is reasonable to assume that some hotel guests and employees would walk, bicycle, and/or use transit to reach the hotel.

Pedestrian Facilities

Project Site – The project would build new sidewalks on its frontage with Main Street and a new pedestrian walking path with benches along SR-1 between Main Street and Seymour Street. The project also includes a pedestrian walking path which would be located in between SR-1 and the hotel buildings. The walking path would be generally parallel with SR-1 and connect South Main Street with Seymour Street. The addition of the proposed sidewalk and walking paths would fill in areas of discontinuous sidewalks and complete walking connectivity throughout the immediate neighborhood.

Finding – Pedestrian facilities serving the project site would be adequate.

Bicycle Facilities

The project includes a Class I bike path which would be located between SR-1 and the hotel buildings. The bicycle path would be generally parallel with SR-1 and connect South Main Street with Seymour Street.

Finding – Existing and proposed bicycle facilities and shared use of minor streets would provide adequate access for bicyclists.

Bicycle Storage

The *City of Half Moon Bay Municipal Code 18.36.070 Bicycle Parking* states that short-term bicycle parking shall be provided to serve guests and other visitors. The number of short-term bicycle parking spaces shall be at a ratio of one bicycle parking space per ten off-street parking spaces with a minimum of four bicycle parking spaces per establishment. Given the proposed supply of 148 spaces, the project should have at least fifteen bicycle parking spaces.

The project will include bicycle racks located near the main entrance to the hotel lobby as well as bicycle lockers on-site with a combined maximum capacity for short-term bicycle parking of approximately 30 bicycles. The hotel is also proposing to include a rental or bike check out service providing up to 20 bicycles which would be available for use by hotel guests. It is also noteworthy to mention that bicycles can also be rented at Half Moon Bay Bike Works which is located approximately 4,800 feet from the project on Kelly Avenue.

Finding – Bicycle storage facilities will provide storage for more than fifteen bicycles and would therefore satisfy City Code requirements.

Transit

Existing transit routes were reviewed and found to be adequate to accommodate project-generated transit trips. Existing stops are within an acceptable walking distance (one-quarter mile) of the site.

Finding – Transit facilities serving the project site are adequate.

Parking

The proposed project's off-street parking supply was analyzed to determine whether it would be sufficient to meet anticipated parking demand. The project includes 148 parking stalls located in a surface parking lot. These spaces are not anticipated to be shared with adjacent land uses. The parking supply was compared to two separate resources; the City Municipal Code and published ITE parking demand rates.

Parking supply requirements are stipulated in the *City of Half Moon Bay Municipal Code, Chapter 18.36.040 Off-street parking facilities*; for "Hotels, motels and motor lodges". The City requirement states that one space should be provided per guest bedroom plus one space per employee. The proposed project is comprised of 129 rooms (with one bedroom each) and seventeen employees. The City's parking requirement for this project is 146 spaces.

Parking demand for the proposed project was estimated using standard rates published by ITE in *Parking Generation*, 5th Edition, 2019. The parking demand of the project was estimated using the published 85th-percentile rates for Hotel (ITE LU #310) in a general suburban setting.

The project is proposing to provide 148 spaces, which is greater than either the City requirement (146 spaces) or the projected parking demand (128 spaces). The proposed parking supply, expected demand, and City parking Code requirements are summarized in Table 16.

Table 16 – Parking Analysis Summary

Land Use	Units (No. of Rooms)	Supply (spaces)	ITE Parking Generation		City Requirements	
			Rate[1]	Est. Parking Demand	Rate[2]	Spaces Required
Hotel	129	148	0.99	128	One space for each guest bedroom, plus one space per employee.	146

Notes: [1] *Parking Generation 5th Edition,* Institute of Transportation Engineers, 2019
[2] Chapter 18,35,040 Off-street parking facilities, *Half Moon Bay Municipal Code*

Requirements stipulated by the Federal Accessibility Guidelines state that a minimum number of stalls must be categorized as accessible stalls for disabled persons. To satisfy this requirement, at least five stalls for disabled persons must be provided. The site plan shows six of the 148 spaces designated as accessible spaces. Thus, the project would comply with these Federal Accessibility Guidelines.

Finding – The project would provide an adequate number of parking spaces to accommodate the anticipated demand per ITE rates, and to satisfy the City parking Code requirements. Also, the number of accessible stalls would satisfy applicable requirements.

Conclusions and Recommendations

Conclusions

- The proposed project is expected to generate an average of 575 trips per day, including 44 trips during the weekday a.m. peak hour, 46 during the p.m. peak hour and 93 during the weekend midday peak hour.
- All study intersections are expected to continue operating acceptably under all conditions with and without the project, except for the signalized intersection at SR-1/North Main Street and the unsignalized intersection at SR-1/Seymour Street. However, the proposed project would not be considered an adverse impact at each of these intersections.
- The anticipated amount of vehicle traffic passing through the unsignalized intersection of SR-1/Seymour Street during the weekend peak hour under Background plus Project and Cumulative Conditions, would not satisfy the peak hour volume warrant indicating potential need for a traffic signal, either with or without the proposed project.
- State Routes 1 and 92 within the study area are anticipated to operate at acceptable levels of service with or without the project, under all volume scenarios evaluated.
- The proposed project would have a less-than-significant transportation impact on vehicle miles traveled with the implementation of the recommended Transportation Demand Management Plan.
- Pedestrian, bicycle, and transit facilities would be adequate to serve the project as proposed.
- Sight lines at the project driveways along South Main Street are adequate. The proposed exit only driveway on Seymour Street would have an inadequate sight distance between the driveway and SR-1.
- The proposed parking supply of 148 spaces exceeds both the City parking requirements and the estimated parking demand based on standard rates.

Recommendations

- The project should implement the recommended Transportation Demand Management Plan measures to reduce its VMT by more than 15 percent below unmitigated project conditions.
- To achieve a minimum sight distance of 150 feet at each driveway access point, it is recommended that parking be prohibited for 15 feet on either side of each driveway. Further, to maintain adequate sight lines, vegetation along the project frontage on South Main Street should be trimmed to ensure that all landscaping lies below three feet in height of above seven feet.
- To improve the site access and reduce the project safety impact to a less-than-significant level, it is recommended that the exit only driveway at Seymour Street either be eliminated or converted to an EVA. If an additional site access driveway is desired, the site plan should be modified to include another driveway on South Main Street at the northern end of the parking lot, approximately 260 feet south of the Main Street/Seymour Street intersection.

Study Participants and References

Study Participants

Principal in Charge	Mark E. Spencer, PE
Project Manager/Traffic Engineer	Kenny B. Jeong, PE
Assistant Engineer	Allison Woodworth, EIT
Graphics	Hannah Yung-Boxdell
Editing/Formatting	Hannah Yung-Boxdell
Report Review	Dalene J. Whitlock, PE, PTOE

References

California Manual on Uniform Traffic Control Devices for Streets and Highways, California Department of Transportation, 2014

Coastside Fire Protection District https://www.coastsidefire.org/marshal_standards

Google Earth, http://earth.google.com/

City of Half Moon Bay Bicycle and Pedestrian Master Plan, Alta Planning & Design, 2019

City of Half Moon Bay General Plan Circulation Element, City of Half Moon Bay, 2013

City of Half Moon Bay Municipal Code, Municipal Code Corporation, 2019

Final San Mateo County Congestion Management Program 2017, City/County Association of Governments of San Mateo County, 2018

Guide for the Preparation of Traffic Impact Studies, California Department of Transportation, 2002

Highway Capacity Manual, Transportation Research Board, 2000

Highway Capacity Manual, Transportation Research Board, 2010

Highway Design Manual, 6th Edition, California Department of Transportation, 2012

Jamison Hotel Development Traffic Impact Study, DKS Associates, 2016

Parking Generation, 5th Edition, Institute of Transportation Engineers, 2019

Quantifying Greenhouse Gas Mitigation Measures, California Air Pollution Control Officers Association (CAPCOA), 2010

San Mateo County Congestion Management Program, City/County Association of Governments of San Mateo County, 2019

SamTrans, http://www.samtrans.com/

Technical Advisory on Evaluating Transportation Impacts in CEQA, Governor's Office of Planning and Research, 2018

Traffic Impact Study Requirements, County of San Mateo, 2013

Transportation Impacts (SB 743) CEQA Guidelines Update and Technical Advisory, 2018

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

HMB003

This page intentionally left blank

Appendix A

Traffic Count Data

This page intentionally left blank

Prepared by National Data & Surveying Services

State Route 1 & Main St

Peak Hour Turning Movement Count

ID: 19-08263-001
City: Half Moon Bay

Day: Wednesday
Date: 05/08/2019

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NONE	NONE
04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

State Route 1 — SOUTHBOUND

AM	165	910	349	0	896	AM
NOON	0	0	0	0	0	NOON
PM	126	679	244	0	1403	PM

EASTBOUND (Main St)

AM	NOON	PM	
259	0	259	⇦
0	0	0	↶ 0
53	0	164	↱ 0
93	0	60	→ 0
41	0	62	↴ 0

WESTBOUND (Main St)

PM	NOON	AM	
547	0	289	0 ↰
86	0	54	0 ←
57	0	118	0 ↰
0	0	0	0 ↶
323	0	572	⇨

CONTROL

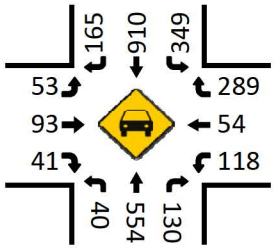
0

TEV	2799 AM	0 NOON	2795 PM
PHF	0.95		0.96

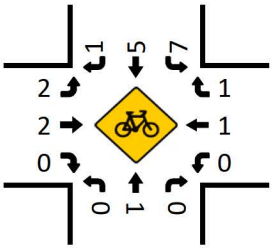
State Route 1 — NORTHBOUND

PM	810	12	47	692	19	PM
NOON	0	0	0	0	0	NOON
AM	1072	3	40	554	130	AM

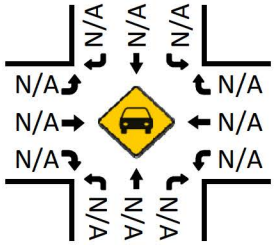
Total Vehicles (AM)



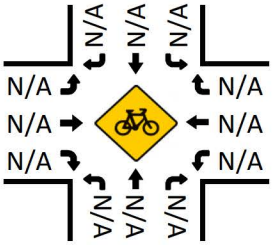
Bikes (AM)



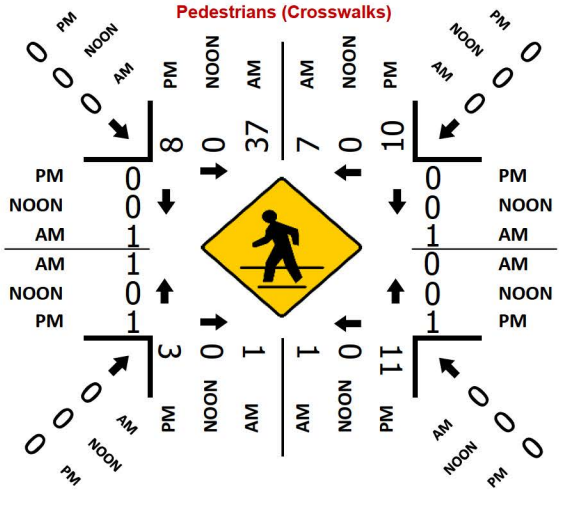
Total Vehicles (Noon)



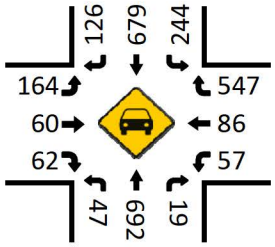
Bikes (NOON)



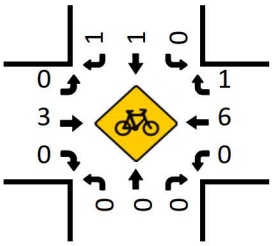
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

State Route 1 & State Route 92

Peak Hour Turning Movement Count

ID: 19-08263-002
City: Half Moon Bay

Day: Wednesday
Date: 05/08/2019

PEAK HOURS	COUNT PERIODS
07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NONE	NONE
04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

State Route 1 — SOUTHBOUND

AM	3	669	406	36	830	AM
NOON	0	0	0	0	0	NOON
PM	15	570	167	8	823	PM

EASTBOUND — State Route 92

AM	NOON	PM	
140	0	284	⇦
0	0	0	↶ 0
25	0	31	↱ 0
38	0	33	→ 0
74	0	181	↴ 0

WESTBOUND — State Route 92

PM	NOON	AM	
105	0	68	0 ↰
133	0	36	0 ←
601	0	254	0 ↙
0	0	0	0 ↶
487	0	875	⇨

CONTROL

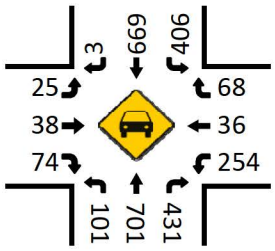
0

TEV	2849 AM	0 NOON	2950 PM
PHF	0.94		0.96

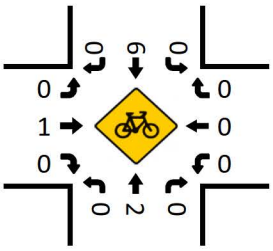
State Route 1 — NORTHBOUND

PM	1356	4	136	679	287	PM
NOON	0	0	0	0	0	NOON
AM	1004	7	101	701	431	AM

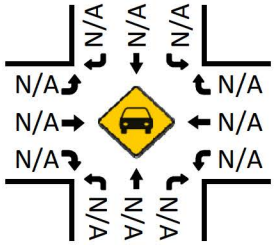
Total Vehicles (AM)



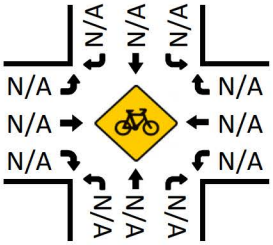
Bikes (AM)



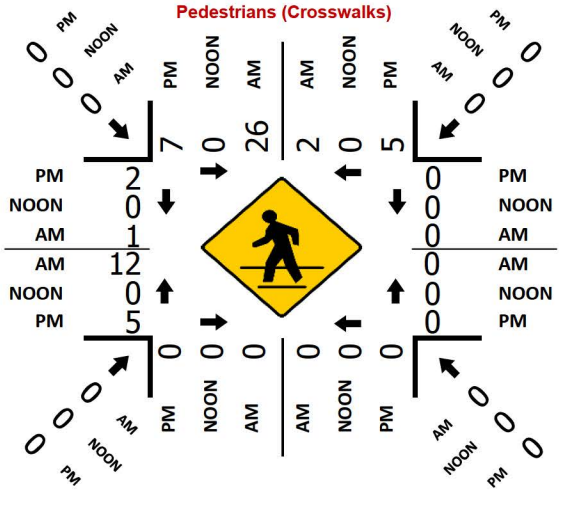
Total Vehicles (Noon)



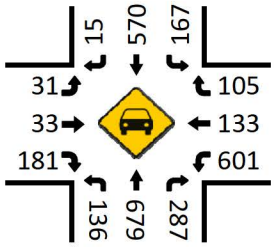
Bikes (NOON)



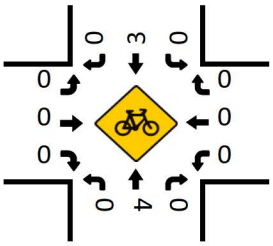
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Main St & State Route 92

Peak Hour Turning Movement Count

ID: 19-08263-003
City: Half Moon Bay

Day: Wednesday
Date: 05/08/2019

PEAK HOURS

AM: 08:00 AM - 09:00 AM
NOON: NONE
PM: 04:15 PM - 05:15 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

Main St — SOUTHBOUND

AM	19	81	231	0	414	AM
NOON	0	0	0	0	0	NOON
PM	30	140	172	0	628	PM

State Route 92 — EASTBOUND

AM	NOON	PM	
377	0	836	
11	0	13	0
62	0	21	0
730	0	377	0
91	0	102	0

CONTROL

0

TEV	2205	0	2561
	AM	NOON	PM
PHF	0.91		0.94

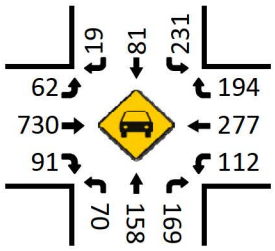
State Route 92 — WESTBOUND

PM	NOON	AM	
454	0	194	0
654	0	277	0
181	0	112	0
0	0	0	0
674	0	1130	

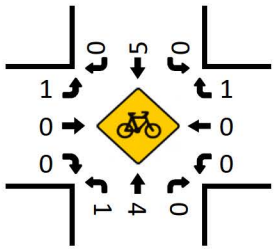
Main St — NORTHBOUND

PM	423	0	139	153	125	PM
NOON	0	0	0	0	0	NOON
AM	284	0	70	158	169	AM

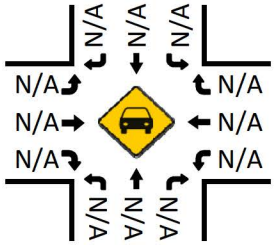
Total Vehicles (AM)



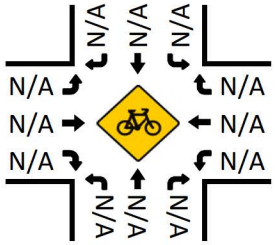
Bikes (AM)



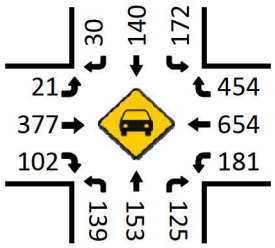
Total Vehicles (Noon)



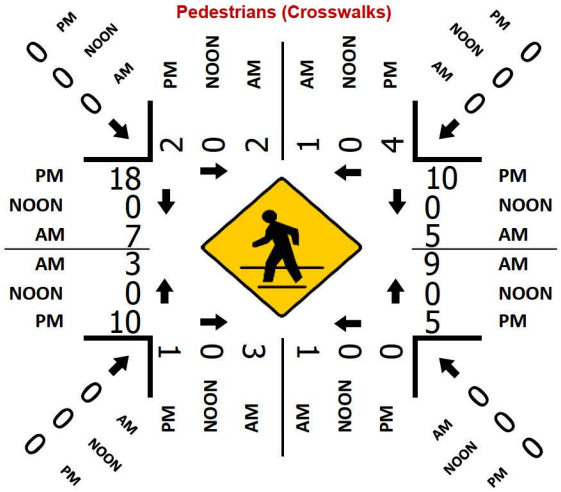
Bikes (NOON)



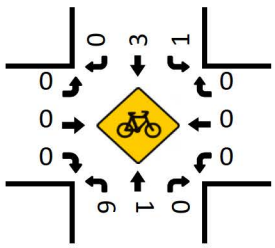
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

State Route 1 & Poplar St

Peak Hour Turning Movement Count

ID: 19-08263-004
City: Half Moon Bay

Day: Wednesday
Date: 05/08/2019

	PEAK HOURS	COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:30 PM - 05:30 PM	04:00 PM - 06:00 PM

State Route 1 – SOUTHBOUND

	Right	Through	Left	U-Turn	Departing
AM	16	431	63	0	860
NOON	0	0	0	0	0
PM	44	824	43	0	750
	0	0	0	0	

Poplar St – EASTBOUND

	AM	NOON	PM	
Departing	63	0	75	
U-Turn	0	0	0	0
Left	107	0	76	0
Through	52	0	24	0
Right	11	0	13	0

Poplar St – WESTBOUND

		PM	NOON	AM
Right	0	43	0	81
Through	0	24	0	40
Left	0	55	0	22
U-Turn	0	0	0	0
Departing		79	0	127

State Route 1 – NORTHBOUND

	Departing	U-Turn	Left	Through	Right
		0	0	0	0
PM	892	0	7	631	12
NOON	0	0	0	0	0
AM	464	0	7	672	12

CONTROL

0

	AM	NOON	PM
TEV	1514	0	1796
PHF	0.96		0.96

Total Vehicles (AM)

Approach	Left	Through	Right
Southbound	63	431	16
Eastbound	107	52	11
Westbound	22	40	81
Northbound	7	672	12

Total Vehicles (Noon)

Approach	Left	Through	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Total Vehicles (PM)

Approach	Left	Through	Right
Southbound	43	824	44
Eastbound	76	24	13
Westbound	55	24	43
Northbound	7	631	12

Bikes (AM)

Approach	Left	Through	Right
Southbound	0	3	0
Eastbound	0	35	1
Westbound	5	1	0
Northbound	0	1	3

Bikes (NOON)

Approach	Left	Through	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Bikes (PM)

Approach	Left	Through	Right
Southbound	0	1	1
Eastbound	0	2	0
Westbound	3	3	0
Northbound	0	0	0

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North	Eastbound	0	0	0
North	Westbound	1	0	0
West	Southbound	3	0	0
West	Northbound	7	0	0
East	Southbound	3	0	1
East	Northbound	18	0	0
South	Eastbound	53	0	2
South	Westbound	25	0	7
NW diagonal		0	0	0
NE diagonal		0	0	0
SW diagonal		0	0	0
SE diagonal		0	0	0

Prepared by National Data & Surveying Services

Main St & Poplar St

Peak Hour Turning Movement Count

ID: 19-08263-005
City: Half Moon Bay

Day: Wednesday
Date: 05/08/2019

PEAK HOURS		COUNT PERIODS
AM	07:45 AM - 08:45 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

Main St — SOUTHBOUND

AM	25	116	0	0	242	AM
NOON	0	0	0	0	0	NOON
PM	62	154	0	1	175	PM

EASTBOUND — Poplar St

AM	NOON	PM	
103	0	91	
0	0	0	0
48	0	31	0
0	0	0	0
69	0	39	0

WESTBOUND — Poplar St

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	

CONTROL

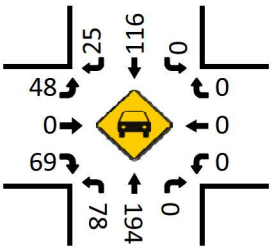
0

TEV	530	0	459
	AM	NOON	PM
PHF	0.80		0.92

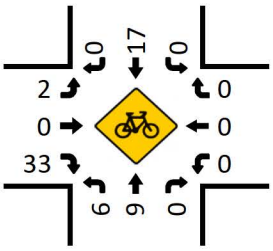
Main St — NORTHBOUND

PM	193	0	29	143	0	PM
NOON	0	0	0	0	0	NOON
AM	185	0	78	194	0	AM

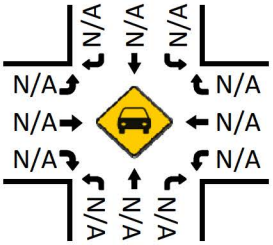
Total Vehicles (AM)



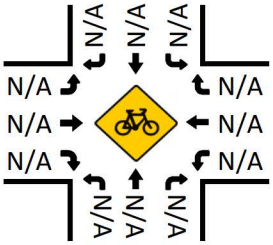
Bikes (AM)



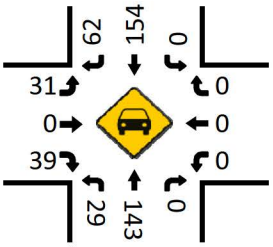
Total Vehicles (Noon)



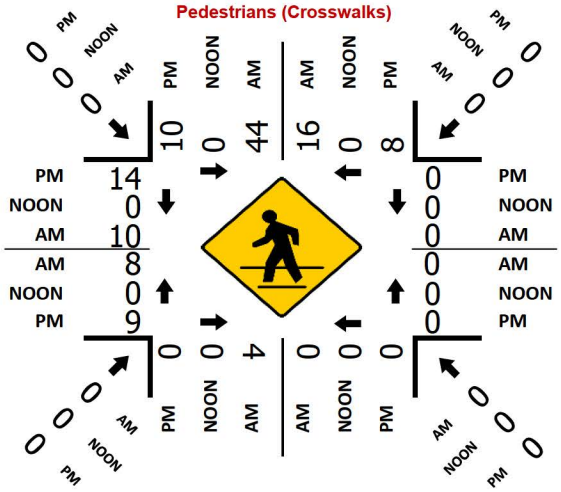
Bikes (NOON)



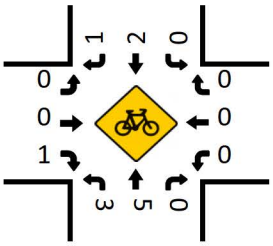
Total Vehicles (PM)



Pedestrians (Crosswalks)



Bikes (PM)



Prepared by National Data & Surveying Services

State Route 1 & Seymour St

Peak Hour Turning Movement Count

ID: 19-08263-006
City: Half Moon Bay

Day: Wednesday
Date: 05/08/2019

	PEAK HOURS	COUNT PERIODS
AM	08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

State Route 1 — SOUTHBOUND

	Right	Through	Left	U-Turn	Departing
AM	4	459	28	0	673
NOON	0	0	0	0	0
PM	10	844	23	1	649
	0	0	0	0	

Seymour St — EASTBOUND

	AM	NOON	PM	
Departing	10	0	16	
U-Turn	0	0	0	0
Left	6	0	3	0
Through	2	0	2	0
Right	2	0	5	0

Seymour St — WESTBOUND

		PM	NOON	AM
Right	0	26	0	19
Through	0	0	0	2
Left	0	1	0	1
U-Turn	0	0	0	0
Departing		34	0	31

State Route 1 — NORTHBOUND

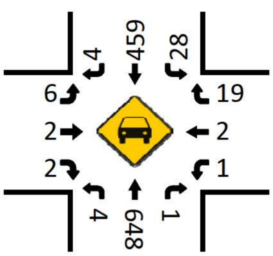
	Departing	U-Turn	Left	Through	Right
		0	0	0	0
PM	851	1	6	619	9
NOON	0	0	0	0	0
AM	462	0	4	648	1

CONTROL

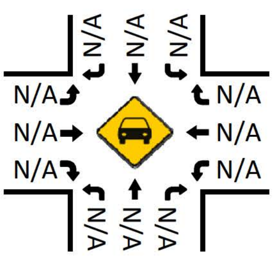
0

	AM	NOON	PM
TEV	1176	0	1550
PHF	0.95		0.96

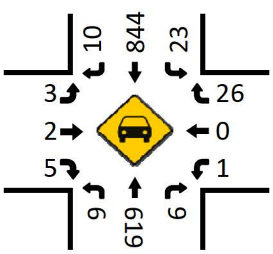
Total Vehicles (AM)



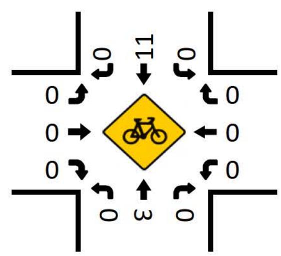
Total Vehicles (Noon)



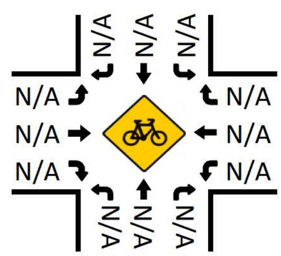
Total Vehicles (PM)



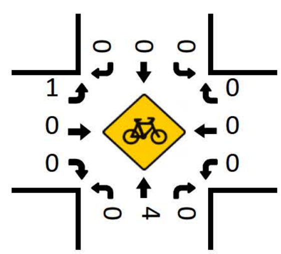
Bikes (AM)



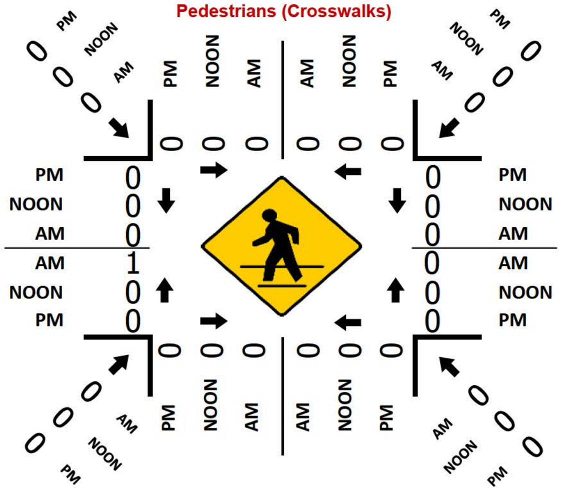
Bikes (NOON)



Bikes (PM)



Pedestrians (Crosswalks)



Prepared by National Data & Surveying Services

Main St & Seymour St

Peak Hour Turning Movement Count

ID: 19-08263-007
City: Half Moon Bay

Day: Wednesday
Date: 05/08/2019

PEAK HOURS		COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:15 PM - 05:15 PM	04:00 PM - 06:00 PM

Main St — SOUTHBOUND

AM	17	58	7	1	144	AM
NOON	0	0	0	0	0	NOON
PM	7	92	4	2	120	PM

Seymour St — EASTBOUND

AM	NOON	PM	
41	0	18	⇦
1	0	0	↶ 0
14	0	16	↱ 0
5	0	5	→ 0
13	0	11	↴ 0

CONTROL

0

TEV	268 AM	0 NOON	251 PM
PHF	0.82		0.87

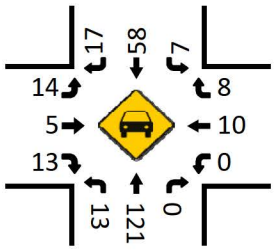
Seymour St — WESTBOUND

PM	NOON	AM	
3	0	8	↰ 0
5	0	10	← 0
0	0	0	↶ 0
0	0	0	↶ 0
10	0	12	⇨

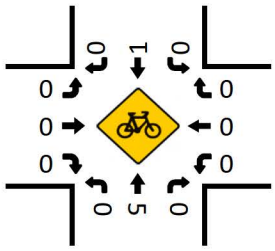
Main St — NORTHBOUND

PM	103	0	6	99	1	PM
NOON	0	0	0	0	0	NOON
AM	71	0	13	121	0	AM

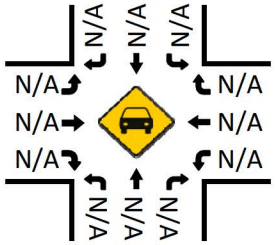
Total Vehicles (AM)



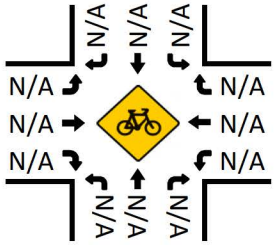
Bikes (AM)



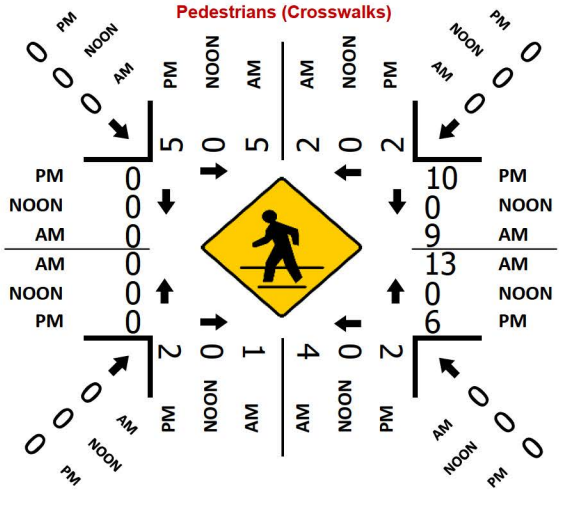
Total Vehicles (Noon)



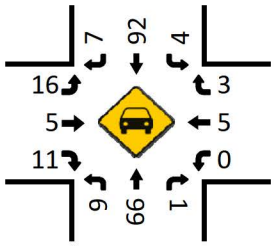
Bikes (NOON)



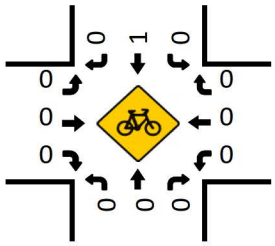
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

State Route 1 & Main St

Peak Hour Turning Movement Count

ID: 19-08263-008
City: Half Moon Bay

Day: Wednesday
Date: 05/08/2019

PEAK HOURS		COUNT PERIODS
AM	08:00 AM - 09:00 AM	07:00 AM - 09:00 AM
NOON	NONE	NONE
PM	04:00 PM - 05:00 PM	04:00 PM - 06:00 PM

State Route 1 — SOUTHBOUND

	U-turn	Left	Through	Right	Exit
AM	0	23	441	0	652
NOON	0	0	0	0	0
PM	2	20	829	0	633
Pedestrians/other	0	0	0	0	

Main St — WESTBOUND

	PM	NOON	AM
Right (0)	17	0	15
Through (0)	0	0	0
Left (0)	78	0	63
U-turn (0)	0	0	0
Exit	105	0	129

Main St — EASTBOUND

	AM	NOON	PM
Exit	0	0	0
U-turn (0)	0	0	0
Left (0)	0	0	0
Through (0)	0	0	0
Right (0)	0	0	0

State Route 1 — NORTHBOUND

	Exit	U-turn	Left	Through	Right
PM	907	0	0	614	85
NOON	0	0	0	0	0
AM	504	0	0	637	106
Pedestrians/other		0	0	0	0

CONTROL

0

	AM	NOON	PM
TEV	1285	0	1645
PHF	0.95		0.96

Total Vehicles (AM)

Approach	U-turn	Left	Through	Right
Southbound	0	23	441	0
Westbound	0	63	0	15
Northbound	0	0	637	106
Eastbound		0	0	0

Total Vehicles (Noon)

All movements: N/A

Total Vehicles (PM)

Approach	U-turn	Left	Through	Right
Southbound	0	20	829	0
Westbound		78	0	17
Northbound	0	0	614	85
Eastbound		0	0	0

Bikes (AM)

Approach	Left	Through	Right
Southbound	0	11	0
Westbound	1	0	0
Northbound	0	4	0
Eastbound	0	0	0

Bikes (NOON)

All movements: N/A

Bikes (PM)

Approach	Left	Through	Right
Southbound	0	0	0
Westbound	2	0	0
Northbound	0	4	0
Eastbound	0	0	0

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North leg	0	0	0
South leg	0	0	0
East leg	0	0	0
West leg	0	0	0
Diagonals (each corner)	0	0	0

Prepared by National Data & Surveying Services

State Route 1 & Main St

Peak Hour Turning Movement Count

ID: 19-08263-001
City: Half Moon Bay

Day: Saturday
Date: 05/11/2019

	PEAK HOURS	COUNT PERIODS
AM	NONE	NONE
NOON	12:30 PM - 01:30 PM	12:00 PM - 02:00 PM
PM	NONE	NONE

State Route 1 — SOUTHBOUND

	Right	Through	Left	U-Turn	Departing (⇧)
AM	0	0	0	0	0
NOON	155	839	285	0	1293
PM	0	0	0	0	0
	0	0	0	0	

Main St — EASTBOUND

	AM	NOON	PM	
Departing (⇦)	0	339	0	
U-Turn	0	0	0	0
Left	0	174	0	0
Through	0	80	0	0
Right	0	98	0	0

Main St — WESTBOUND

		PM	NOON	AM
Right	0	0	364	0
Through	0	0	78	0
Left	0	0	33	0
U-Turn	0	0	0	0
Departing (⇨)		0	406	0

CONTROL

0

	AM	NOON	PM
TEV	0	3023	0
PHF		0.98	

State Route 1 — NORTHBOUND

	Departing (⇩)	U-Turn	Left	Through	Right
		0	0	0	0
PM	0	0	0	0	0
NOON	985	15	106	755	41
AM	0	0	0	0	0

Total Vehicles (AM)

Approach	Left	Through	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Total Vehicles (Noon)

Approach	Left	Through	Right
Southbound	285	839	155
Eastbound	174	80	98
Westbound	33	78	364
Northbound	106	755	41

Total Vehicles (PM)

Approach	Left	Through	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Bikes (AM)

Approach	Left	Through	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Bikes (NOON)

Approach	Left	Through	Right
Southbound	0	6	2
Eastbound	0	2	0
Westbound	0	2	5
Northbound	1	6	0

Bikes (PM)

Approach	Left	Through	Right
Southbound	N/A	N/A	N/A
Eastbound	N/A	N/A	N/A
Westbound	N/A	N/A	N/A
Northbound	N/A	N/A	N/A

Pedestrians (Crosswalks)

Crosswalk	Direction	AM	NOON	PM
North	→	0	0	0
North	←	0	2	0
West	↓	0	1	0
West	↑	0	0	0
East	↓	0	0	0
East	↑	0	0	0
South	→	0	4	0
South	←	0	1	0
Northwest (diagonal)	↘	0	0	0
Northeast (diagonal)	↙	0	0	0
Southwest (diagonal)	↗	0	0	0
Southeast (diagonal)	↖	0	0	0

Prepared by National Data & Surveying Services

State Route 1 & State Route 92

Peak Hour Turning Movement Count

ID: 19-08263-002
City: Half Moon Bay

Day: Saturday
Date: 05/11/2019

PEAK HOURS

AM	NONE
NOON	12:30 PM - 01:30 PM
PM	NONE

COUNT PERIODS

AM	NONE
NOON	12:00 PM - 02:00 PM
PM	NONE

State Route 1 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	24	678	255	14	946	NOON
PM	0	0	0	0	0	PM

EASTBOUND — State Route 92

AM	NOON	PM	
0	250	0	
0	0	0	0
0	44	0	0
0	58	0	0
0	170	0	0
AM	NOON	PM	

WESTBOUND — State Route 92

PM	NOON	AM	
0	205	0	0
0	75	0	0
0	635	0	0
0	0	0	0
0	750	0	
PM	NOON	AM	

CONTROL

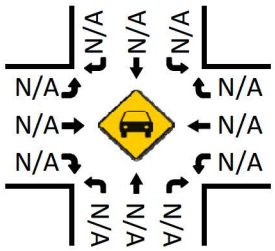
0

	AM	NOON	PM
TEV	0	3439	0
PHF		0.96	

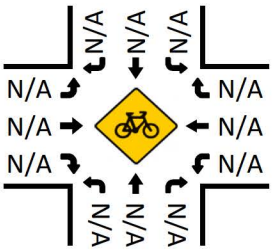
State Route 1 — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	1493	10	151	683	437	NOON
AM	0	0	0	0	0	AM

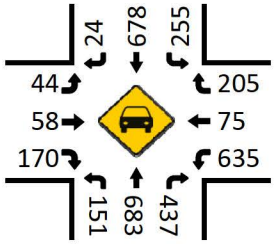
Total Vehicles (AM)



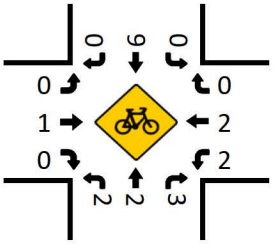
Bikes (AM)



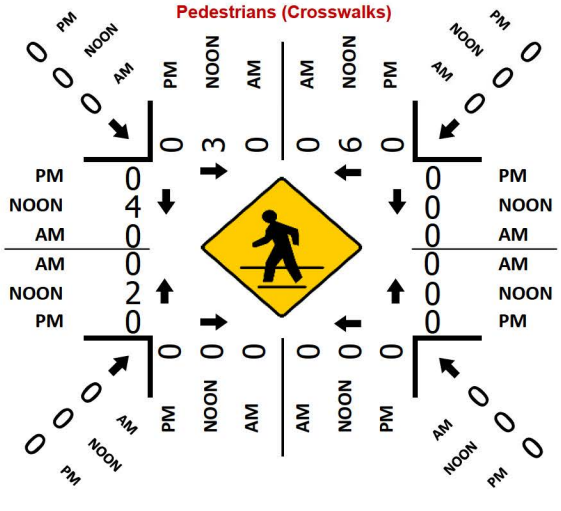
Total Vehicles (Noon)



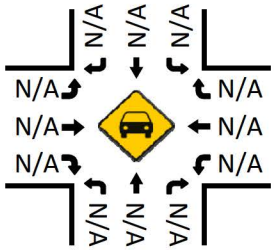
Bikes (NOON)



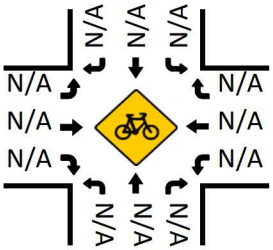
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Main St & State Route 92

Peak Hour Turning Movement Count

ID: 19-08263-003
City: Half Moon Bay

Day: Saturday
Date: 05/11/2019

PEAK HOURS	COUNT PERIODS
NONE	NONE
12:45 PM - 01:45 PM	12:00 PM - 02:00 PM
NONE	NONE

Main St — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	45	129	253	0	451	NOON
PM	0	0	0	0	0	PM

State Route 92 — EASTBOUND

AM	NOON	PM
0	798	0
0	21	0
0	34	0
0	637	0
0	114	0

CONTROL

0

	AM	NOON	PM
TEV	0	2727	0
PHF		0.94	

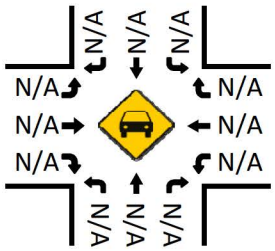
State Route 92 — WESTBOUND

PM	NOON	AM
0	259	0
0	607	0
0	202	0
0	0	0
0	1033	0

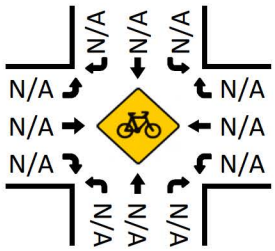
Main St — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	445	0	125	158	143	NOON
AM	0	0	0	0	0	AM

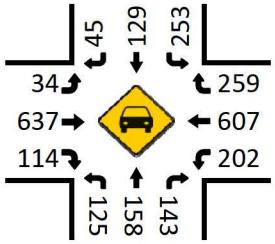
Total Vehicles (AM)



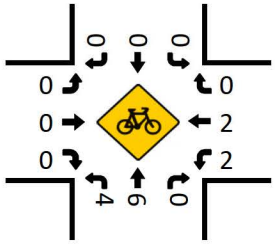
Bikes (AM)



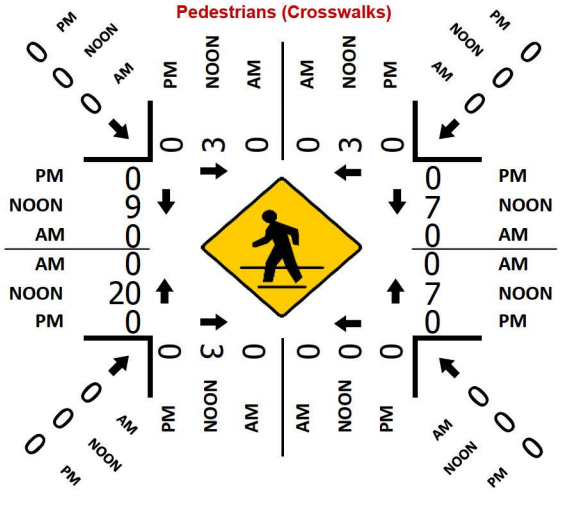
Total Vehicles (Noon)



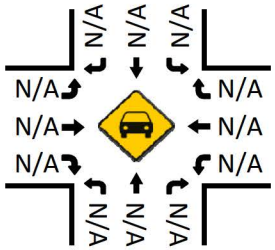
Bikes (NOON)



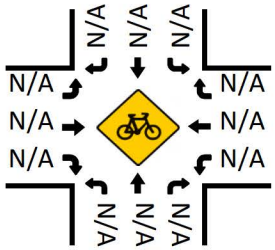
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

State Route 1 & Poplar St

Peak Hour Turning Movement Count

ID: 19-08263-004
City: Half Moon Bay

Day: Saturday
Date: 05/11/2019

PEAK HOURS

AM	NONE
NOON	01:00 PM - 02:00 PM
PM	NONE

COUNT PERIODS

AM	NONE
NOON	12:00 PM - 02:00 PM
PM	NONE

State Route 1 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	47	908	31	1	845	NOON
PM	0	0	0	0	0	PM

Poplar St — EASTBOUND

AM	NOON	PM	
0	81	0	
0	0	0	0
0	100	0	0
0	15	0	0
0	8	0	0

CONTROL

0

	AM	NOON	PM
TEV	0	1942	0
PHF		0.96	

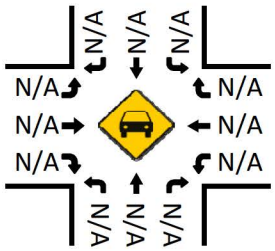
WESTBOUND — Poplar St

PM	NOON	AM	
0	36	0	0
0	18	0	0
0	36	0	0
0	0	0	0
0	64	0	

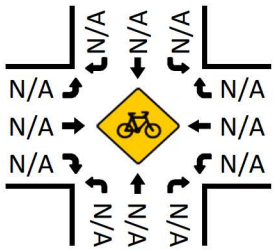
NORTHBOUND — State Route 1

PM	0	0	0	0	0	PM
NOON	952	0	16	708	18	NOON
AM	0	0	0	0	0	AM

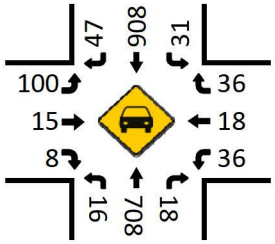
Total Vehicles (AM)



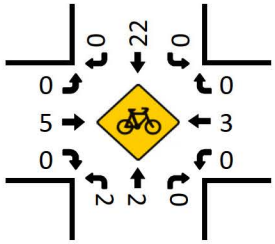
Bikes (AM)



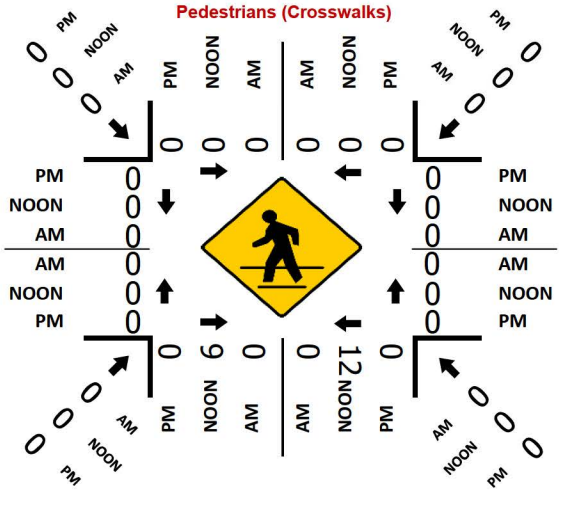
Total Vehicles (Noon)



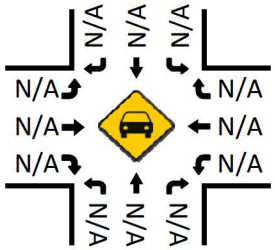
Bikes (NOON)



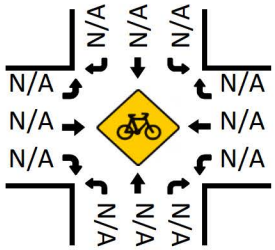
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Main St & Poplar St

Peak Hour Turning Movement Count

ID: 19-08263-005
City: Half Moon Bay

Day: Saturday
Date: 05/11/2019

PEAK HOURS

AM	NONE
NOON	01:00 PM - 02:00 PM
PM	NONE

COUNT PERIODS

AM	NONE
NOON	12:00 PM - 02:00 PM
PM	NONE

Main St

SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	50	150	0	1	171	NOON
PM	0	0	0	0	0	PM

Poplar St

EASTBOUND

AM	NOON	PM	
0	79	0	
0	0	0	0
0	32	0	0
0	0	0	0
0	33	0	0
AM	NOON	PM	

WESTBOUND

PM	NOON	AM	
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	
PM	NOON	AM	

Poplar St

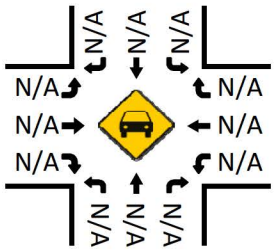
CONTROL			
0			
TEV	0 AM	433 NOON	0 PM
PHF		0.83	

NORTHBOUND

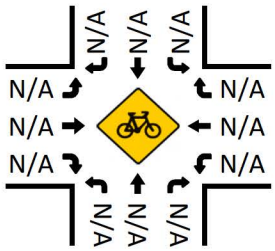
PM	0	0	0	0	0	PM
NOON	183	0	29	138	0	NOON
AM	0	0	0	0	0	AM

Main St

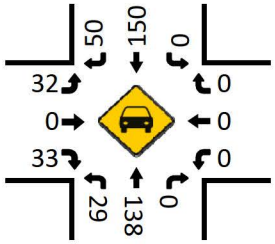
Total Vehicles (AM)



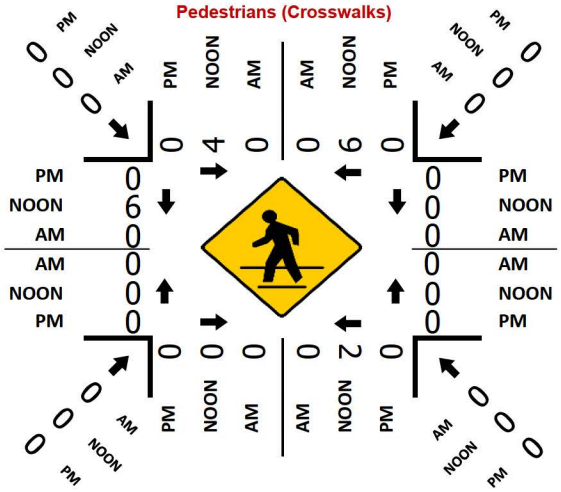
Bikes (AM)



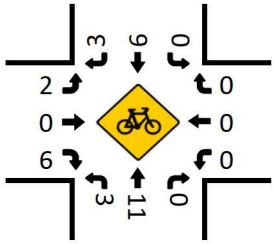
Total Vehicles (Noon)



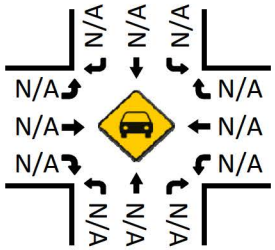
Pedestrians (Crosswalks)



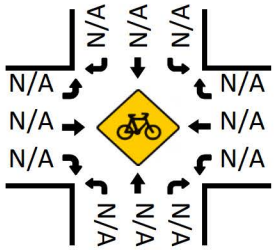
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

State Route 1 & Seymour St

Peak Hour Turning Movement Count

ID: 19-08263-006
City: Half Moon Bay

Day: Saturday
Date: 05/11/2019

PEAK HOURS

AM	NONE
NOON	12:45 PM - 01:45 PM
PM	NONE

COUNT PERIODS

AM	NONE
NOON	12:00 PM - 02:00 PM
PM	NONE

State Route 1 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	7	925	20	2	749	NOON
PM	0	0	0	0	0	PM

EASTBOUND — Seymour St

AM	NOON	PM	
0	7	0	
0	0	0	0
0	1	0	0
0	1	0	0
0	8	0	0
AM	NOON	PM	

WESTBOUND — Seymour St

PM	NOON	AM	
0	18	0	0
0	0	0	0
0	2	0	0
0	0	0	0
0	23	0	
PM	NOON	AM	

CONTROL

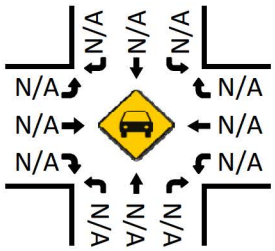
0

	AM	NOON	PM
TEV	0	1715	0
PHF		0.95	

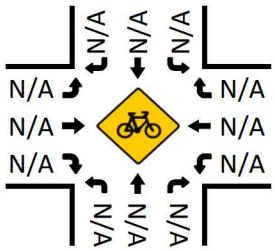
NORTHBOUND — State Route 1

PM	0	0	0	0	0	PM
NOON	936	1	0	728	2	NOON
AM	0	0	0	0	0	AM

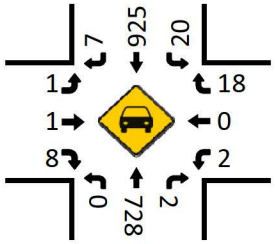
Total Vehicles (AM)



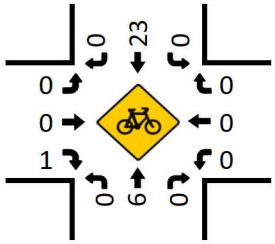
Bikes (AM)



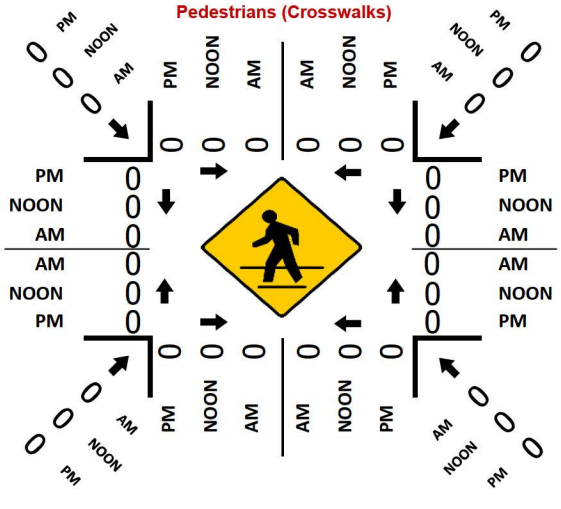
Total Vehicles (Noon)



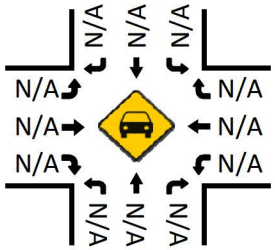
Bikes (NOON)



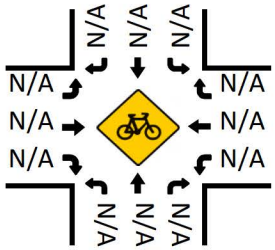
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Main St & Seymour St

Peak Hour Turning Movement Count

ID: 19-08263-007
City: Half Moon Bay

Day: Saturday
Date: 05/11/2019

PEAK HOURS	COUNT PERIODS
NONE	NONE
01:00 PM - 02:00 PM	12:00 PM - 02:00 PM
NONE	NONE

Main St — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	11	104	2	1	132	NOON
PM	0	0	0	0	0	PM

Seymour St — EASTBOUND

AM	NOON	PM	
0	15	0	
0	0	0	0
0	14	0	0
0	3	0	0
0	10	0	0

CONTROL

0

	AM	NOON	PM
TEV	0	269	0
PHF		0.84	

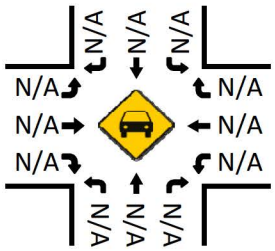
WESTBOUND — Seymour St

PM	NOON	AM	
0	6	0	0
0	1	0	0
0	1	0	0
0	0	0	0
0	7	0	

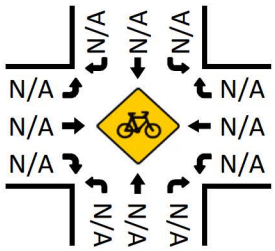
Main St — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	115	0	3	111	2	NOON
AM	0	0	0	0	0	AM

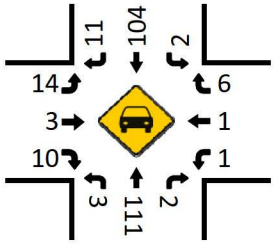
Total Vehicles (AM)



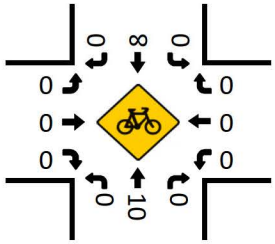
Bikes (AM)



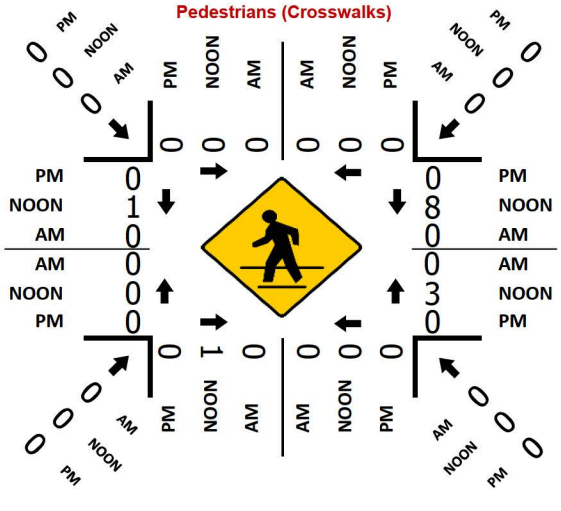
Total Vehicles (Noon)



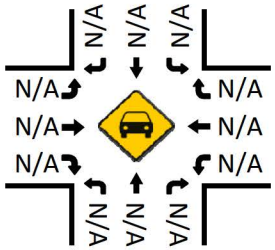
Bikes (NOON)



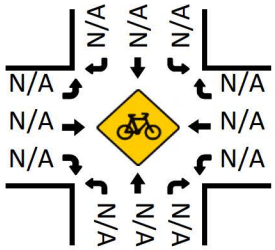
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

State Route 1 & Main St

Peak Hour Turning Movement Count

ID: 19-08263-008
City: Half Moon Bay

Day: Saturday
Date: 05/11/2019

PEAK HOURS	COUNT PERIODS
NONE	NONE
12:45 PM - 01:45 PM	12:00 PM - 02:00 PM
NONE	NONE

State Route 1 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	912	18	2	716	NOON
PM	0	0	0	0	0	PM

EASTBOUND (Main St)

AM	NOON	PM
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

WESTBOUND (Main St)

PM	NOON	AM
0	28	0
0	0	0
0	62	0
0	0	0
0	116	0

CONTROL

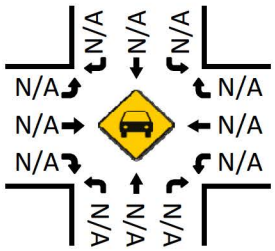
0

	AM	NOON	PM
TEV	0	1806	0
PHF		0.95	

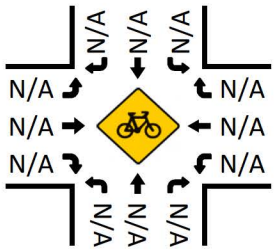
State Route 1 — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	974	0	0	686	98	NOON
AM	0	0	0	0	0	AM

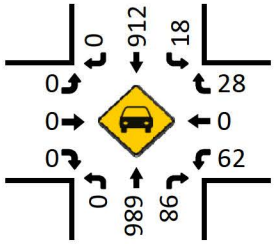
Total Vehicles (AM)



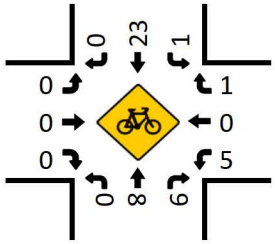
Bikes (AM)



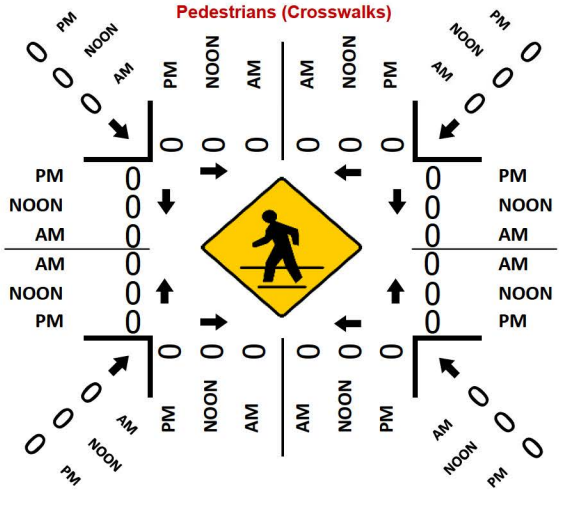
Total Vehicles (Noon)



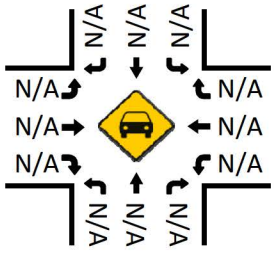
Bikes (NOON)



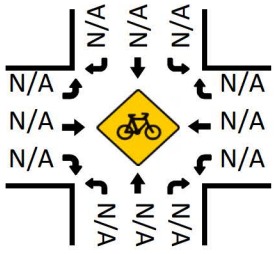
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

State Route 1 & Main St

Peak Hour Turning Movement Count

ID: 19-08263-001
City: Half Moon Bay

Day: Saturday
Date: 06/01/2019

PEAK HOURS: AM: NONE; NOON: 12:15 PM - 01:15 PM; PM: NONE

COUNT PERIODS: AM: NONE; NOON: 12:00 PM - 02:00 PM; PM: NONE

State Route 1 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	160	813	282	0	1310	NOON
PM	0	0	0	0	0	PM

Main St — EASTBOUND

AM	NOON	PM	
0	323	0	⇦
0	0	0	↰ 0
0	160	0	↑ 0
0	62	0	→ 0
0	85	0	↱ 0
AM	NOON	PM	

WESTBOUND — Main St

PM	NOON	AM	
0	402	0	0 ↱
0	66	0	0 ←
0	42	0	0 ↰
0	1	0	0 ↶
			⇨
0	382	0	
PM	NOON	AM	

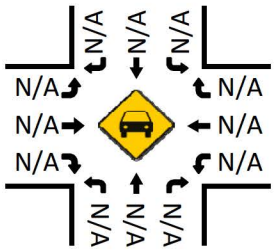
CONTROL: 0

	AM	NOON	PM
TEV	0	2970	0
PHF		0.99	

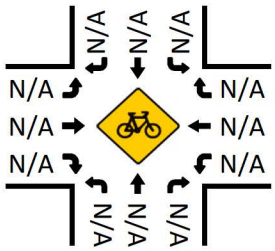
NORTHBOUND — State Route 1

PM	0	0	0	0	0	PM
NOON	955	15	97	748	37	NOON
AM	0	0	0	0	0	AM

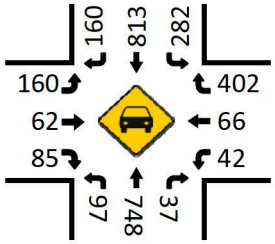
Total Vehicles (AM)



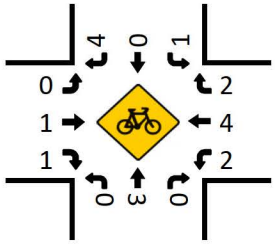
Bikes (AM)



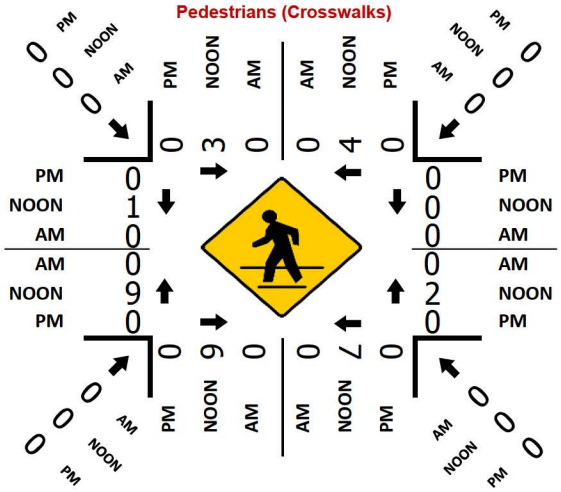
Total Vehicles (Noon)



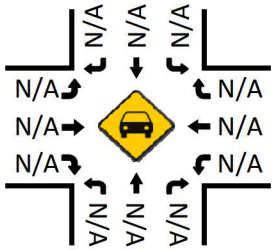
Bikes (NOON)



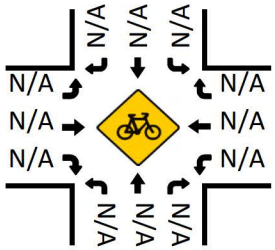
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

State Route 1 & State Route 92

Peak Hour Turning Movement Count

ID: 19-08263-002
City: Half Moon Bay

Day: Saturday
Date: 06/01/2019

PEAK HOURS

AM	NOON	PM
NONE	12:00 PM - 01:00 PM	NONE

COUNT PERIODS

AM	NOON	PM
NONE	12:00 PM - 02:00 PM	NONE

State Route 1 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	28	671	276	16	939	NOON
PM	0	0	0	0	0	PM

State Route 92 — EASTBOUND

AM	NOON	PM
0	270	0
0	0	0
0	45	0
0	38	0
0	194	0

State Route 92 — WESTBOUND

PM	NOON	AM
0	194	0
0	92	0
0	581	0
0	0	0
0	762	0

CONTROL

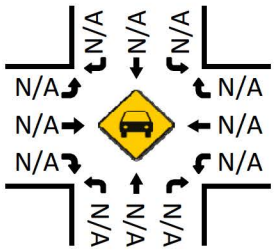
0

	AM	NOON	PM
TEV	0	3428	0
PHF		0.92	

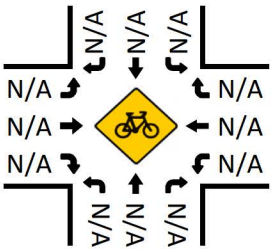
State Route 1 — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	1457	11	150	684	448	NOON
AM	0	0	0	0	0	AM

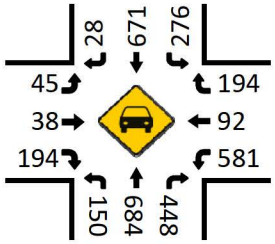
Total Vehicles (AM)



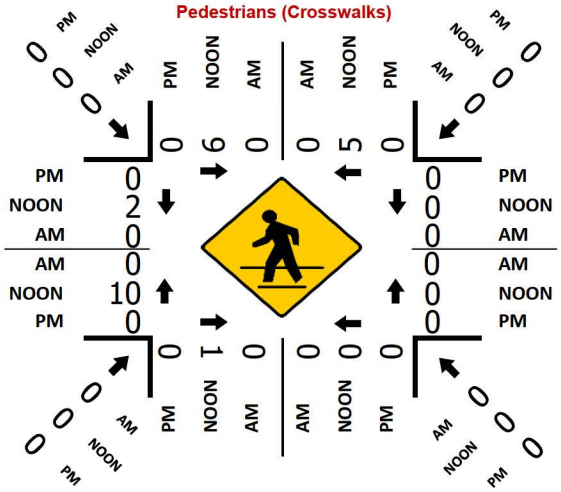
Bikes (AM)



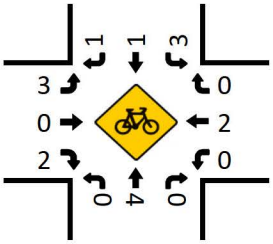
Total Vehicles (Noon)



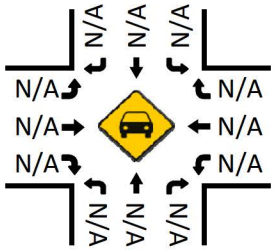
Pedestrians (Crosswalks)



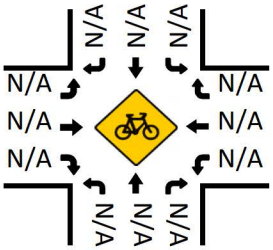
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Main St & State Route 92

Peak Hour Turning Movement Count

ID: 19-08263-003
City: Half Moon Bay

Day: Saturday
Date: 06/01/2019

PEAK HOURS	COUNT PERIODS
NONE	NONE
01:00 PM - 02:00 PM	12:00 PM - 02:00 PM
NONE	NONE

Main St — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	44	131	290	0	458	NOON
PM	0	0	0	0	0	PM

State Route 92 — EASTBOUND

AM	NOON	PM
0	816	0
0	20	0
0	29	0
0	688	0
0	101	0

State Route 92 — WESTBOUND

PM	NOON	AM
0	269	0
0	655	0
0	168	0
0	0	0
0	1130	0

CONTROL

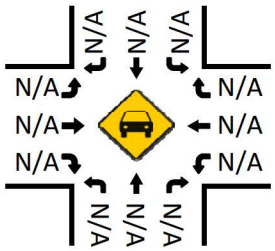
0

TEV	0 AM	2804 NOON	0 PM
PHF		0.96	

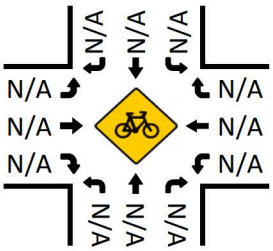
Main St — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	400	0	97	160	152	NOON
AM	0	0	0	0	0	AM

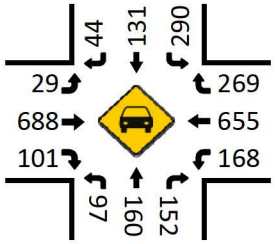
Total Vehicles (AM)



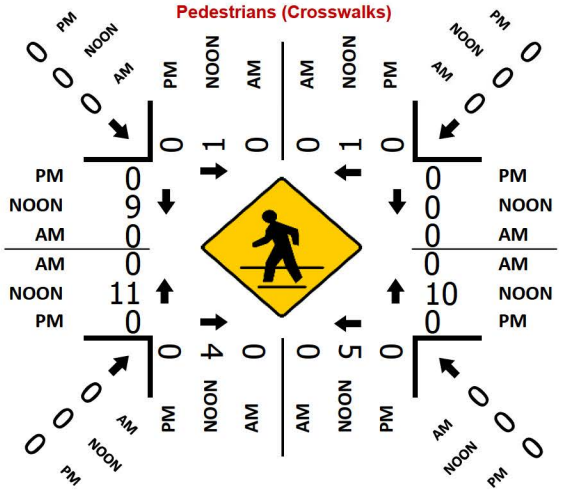
Bikes (AM)



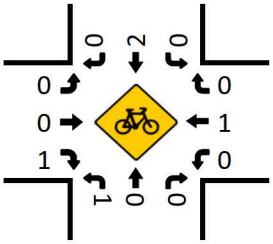
Total Vehicles (Noon)



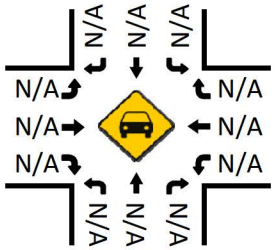
Pedestrians (Crosswalks)



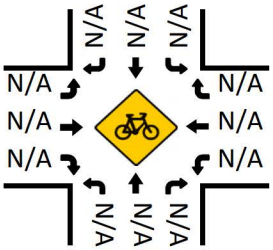
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

State Route 1 & Poplar St

Peak Hour Turning Movement Count

ID: 19-08263-004
City: Half Moon Bay

Day: Saturday
Date: 06/01/2019

PEAK HOURS	COUNT PERIODS
NONE	NONE
12:15 PM - 01:15 PM	12:00 PM - 02:00 PM
NONE	NONE

State Route 1 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	55	912	29	0	870	NOON
PM	0	0	0	0	0	PM

Poplar St — EASTBOUND

AM	NOON	PM	
0	86	0	⇦
0	0	0	↰ 0
0	107	0	↱ 0
0	21	0	→ 0
0	17	0	↱ 0
AM	NOON	PM	

WESTBOUND — Poplar St

PM	NOON	AM	
0	54	0	0 ↰
0	17	0	0 ←
0	43	0	0 ↰
0	0	0	0 ↰
			⇨
0	61	0	
PM	NOON	AM	

CONTROL

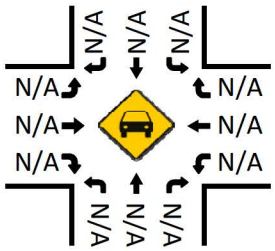
0

	AM	NOON	PM
TEV	0	1989	0
PHF		0.95	

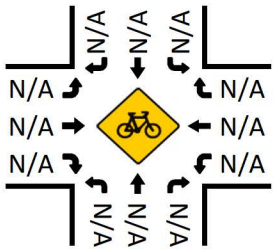
NORTHBOUND — State Route 1

PM	0	0	0	0	0	PM
NOON	972	0	14	709	11	NOON
AM	0	0	0	0	0	AM

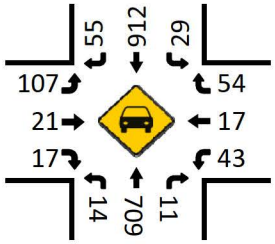
Total Vehicles (AM)



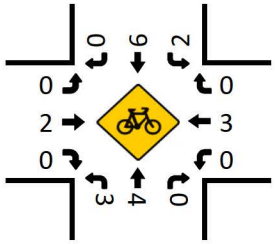
Bikes (AM)



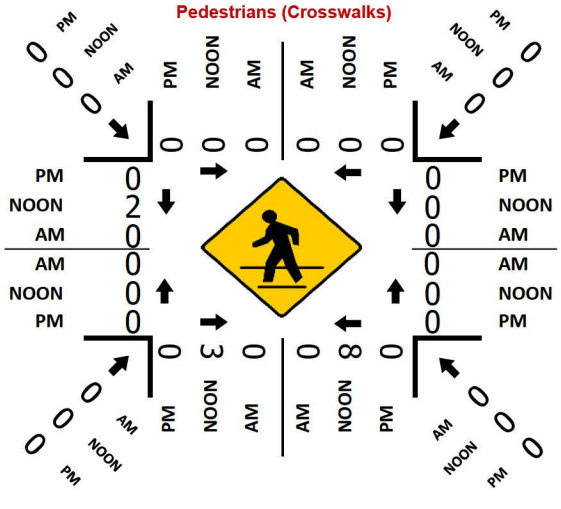
Total Vehicles (Noon)



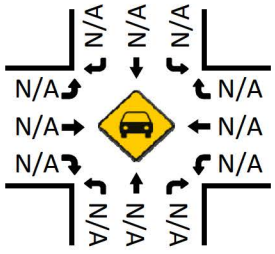
Bikes (NOON)



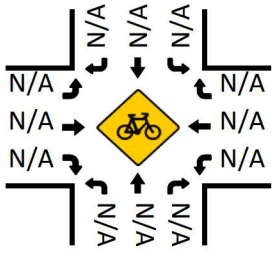
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Main St & Poplar St

Peak Hour Turning Movement Count

ID: 19-08263-005
City: Half Moon Bay

Day: Saturday
Date: 06/01/2019

PEAK HOURS

AM	NONE
NOON	12:00 PM - 01:00 PM
PM	NONE

COUNT PERIODS

AM	NONE
NOON	12:00 PM - 02:00 PM
PM	NONE

Main St — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	58	112	0	0	190	NOON
PM	0	0	0	0	0	PM

Poplar St — EASTBOUND

AM	NOON	PM	
0	91	0	⇦
0	0	0	↰ 0
0	39	0	↱ 0
0	0	0	→ 0
0	19	0	↱ 0
AM	NOON	PM	

Poplar St — WESTBOUND

PM	NOON	AM	
0	0	0	0 ↱
0	0	0	0 ←
0	0	0	0 ↰
0	0	0	0 ↰
0	0	0	⇨
PM	NOON	AM	

CONTROL

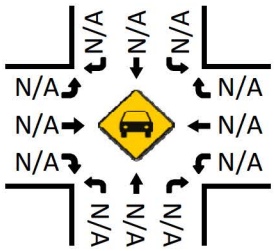
0

	AM	NOON	PM
TEV	0	414	0
PHF		0.89	

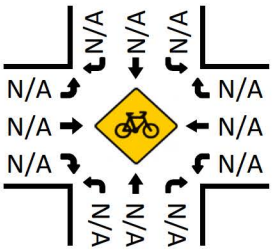
Main St — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	133	2	33	151	0	NOON
AM	0	0	0	0	0	AM

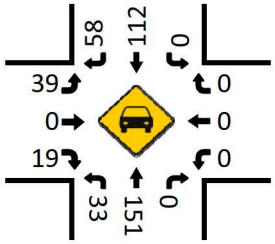
Total Vehicles (AM)



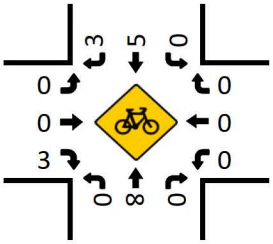
Bikes (AM)



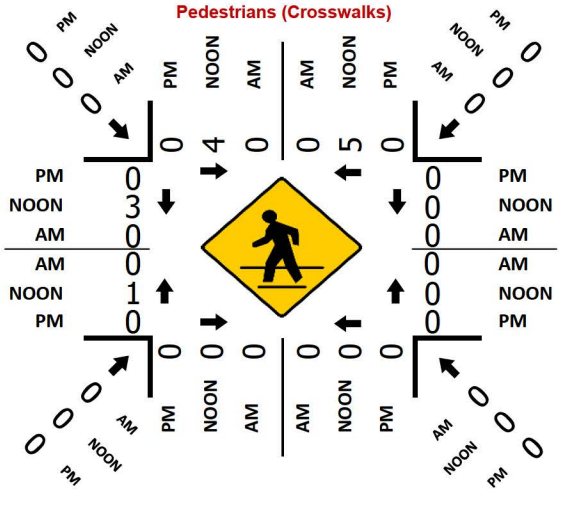
Total Vehicles (Noon)



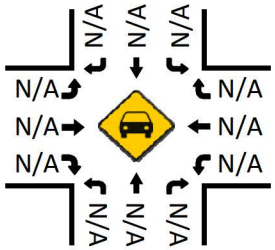
Bikes (NOON)



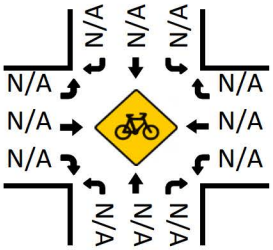
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

State Route 1 & Seymour St

Peak Hour Turning Movement Count

ID: 19-08263-006
City: Half Moon Bay

Day: Saturday
Date: 06/01/2019

PEAK HOURS

AM	NONE
NOON	12:00 PM - 01:00 PM
PM	NONE

COUNT PERIODS

AM	NONE
NOON	12:00 PM - 02:00 PM
PM	NONE

State Route 1 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	6	917	21	0	739	NOON
PM	0	0	0	0	0	PM

EASTBOUND — Seymour St

AM	NOON	PM
0	12	0

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

WESTBOUND — Seymour St

PM	NOON	AM
0	15	0
0	1	0
0	2	0
0	0	0
0	26	0

CONTROL

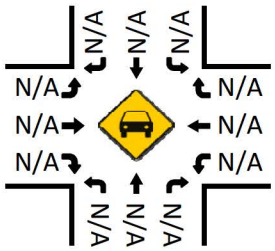
0

	AM	NOON	PM
TEV	0	1700	0
PHF		0.94	

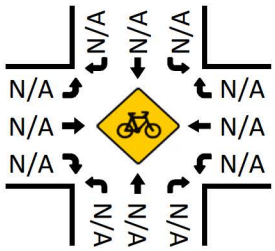
NORTHBOUND — State Route 1

PM	0	0	0	0	0	PM
NOON	923	0	5	722	4	NOON
AM	0	0	0	0	0	AM

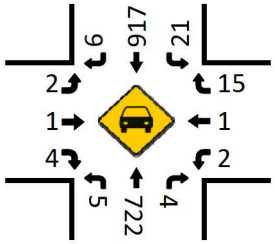
Total Vehicles (AM)



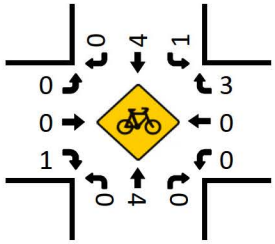
Bikes (AM)



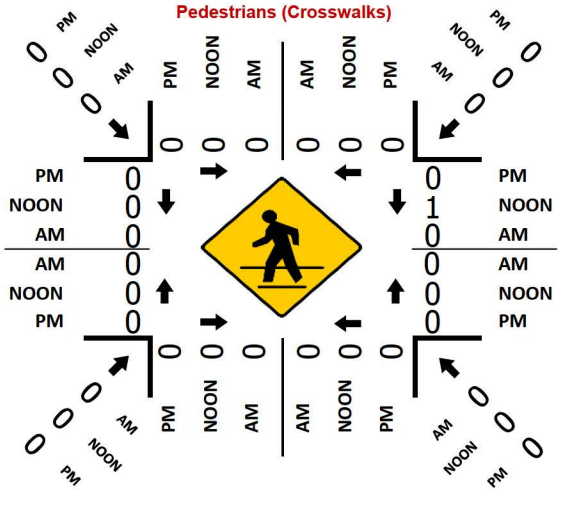
Total Vehicles (Noon)



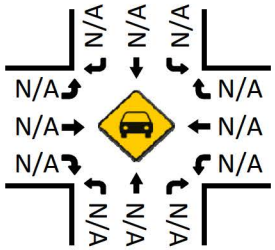
Bikes (NOON)



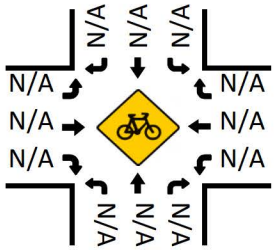
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Main St & Seymour St

Peak Hour Turning Movement Count

ID: 19-08263-007
City: Half Moon Bay

Day: Saturday
Date: 06/01/2019

	PEAK HOURS	COUNT PERIODS
AM	NONE	NONE
NOON	12:00 PM - 01:00 PM	12:00 PM - 02:00 PM
PM	NONE	NONE

Main St – SOUTHBOUND

	Right	Through	Left	U-Turn	Departing
AM	0	0	0	0	0
NOON	9	77	4	2	126
PM	0	0	0	0	0
	0	0	0	0	

Seymour St – EASTBOUND

	AM	NOON	PM	
Departing	0	13	0	
U-Turn	0	0	0	0
Left	0	13	0	0
Through	0	6	0	0
Right	0	4	0	0

Seymour St – WESTBOUND

		PM	NOON	AM
Right	0	0	3	0
Through	0	0	1	0
Left	0	0	1	0
U-Turn	0	0	0	0
Departing		0	10	0

Main St – NORTHBOUND

	Departing	U-Turn	Left	Through	Right
		0	0	0	0
PM	0	0	0	0	0
NOON	82	0	3	108	0
AM	0	0	0	0	0

CONTROL

0

	AM	NOON	PM
TEV	0	231	0
PHF		0.85	

Total Vehicles (AM)

All movements: N/A

Total Vehicles (Noon)

Approach	Left	Through	Right
Southbound	4	77	9
Eastbound	13	6	4
Westbound	1	1	3
Northbound	3	108	0

Total Vehicles (PM)

All movements: N/A

Bikes (AM)

All movements: N/A

Bikes (NOON)

Approach	Left	Through	Right
Southbound	0	9	0
Eastbound	0	0	0
Westbound	0	0	0
Northbound	3	9	1

Bikes (PM)

All movements: N/A

Pedestrians (Crosswalks)

Crosswalk	AM	NOON	PM
North leg, eastbound	0	1	0
North leg, westbound	0	0	0
West leg, southbound	0	1	0
West leg, northbound	0	0	0
East leg, southbound	0	9	0
East leg, northbound	0	8	0
South leg, eastbound	0	2	0
South leg, westbound	0	3	0
NW corner (diagonal)	0	0	0
NE corner (diagonal)	0	0	0
SW corner (diagonal)	0	0	0
SE corner (diagonal)	0	0	0

Prepared by National Data & Surveying Services

State Route 1 & Main St

Peak Hour Turning Movement Count

ID: 19-08263-008
City: Half Moon Bay

Day: Saturday
Date: 06/01/2019

PEAK HOURS	COUNT PERIODS
NONE	NONE
12:00 PM - 01:00 PM	12:00 PM - 02:00 PM
NONE	NONE

State Route 1 — SOUTHBOUND

AM	0	0	0	0	0	AM
NOON	0	912	16	2	743	NOON
PM	0	0	0	0	0	PM

EASTBOUND (Main St)

AM	NOON	PM	
0	0	0	⇦
0	0	0	↰ 0
0	0	0	↑ 0
0	0	0	↱ 0
0	0	0	⇩
AM	NOON	PM	

WESTBOUND (Main St)

PM	NOON	AM	
0	27	0	↰ 0
0	0	0	← 0
0	69	0	↰ 0
0	0	0	↰ 0
0	110	0	⇨
PM	NOON	AM	

CONTROL

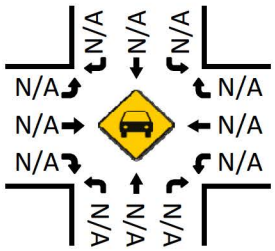
0

	AM	NOON	PM
TEV	0	1834	0
PHF		0.95	

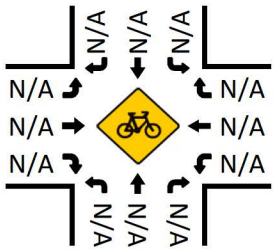
State Route 1 — NORTHBOUND

PM	0	0	0	0	0	PM
NOON	981	0	0	714	94	NOON
AM	0	0	0	0	0	AM

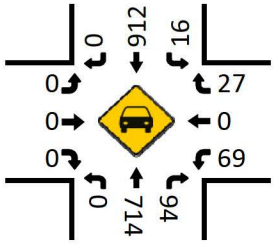
Total Vehicles (AM)



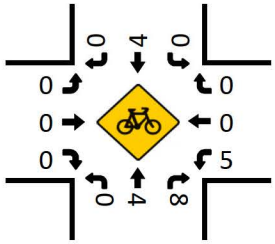
Bikes (AM)



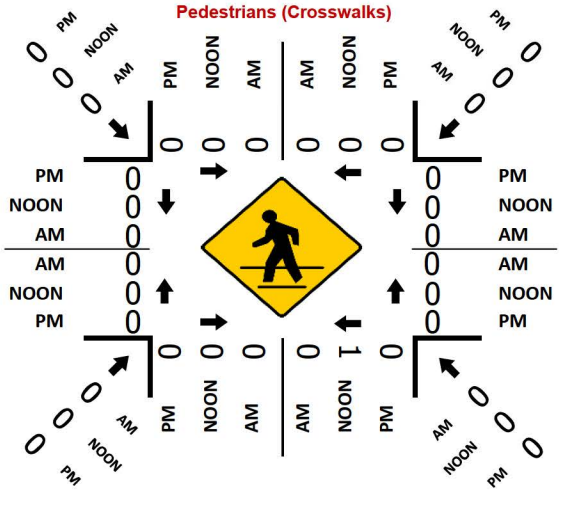
Total Vehicles (Noon)



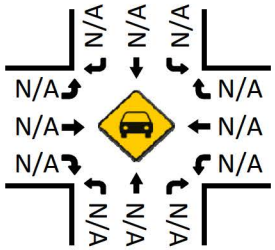
Bikes (NOON)



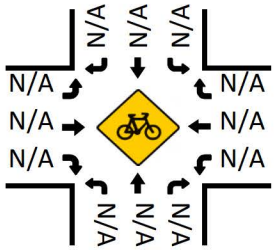
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Appendix B

Intersection Level of Service Calculations

This page intentionally left blank

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	93	41	118	54	289	43	554	130	349	910	165
Future Volume (vph)	53	93	41	118	54	289	43	554	130	349	910	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1833	1518		1751	1521	1805	3284		1770	3444	
Flt Permitted		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1833	1518		1751	1521	1805	3284		1770	3444	
Peak-hour factor, PHF	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)	56	98	43	124	57	304	45	583	137	367	958	174
RTOR Reduction (vph)	0	0	37	0	0	173	0	12	0	0	7	0
Lane Group Flow (vph)	0	154	6	0	181	131	45	708	0	367	1125	0
Confl. Peds. (#/hr)	15		1	1		15	2		1	1		2
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	5%	0%	5%	4%	7%	5%	0%	5%	12%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		21.0	21.0		24.3	64.8	6.6	46.5		40.5	80.4	
Effective Green, g (s)		21.0	21.0		24.3	64.8	6.6	46.5		40.5	80.4	
Actuated g/C Ratio		0.14	0.14		0.16	0.43	0.04	0.31		0.27	0.54	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		256	212		283	657	79	1018		477	1845	
v/s Ratio Prot		c0.08			c0.10	0.05	0.02	c0.22		c0.21	0.33	
v/s Ratio Perm			0.00			0.03						
v/c Ratio		0.60	0.03		0.64	0.20	0.57	0.70		0.77	0.61	
Uniform Delay, d1		60.6	55.7		58.8	26.5	70.3	45.5		50.4	24.0	
Progression Factor		1.00	1.00		1.00	1.00	1.48	0.62		1.00	1.00	
Incremental Delay, d2		3.9	0.1		3.5	0.1	5.1	3.7		6.6	1.5	
Delay (s)		64.5	55.7		62.2	26.5	109.1	31.9		57.1	25.5	
Level of Service		E	E		E	C	F	C		E	C	
Approach Delay (s)		62.6			39.9			36.5			33.2	
Approach LOS		E			D			D			C	

Intersection Summary				
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	76.9%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	38	74	254	36	68	108	701	431	442	669	3
Future Volume (vph)	25	38	74	254	36	68	108	701	431	442	669	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1741	1575	1618	1611	1379	1805	3505	1548	3400	3537	
Flt Permitted		0.98	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1741	1575	1618	1611	1379	1805	3505	1548	3400	3537	
Peak-hour factor, PHF	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)	27	40	79	270	38	72	115	746	459	470	712	3
RTOR Reduction (vph)	0	0	73	0	0	61	0	0	234	0	0	0
Lane Group Flow (vph)	0	67	6	154	154	11	115	746	225	470	715	0
Confl. Peds. (#/hr)	6					6	6					6
Confl. Bikes (#/hr)			1						1			1
Heavy Vehicles (%)	7%	7%	1%	6%	14%	15%	0%	3%	3%	3%	2%	0%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.2	11.2	22.5	22.5	22.5	13.6	73.4	73.4	25.2	85.0	
Effective Green, g (s)		11.2	11.2	22.5	22.5	22.5	13.6	73.4	73.4	25.2	85.0	
Actuated g/C Ratio		0.07	0.07	0.15	0.15	0.15	0.09	0.49	0.49	0.17	0.57	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		129	117	242	241	206	163	1715	757	571	2004	
v/s Ratio Prot		c0.04		0.10	c0.10		c0.06	c0.21		c0.14	0.20	
v/s Ratio Perm			0.00			0.01			0.15			
v/c Ratio		0.52	0.05	0.64	0.64	0.05	0.71	0.43	0.30	0.82	0.36	
Uniform Delay, d1		66.8	64.5	59.9	59.9	54.6	66.3	24.8	22.9	60.2	17.7	
Progression Factor		1.00	1.00	0.86	0.86	7.54	1.00	1.00	1.00	0.79	0.39	
Incremental Delay, d2		1.5	0.1	4.0	4.0	0.0	10.8	0.8	1.0	8.1	0.4	
Delay (s)		68.3	64.5	55.2	55.3	411.7	77.0	25.7	23.9	55.9	7.3	
Level of Service		E	E	E	E	F	E	C	C	E	A	
Approach Delay (s)		66.2			122.8			29.5			26.6	
Approach LOS		E			F			C			C	

Intersection Summary				
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	62.4%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	730	91	112	277	194	70	158	169	231	81	19
Future Volume (vph)	73	730	91	112	277	194	70	158	169	231	81	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1542	1703	3438	1456	1703	1863	1560	1736	1753	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1542	1703	3438	1456	1703	1863	1560	1736	1753	
Peak-hour factor, PHF	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)	80	802	100	123	304	213	77	174	186	254	89	21
RTOR Reduction (vph)	0	0	51	0	0	106	0	0	161	0	7	0
Lane Group Flow (vph)	80	802	49	123	304	107	77	174	25	254	103	0
Confl. Peds. (#/hr)	2		2	2		2	10		8	8		10
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	6%	5%	8%	6%	2%	1%	4%	0%	25%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	11.0	70.5	70.5	15.8	75.3	75.3	20.1	20.1	20.1	26.1	26.1	
Effective Green, g (s)	11.0	70.5	70.5	15.8	75.3	75.3	20.1	20.1	20.1	26.1	26.1	
Actuated g/C Ratio	0.07	0.47	0.47	0.11	0.50	0.50	0.13	0.13	0.13	0.17	0.17	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	129	1663	724	179	1725	730	228	249	209	302	305	
v/s Ratio Prot	c0.05	c0.23		c0.07	0.09		0.05	c0.09		c0.15	0.06	
v/s Ratio Perm			0.03			0.07			0.02			
v/c Ratio	0.62	0.48	0.07	0.69	0.18	0.15	0.34	0.70	0.12	0.84	0.34	
Uniform Delay, d1	67.5	27.2	21.8	64.7	20.4	20.1	58.9	62.1	57.2	59.9	54.4	
Progression Factor	1.21	0.75	0.63	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.4	0.8	0.1	8.4	0.2	0.4	0.3	6.7	0.1	18.0	0.2	
Delay (s)	87.0	21.4	14.0	73.1	20.6	20.5	59.2	68.8	57.3	77.9	54.6	
Level of Service	F	C	B	E	C	C	E	E	E	E	D	
Approach Delay (s)		26.0			30.7			62.2			70.9	
Approach LOS		C			C			E			E	

Intersection Summary				
HCM 2000 Control Delay	40.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.62			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	66.4%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	52	11	22	40	81	7	672	12	63	431	16
Future Volume (vph)	107	52	11	22	40	81	7	672	12	63	431	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.99			0.92		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1798			1663		1805	1840		1752	1817	
Flt Permitted		0.55			0.94		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1021			1571		1805	1840		1752	1817	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	111	54	11	23	42	84	7	700	12	66	449	17
RTOR Reduction (vph)	0	2	0	0	35	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	174	0	0	114	0	7	713	0	66	465	0
Confl. Peds. (#/hr)			22	22			6		1	1		6
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	2%	7%	4%	0%	4%	0%	3%	0%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		26.7			26.7		5.4	99.8		10.9	105.3	
Effective Green, g (s)		26.7			26.7		5.4	99.8		10.9	105.3	
Actuated g/C Ratio		0.18			0.18		0.04	0.67		0.07	0.70	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		181			279		64	1224		127	1275	
v/s Ratio Prot							0.00	c0.39		c0.04	0.26	
v/s Ratio Perm		c0.17			0.07							
v/c Ratio		0.96			0.41		0.11	0.58		0.52	0.37	
Uniform Delay, d1		61.2			54.7		70.0	13.7		67.0	9.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		55.5			0.4		0.3	2.0		1.5	0.8	
Delay (s)		116.7			55.0		70.2	15.7		68.5	9.8	
Level of Service		F			E		E	B		E	A	
Approach Delay (s)		116.7			55.0			16.3			17.1	
Approach LOS		F			E			B			B	

Intersection Summary				
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.65			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	77.7%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

06/14/2019

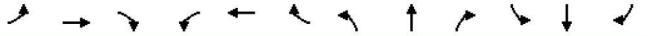
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	69	78	194	116	25
Future Volume (Veh/h)	48	69	78	194	116	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	60	86	98	243	145	31
Pedestrians	15			7	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	620	182	191			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	620	182	191			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	90	93			
cM capacity (veh/h)	412	844	1365			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	146	341	176
Volume Left	60	98	0
Volume Right	86	0	31
cSH	590	1365	1700
Volume to Capacity	0.25	0.07	0.10
Queue Length 95th (ft)	24	6	0
Control Delay (s)	13.1	2.7	0.0
Lane LOS	B	A	
Approach Delay (s)	13.1	2.7	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		4.3		
Intersection Capacity Utilization	43.1%	ICU Level of Service		A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

06/14/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	2	2	1	2	19	4	648	1	28	459	4
Future Volume (Veh/h)	6	2	2	1	2	19	4	648	1	28	459	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	6	2	2	1	2	20	4	675	1	29	478	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											1190	
pX, platoon unblocked												
vC, conflicting volume	1242	1222	480	1222	1224	676	482			676		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1242	1222	480	1222	1224	676	482			676		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	99	100	99	99	96	100			97		
cM capacity (veh/h)	140	173	586	150	173	454	1081			915		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	10	23	4	676	29	482
Volume Left	6	1	4	0	29	0
Volume Right	2	20	0	1	0	4
cSH	173	369	1081	1700	915	1700
Volume to Capacity	0.06	0.06	0.00	0.40	0.03	0.28
Queue Length 95th (ft)	5	5	0	0	2	0
Control Delay (s)	27.1	15.4	8.3	0.0	9.1	0.0
Lane LOS	D	C	A		A	
Approach Delay (s)	27.1	15.4	0.0		0.5	
Approach LOS	D	C				

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization	44.2%	ICU Level of Service		A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	5	13	0	10	8	13	121	0	8	58	17
Future Volume (vph)	15	5	13	0	10	8	13	121	0	8	58	17
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	18	6	16	0	12	10	16	148	0	10	71	21

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	40	22	164	102
Volume Left (vph)	18	0	16	10
Volume Right (vph)	16	10	0	21
Hadj (s)	-0.12	-0.24	0.05	-0.07
Departure Headway (s)	4.4	4.3	4.2	4.1
Degree Utilization, x	0.05	0.03	0.19	0.12
Capacity (veh/h)	769	775	835	849
Control Delay (s)	7.6	7.4	8.2	7.7
Approach Delay (s)	7.6	7.4	8.2	7.7
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.9	
Level of Service			A	
Intersection Capacity Utilization			27.2%	ICU Level of Service
Analysis Period (min)			15	A

HCM Unsignalized Intersection Capacity Analysis
8: SR 1 & Higgins Canyon Rd

06/14/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	63	15	637	106	23	441
Future Volume (Veh/h)	63	15	637	106	23	441
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	66	16	671	112	24	464
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	951	336			671	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	951	336			671	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	74	98			97	
cM capacity (veh/h)	251	660			915	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	66	16	336	336	112	24	232	232
Volume Left	66	0	0	0	0	24	0	0
Volume Right	0	16	0	0	112	0	0	0
cSH	251	660	1700	1700	1700	915	1700	1700
Volume to Capacity	0.26	0.02	0.20	0.20	0.07	0.03	0.14	0.14
Queue Length 95th (ft)	26	2	0	0	0	2	0	0
Control Delay (s)	24.4	10.6	0.0	0.0	0.0	9.0	0.0	0.0
Lane LOS	C	B				A		
Approach Delay (s)	21.7		0.0			0.4		
Approach LOS	C							

Intersection Summary					
Average Delay		1.5			
Intersection Capacity Utilization		29.3%	ICU Level of Service		A
Analysis Period (min)		15			

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	60	62	57	86	547	59	692	19	244	679	126
Future Volume (vph)	164	60	62	57	86	547	59	692	19	244	679	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1805	1552		1848	1583	1805	3554		1770	3437	
Flt Permitted		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1805	1552		1848	1583	1805	3554		1770	3437	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	171	62	65	59	90	570	61	721	20	254	707	131
RTOR Reduction (vph)	0	0	54	0	0	167	0	1	0	0	7	0
Lane Group Flow (vph)	0	234	11	0	149	403	61	740	0	254	831	0
Confl. Peds. (#/hr)	9		7	7		9	6		3	3		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	2%	2%	0%	1%	0%	1%	4%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		26.0	26.0		22.5	50.4	7.5	55.9		27.9	76.3	
Effective Green, g (s)		26.0	26.0		22.5	50.4	7.5	55.9		27.9	76.3	
Actuated g/C Ratio		0.17	0.17		0.15	0.34	0.05	0.37		0.19	0.51	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		312	269		277	531	90	1324		329	1748	
v/s Ratio Prot		c0.13			0.08	c0.14	0.03	c0.21		c0.14	0.24	
v/s Ratio Perm			0.01			0.11						
v/c Ratio		0.75	0.04		0.54	0.76	0.68	0.56		0.77	0.48	
Uniform Delay, d1		58.9	51.6		58.9	44.4	70.1	37.3		58.0	23.9	
Progression Factor		1.00	1.00		1.00	1.00	1.47	0.43		1.00	1.00	
Incremental Delay, d2		9.7	0.1		1.0	5.5	13.8	1.6		9.8	0.9	
Delay (s)		68.6	51.7		60.0	49.9	116.7	17.5		67.8	24.8	
Level of Service		E	D		E	D	F	B		E	C	
Approach Delay (s)		64.9			52.0			25.0			34.8	
Approach LOS		E			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	39.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	86.7%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	33	181	601	133	105	140	679	287	175	570	15
Future Volume (vph)	31	33	181	601	133	105	140	679	287	175	570	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1855	1573	1681	1727	1533	1787	3539	1583	3467	3541	
Flt Permitted		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1855	1573	1681	1727	1533	1787	3539	1583	3467	3541	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	32	34	189	626	139	109	146	707	299	182	594	16
RTOR Reduction (vph)	0	0	175	0	0	80	0	0	163	0	1	0
Lane Group Flow (vph)	0	66	14	382	383	29	146	707	136	182	609	0
Confl. Peds. (#/hr)	10		1	1		10	7					7
Heavy Vehicles (%)	0%	0%	1%	2%	0%	3%	1%	2%	2%	1%	1%	18%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.0	11.0	39.7	39.7	39.7	17.9	68.3	68.3	13.3	63.7	
Effective Green, g (s)		11.0	11.0	39.7	39.7	39.7	17.9	68.3	68.3	13.3	63.7	
Actuated g/C Ratio		0.07	0.07	0.26	0.26	0.26	0.12	0.46	0.46	0.09	0.42	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		136	115	444	457	405	213	1611	720	307	1503	
v/s Ratio Prot		c0.04		c0.23	0.22		c0.08	c0.20		c0.05	0.17	
v/s Ratio Perm			0.01			0.02			0.09			
v/c Ratio		0.49	0.12	0.86	0.84	0.07	0.69	0.44	0.19	0.59	0.41	
Uniform Delay, d1		66.8	65.0	52.5	52.1	41.3	63.3	27.8	24.3	65.7	30.0	
Progression Factor		1.00	1.00	0.79	0.79	0.61	1.00	1.00	1.00	0.67	0.37	
Incremental Delay, d2		1.0	0.2	14.5	11.6	0.0	7.1	0.9	0.6	2.8	0.7	
Delay (s)		67.8	65.1	56.0	52.8	25.2	70.4	28.7	24.9	47.0	11.9	
Level of Service		E	E	E	D	C	E	C	C	D	B	
Approach Delay (s)		65.8			50.8			33.0			19.9	
Approach LOS		E			D			C			B	

Intersection Summary				
HCM 2000 Control Delay	37.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.61			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	68.3%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	377	102	181	654	454	139	153	125	172	140	30
Future Volume (vph)	34	377	102	181	654	454	139	153	125	172	140	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3505	1561	1787	3574	1489	1787	1881	1547	1752	1782	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3505	1561	1787	3574	1489	1787	1881	1547	1752	1782	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	35	393	106	189	681	473	145	159	130	179	146	31
RTOR Reduction (vph)	0	0	58	0	0	115	0	0	113	0	6	0
Lane Group Flow (vph)	35	393	48	189	681	358	145	159	17	179	171	0
Confl. Peds. (#/hr)	13		1	1		13	14		13	13		14
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	3%	1%	1%	1%	2%	1%	1%	1%	3%	1%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	6.6	67.5	67.5	22.0	82.9	82.9	19.4	19.4	19.4	23.6	23.6	
Effective Green, g (s)	6.6	67.5	67.5	22.0	82.9	82.9	19.4	19.4	19.4	23.6	23.6	
Actuated g/C Ratio	0.04	0.45	0.45	0.15	0.55	0.55	0.13	0.13	0.13	0.16	0.16	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	76	1577	702	262	1975	822	231	243	200	275	280	
v/s Ratio Prot	c0.02	0.11		c0.11	0.19		0.08	c0.08		c0.10	0.10	
v/s Ratio Perm			0.03			c0.24			0.01			
v/c Ratio	0.46	0.25	0.07	0.72	0.34	0.44	0.63	0.65	0.08	0.65	0.61	
Uniform Delay, d1	70.0	25.6	23.4	61.1	18.5	19.8	61.9	62.1	57.5	59.3	58.9	
Progression Factor	1.24	0.57	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	0.4	0.2	8.0	0.5	1.7	3.8	4.8	0.1	4.2	2.8	
Delay (s)	88.3	14.9	5.0	69.1	19.0	21.4	65.7	66.9	57.5	63.5	61.7	
Level of Service	F	B	A	E	B	C	E	E	E	E	E	
Approach Delay (s)		17.8			26.9			63.7			62.6	
Approach LOS		B			C			E			E	

Intersection Summary				
HCM 2000 Control Delay	35.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.55			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	69.9%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	24	13	55	24	43	7	631	12	43	824	44
Future Volume (vph)	76	24	13	55	24	43	7	631	12	43	824	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1779			1726		1805	1853		1805	1865	
Flt Permitted		0.63			0.81		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1155			1431		1805	1853		1805	1865	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	79	25	14	57	25	45	7	657	12	45	858	46
RTOR Reduction (vph)	0	4	0	0	15	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	114	0	0	112	0	7	670	0	45	903	0
Confl. Peds. (#/hr)			11	11			3					3
Heavy Vehicles (%)	0%	5%	0%	2%	3%	0%	0%	2%	15%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		18.5			18.5		2.0	110.1		8.8	116.9	
Effective Green, g (s)		18.5			18.5		2.0	110.1		8.8	116.9	
Actuated g/C Ratio		0.12			0.12		0.01	0.73		0.06	0.78	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		142			176		24	1360		105	1453	
v/s Ratio Prot							0.00	0.36		c0.02	c0.48	
v/s Ratio Perm		c0.10			0.08							
v/c Ratio		0.81			0.64		0.29	0.49		0.43	0.62	
Uniform Delay, d1		64.0			62.6		73.3	8.3		68.2	7.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		26.0			5.5		2.5	1.3		1.0	2.0	
Delay (s)		90.0			68.0		75.8	9.6		69.2	9.1	
Level of Service		F			E		E	A		E	A	
Approach Delay (s)		90.0			68.0			10.3			11.9	
Approach LOS		F			E			B			B	

Intersection Summary				
HCM 2000 Control Delay	20.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.65			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	66.7%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

06/14/2019

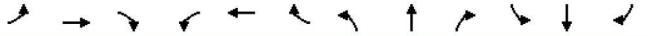
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	39	29	143	154	62
Future Volume (Veh/h)	31	39	29	143	154	62
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	42	32	155	167	67
Pedestrians	9			8	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	430	218	243			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	430	218	243			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	95	98			
cM capacity (veh/h)	562	811	1313			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	187	234
Volume Left	34	32	0
Volume Right	42	0	67
cSH	677	1313	1700
Volume to Capacity	0.11	0.02	0.14
Queue Length 95th (ft)	9	2	0
Control Delay (s)	11.0	1.5	0.0
Lane LOS	B	A	
Approach Delay (s)	11.0	1.5	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		2.2		
Intersection Capacity Utilization	38.2%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

06/14/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	2	5	1	0	26	7	619	9	24	844	10
Future Volume (Veh/h)	3	2	5	1	0	26	7	619	9	24	844	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	3	2	5	1	0	27	7	645	9	25	879	10
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											1190	
pX, platoon unblocked												
vC, conflicting volume	1620	1602	885	1600	1602	650	889			654		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1620	1602	885	1600	1602	650	889			654		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	98	99	99	100	94	99			97		
cM capacity (veh/h)	76	102	344	81	102	469	762			933		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	10	28	7	654	25	889
Volume Left	3	1	7	0	25	0
Volume Right	5	27	0	9	0	10
cSH	136	401	762	1700	933	1700
Volume to Capacity	0.07	0.07	0.01	0.38	0.03	0.52
Queue Length 95th (ft)	6	6	1	0	2	0
Control Delay (s)	33.6	14.7	9.8	0.0	9.0	0.0
Lane LOS	D	B	A		A	
Approach Delay (s)	33.6	14.7	0.1		0.2	
Approach LOS	D	B				

Intersection Summary				
Average Delay		0.6		
Intersection Capacity Utilization	55.4%	ICU Level of Service		B
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	5	11	0	5	3	6	99	1	6	92	7
Future Volume (vph)	16	5	11	0	5	3	6	99	1	6	92	7
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	18	6	13	0	6	3	7	114	1	7	106	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	37	9	122	121
Volume Left (vph)	18	0	7	7
Volume Right (vph)	13	3	1	8
Hadj (s)	-0.08	-0.17	0.04	0.01
Departure Headway (s)	4.4	4.3	4.2	4.1
Degree Utilization, x	0.04	0.01	0.14	0.14
Capacity (veh/h)	779	775	842	855
Control Delay (s)	7.6	7.4	7.8	7.8
Approach Delay (s)	7.6	7.4	7.8	7.8
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.8	
Level of Service			A	
Intersection Capacity Utilization			26.5%	ICU Level of Service
Analysis Period (min)			15	A

HCM Unsignalized Intersection Capacity Analysis
8: SR 1 & Higgins Canyon Rd

06/14/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	78	17	614	85	22	829
Future Volume (Veh/h)	78	17	614	85	22	829
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	81	18	640	89	23	864
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1118	320			640	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1118	320			640	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	59	97			98	
cM capacity (veh/h)	196	676			940	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	81	18	320	320	89	23	432	432
Volume Left	81	0	0	0	0	23	0	0
Volume Right	0	18	0	0	89	0	0	0
cSH	196	676	1700	1700	1700	940	1700	1700
Volume to Capacity	0.41	0.03	0.19	0.19	0.05	0.02	0.25	0.25
Queue Length 95th (ft)	47	2	0	0	0	2	0	0
Control Delay (s)	35.7	10.5	0.0	0.0	0.0	8.9	0.0	0.0
Lane LOS	E	B				A		
Approach Delay (s)	31.1		0.0			0.2		
Approach LOS	D							

Intersection Summary				
Average Delay		1.9		
Intersection Capacity Utilization		33.9%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	62	85	43	66	402	112	748	37	282	813	160
Future Volume (vph)	160	62	85	43	66	402	112	748	37	282	813	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1806	1553		1849	1586	1805	3540		1770	3433	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1806	1553		1849	1586	1805	3540		1770	3433	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	162	63	86	43	67	406	113	756	37	285	821	162
RTOR Reduction (vph)	0	0	71	0	0	194	0	2	0	0	8	0
Lane Group Flow (vph)	0	225	15	0	110	212	113	791	0	285	975	0
Confl. Peds. (#/hr)	9		7	7		9	6		3	3		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	2%	2%	0%	1%	0%	1%	4%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		24.2	24.2		21.0	56.2	8.5	37.9		35.2	64.6	
Effective Green, g (s)		24.2	24.2		21.0	56.2	8.5	37.9		35.2	64.6	
Actuated g/C Ratio		0.18	0.18		0.15	0.41	0.06	0.28		0.26	0.47	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		321	276		285	655	112	986		458	1630	
v/s Ratio Prot		c0.12			c0.06	0.08	c0.06	c0.22		c0.16	0.28	
v/s Ratio Perm			0.01			0.05						
v/c Ratio		0.70	0.06		0.39	0.32	1.01	0.80		0.62	0.60	
Uniform Delay, d1		52.5	46.4		51.7	27.0	63.8	45.6		44.5	26.2	
Progression Factor		1.00	1.00		1.08	2.42	0.66	0.57		1.00	1.00	
Incremental Delay, d2		6.8	0.1		0.3	0.1	82.6	6.2		1.9	1.6	
Delay (s)		59.3	46.5		56.3	65.4	124.9	32.2		46.4	27.8	
Level of Service		E	D		E	E	F	C		D	C	
Approach Delay (s)		55.7			63.5			43.8			32.0	
Approach LOS		E			E			D			C	

Intersection Summary				
HCM 2000 Control Delay	43.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	77.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	38	194	581	92	194	161	684	448	292	671	28
Future Volume (vph)	45	38	194	581	92	194	161	684	448	292	671	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1850	1574	1681	1717	1535	1787	3539	1583	3467	3524	
Flt Permitted		0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1850	1574	1681	1717	1535	1787	3539	1583	3467	3524	
Peak-hour factor, PHF	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)	49	41	211	632	100	211	175	743	487	317	729	30
RTOR Reduction (vph)	0	0	184	0	0	156	0	0	295	0	2	0
Lane Group Flow (vph)	0	90	27	367	365	55	175	743	192	317	757	0
Confl. Peds. (#/hr)	10		1	1		10	7					7
Heavy Vehicles (%)	0%	0%	1%	2%	0%	3%	1%	2%	2%	1%	1%	18%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.9	11.9	35.7	35.7	35.7	19.4	53.5	53.5	17.2	51.3	
Effective Green, g (s)		11.9	11.9	35.7	35.7	35.7	19.4	53.5	53.5	17.2	51.3	
Actuated g/C Ratio		0.09	0.09	0.26	0.26	0.26	0.14	0.39	0.39	0.13	0.38	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		161	137	441	450	402	254	1392	622	438	1329	
v/s Ratio Prot		c0.05		c0.22	0.21		c0.10	0.21		c0.09	c0.21	
v/s Ratio Perm			0.02			0.04			0.12			
v/c Ratio		0.56	0.19	0.83	0.81	0.14	0.69	0.53	0.31	0.72	0.57	
Uniform Delay, d1		59.5	57.6	47.3	47.0	38.4	55.4	31.7	28.5	57.1	33.6	
Progression Factor		1.00	1.00	0.68	0.68	0.34	1.25	0.62	0.33	0.75	0.54	
Incremental Delay, d2		2.4	0.3	11.7	9.7	0.1	5.7	1.4	1.2	5.2	1.6	
Delay (s)		61.9	57.9	43.8	41.7	13.1	74.9	21.0	10.5	48.3	19.9	
Level of Service		E	E	D	D	B	E	C	B	D	B	
Approach Delay (s)		59.1			36.1			24.1			28.3	
Approach LOS		E			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	68.6%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	688	101	168	655	269	97	160	152	290	131	44
Future Volume (vph)	49	688	101	168	655	269	97	160	152	290	131	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3505	1561	1787	3574	1495	1787	1881	1550	1752	1740	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3505	1561	1787	3574	1495	1787	1881	1550	1752	1740	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	51	717	105	175	682	280	101	167	158	302	136	46
RTOR Reduction (vph)	0	0	65	0	0	81	0	0	136	0	10	0
Lane Group Flow (vph)	51	717	40	175	682	199	101	167	22	302	172	0
Confl. Peds. (#/hr)	13		1	1		13	14		13	13		14
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	3%	1%	1%	1%	2%	1%	1%	1%	3%	1%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	7.0	52.1	52.1	19.2	64.3	64.3	19.1	19.1	19.1	28.1	28.1	
Effective Green, g (s)	7.0	52.1	52.1	19.2	64.3	64.3	19.1	19.1	19.1	28.1	28.1	
Actuated g/C Ratio	0.05	0.38	0.38	0.14	0.47	0.47	0.14	0.14	0.14	0.21	0.21	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	89	1342	598	252	1689	706	250	264	217	361	359	
v/s Ratio Prot	0.03	c0.20		c0.10	0.19		0.06	c0.09		c0.17	0.10	
v/s Ratio Perm			0.03			0.13			0.01			
v/c Ratio	0.57	0.53	0.07	0.69	0.40	0.28	0.40	0.63	0.10	0.84	0.48	
Uniform Delay, d1	63.0	32.5	26.6	55.6	23.4	21.8	53.3	55.1	51.0	51.7	47.5	
Progression Factor	0.88	0.60	0.24	1.00	1.00	1.00	1.00	1.00	1.00	0.57	0.48	
Incremental Delay, d2	4.5	1.3	0.2	6.5	0.7	1.0	0.4	3.6	0.1	13.5	0.3	
Delay (s)	60.2	20.7	6.5	62.1	24.1	22.8	53.7	58.7	51.0	43.0	23.3	
Level of Service	E	C	A	E	C	C	D	E	D	D	C	
Approach Delay (s)		21.3			29.6			54.7			35.6	
Approach LOS		C			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.65			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	74.5%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	21	17	43	17	54	14	709	11	29	912	55
Future Volume (vph)	107	21	17	43	17	54	14	709	11	29	912	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.96			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1780			1713		1805	1855		1805	1863	
Flt Permitted		0.62			0.86		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1142			1507		1805	1855		1805	1863	
Peak-hour factor, PHF	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)	113	22	18	45	18	57	15	746	12	31	960	58
RTOR Reduction (vph)	0	4	0	0	29	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	149	0	0	91	0	15	758	0	31	1017	0
Confl. Peds. (#/hr)			11	11			3					3
Heavy Vehicles (%)	0%	5%	0%	2%	3%	0%	0%	2%	15%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		20.7			20.7		2.8	87.7		15.0	99.9	
Effective Green, g (s)		20.7			20.7		2.8	87.7		15.0	99.9	
Actuated g/C Ratio		0.15			0.15		0.02	0.64		0.11	0.73	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		173			229		37	1196		199	1368	
v/s Ratio Prot							c0.01	0.41		0.02	c0.55	
v/s Ratio Perm		c0.13			0.06							
v/c Ratio		0.86			0.40		0.41	0.63		0.16	0.74	
Uniform Delay, d1		56.2			52.0		65.8	14.5		54.8	10.6	
Progression Factor		1.00			1.00		1.00	1.00		0.98	0.79	
Incremental Delay, d2		31.2			0.4		2.6	2.6		0.1	3.2	
Delay (s)		87.4			52.4		68.4	17.1		53.6	11.6	
Level of Service		F			D		E	B		D	B	
Approach Delay (s)		87.4			52.4			18.1			12.8	
Approach LOS		F			D			B			B	

Intersection Summary				
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	75.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

06/14/2019

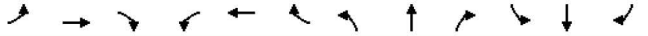
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	19	35	151	112	58
Future Volume (Veh/h)	39	19	35	151	112	58
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	44	21	39	170	126	65
Pedestrians	9			8	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	418	176	200			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	418	176	200			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	98	97			
cM capacity (veh/h)	570	855	1362			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	65	209	191
Volume Left	44	39	0
Volume Right	21	0	65
cSH	639	1362	1700
Volume to Capacity	0.10	0.03	0.11
Queue Length 95th (ft)	8	2	0
Control Delay (s)	11.3	1.6	0.0
Lane LOS	B	A	
Approach Delay (s)	11.3	1.6	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		2.3		
Intersection Capacity Utilization	36.4%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

06/14/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1	4	2	1	15	5	722	4	21	917	6
Future Volume (Veh/h)	2	1	4	2	1	15	5	722	4	21	917	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	2	1	4	2	1	16	5	768	4	22	976	6
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											1190	
pX, platoon unblocked												
vC, conflicting volume	1818	1805	980	1806	1806	770	982			772		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1818	1805	980	1806	1806	770	982			772		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	99	99	97	99	96	99			97		
cM capacity (veh/h)	56	77	303	58	77	401	703			843		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	7	19	5	772	22	982
Volume Left	2	2	5	0	22	0
Volume Right	4	16	0	4	0	6
cSH	113	218	703	1700	843	1700
Volume to Capacity	0.06	0.09	0.01	0.45	0.03	0.58
Queue Length 95th (ft)	5	7	1	0	2	0
Control Delay (s)	39.1	23.1	10.2	0.0	9.4	0.0
Lane LOS	E	C	B		A	
Approach Delay (s)	39.1	23.1	0.1		0.2	
Approach LOS	E	C				

Intersection Summary				
Average Delay		0.5		
Intersection Capacity Utilization	59.0%	ICU Level of Service		B
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

06/14/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	6	4	1	1	3	3	108	0	6	77	9
Future Volume (vph)	13	6	4	1	1	3	3	108	0	6	77	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
Hourly flow rate (vph)	15	7	5	1	1	4	4	127	0	7	91	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	27	6	131	109
Volume Left (vph)	15	1	4	7
Volume Right (vph)	5	4	0	11
Hadj (s)	0.03	-0.33	0.04	-0.01
Departure Headway (s)	4.5	4.1	4.1	4.1
Degree Utilization, x	0.03	0.01	0.15	0.12
Capacity (veh/h)	763	820	853	865
Control Delay (s)	7.6	7.1	7.8	7.7
Approach Delay (s)	7.6	7.1	7.8	7.7
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.7	
Level of Service			A	
Intersection Capacity Utilization			23.7%	ICU Level of Service
Analysis Period (min)			15	

HCM Unsignalized Intersection Capacity Analysis
8: SR 1 & Higgins Canyon Rd

06/14/2019

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	69	27	714	94	18	912
Future Volume (Veh/h)	69	27	714	94	18	912
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	73	28	752	99	19	960
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1270	376			752	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1270	376			752	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	53	95			98	
cM capacity (veh/h)	156	622			853	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	73	28	376	376	99	19	480	480
Volume Left	73	0	0	0	0	19	0	0
Volume Right	0	28	0	0	99	0	0	0
cSH	156	622	1700	1700	1700	853	1700	1700
Volume to Capacity	0.47	0.05	0.22	0.22	0.06	0.02	0.28	0.28
Queue Length 95th (ft)	54	4	0	0	0	2	0	0
Control Delay (s)	46.7	11.1	0.0	0.0	0.0	9.3	0.0	0.0
Lane LOS	E	B				A		
Approach Delay (s)	36.8		0.0			0.2		
Approach LOS	E							

Intersection Summary				
Average Delay		2.0		
Intersection Capacity Utilization		35.7%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	98	43	124	57	303	45	580	137	366	953	173
Future Volume (vph)	56	98	43	124	57	303	45	580	137	366	953	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1833	1518		1751	1521	1805	3283		1770	3444	
Flt Permitted		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1833	1518		1751	1521	1805	3283		1770	3444	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	56	98	43	124	57	303	45	580	137	366	953	173
RTOR Reduction (vph)	0	0	37	0	0	172	0	12	0	0	7	0
Lane Group Flow (vph)	0	154	6	0	181	131	45	705	0	366	1119	0
Confl. Peds. (#/hr)	15		1	1		15	2		1	1		2
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	5%	0%	5%	4%	7%	5%	0%	5%	12%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		21.0	21.0		24.3	64.7	6.6	46.6		40.4	80.4	
Effective Green, g (s)		21.0	21.0		24.3	64.7	6.6	46.6		40.4	80.4	
Actuated g/C Ratio		0.14	0.14		0.16	0.43	0.04	0.31		0.27	0.54	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		256	212		283	656	79	1019		476	1845	
v/s Ratio Prot		c0.08			c0.10	0.05	0.02	c0.21		c0.21	0.32	
v/s Ratio Perm			0.00			0.03						
v/c Ratio		0.60	0.03		0.64	0.20	0.57	0.69		0.77	0.61	
Uniform Delay, d1		60.6	55.7		58.8	26.5	70.3	45.4		50.5	23.9	
Progression Factor		1.00	1.00		1.00	1.00	1.48	0.62		1.00	1.00	
Incremental Delay, d2		3.9	0.1		3.5	0.1	5.2	3.6		6.6	1.5	
Delay (s)		64.5	55.7		62.2	26.6	109.4	31.9		57.1	25.4	
Level of Service		E	E		E	C	F	C		E	C	
Approach Delay (s)		62.6			39.9			36.5			33.2	
Approach LOS		E			D			D			C	

Intersection Summary				
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	78.1%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	40	78	266	38	72	114	734	452	463	701	4
Future Volume (vph)	27	40	78	266	38	72	114	734	452	463	701	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1741	1575	1618	1611	1379	1805	3505	1548	3400	3536	
Flt Permitted		0.98	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1741	1575	1618	1611	1379	1805	3505	1548	3400	3536	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	40	78	266	38	72	114	734	452	463	701	4
RTOR Reduction (vph)	0	0	72	0	0	61	0	0	230	0	0	0
Lane Group Flow (vph)	0	67	6	152	152	11	114	734	222	463	705	0
Confl. Peds. (#/hr)	6					6	6					6
Confl. Bikes (#/hr)			1						1			1
Heavy Vehicles (%)	7%	7%	1%	6%	14%	15%	0%	3%	3%	3%	2%	0%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.2	11.2	22.4	22.4	22.4	13.5	73.7	73.7	25.0	85.2	
Effective Green, g (s)		11.2	11.2	22.4	22.4	22.4	13.5	73.7	73.7	25.0	85.2	
Actuated g/C Ratio		0.07	0.07	0.15	0.15	0.15	0.09	0.49	0.49	0.17	0.57	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		129	117	241	240	205	162	1722	760	566	2008	
v/s Ratio Prot		c0.04		0.09	c0.09		c0.06	c0.21		c0.14	0.20	
v/s Ratio Perm			0.00			0.01			0.14			
v/c Ratio		0.52	0.05	0.63	0.63	0.05	0.70	0.43	0.29	0.82	0.35	
Uniform Delay, d1		66.8	64.5	59.9	59.9	54.7	66.3	24.5	22.7	60.3	17.5	
Progression Factor		1.00	1.00	0.87	0.87	7.82	1.00	1.00	1.00	0.79	0.39	
Incremental Delay, d2		1.5	0.1	3.9	3.9	0.0	10.7	0.8	1.0	7.7	0.4	
Delay (s)		68.3	64.5	55.9	55.9	427.7	77.1	25.3	23.6	55.3	7.2	
Level of Service		E	E	E	E	F	E	C	C	E	A	
Approach Delay (s)		66.3			127.1			29.3			26.2	
Approach LOS		E			F			C			C	

Intersection Summary				
HCM 2000 Control Delay	42.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	64.2%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	764	96	118	290	204	74	166	177	242	85	20
Future Volume (vph)	77	764	96	118	290	204	74	166	177	242	85	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1542	1703	3438	1456	1703	1863	1560	1736	1753	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1542	1703	3438	1456	1703	1863	1560	1736	1753	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	77	764	96	118	290	204	74	166	177	242	85	20
RTOR Reduction (vph)	0	0	50	0	0	100	0	0	154	0	7	0
Lane Group Flow (vph)	77	764	46	118	290	104	74	166	23	242	98	0
Confl. Peds. (#/hr)	2		2	2		2	10		8	8		10
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	6%	5%	8%	6%	2%	1%	4%	0%	25%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	10.8	72.0	72.0	15.5	76.7	76.7	19.7	19.7	19.7	25.3	25.3	
Effective Green, g (s)	10.8	72.0	72.0	15.5	76.7	76.7	19.7	19.7	19.7	25.3	25.3	
Actuated g/C Ratio	0.07	0.48	0.48	0.10	0.51	0.51	0.13	0.13	0.13	0.17	0.17	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	127	1698	740	175	1757	744	223	244	204	292	295	
v/s Ratio Prot	c0.04	c0.22		c0.07	0.08		0.04	c0.09		c0.14	0.06	
v/s Ratio Perm			0.03			0.07			0.01			
v/c Ratio	0.61	0.45	0.06	0.67	0.17	0.14	0.33	0.68	0.11	0.83	0.33	
Uniform Delay, d1	67.5	25.9	20.9	64.8	19.6	19.3	59.2	62.1	57.5	60.3	54.9	
Progression Factor	1.19	0.86	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.5	0.7	0.1	7.8	0.2	0.4	0.3	6.1	0.1	16.6	0.2	
Delay (s)	85.2	23.0	19.2	72.6	19.8	19.7	59.5	68.2	57.5	76.9	55.2	
Level of Service	F	C	B	E	B	B	E	E	E	E	E	
Approach Delay (s)		27.7			29.9			62.1			70.3	
Approach LOS		C			C			E			E	

Intersection Summary				
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.59			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	68.6%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	55	12	24	42	85	8	704	13	66	452	17
Future Volume (vph)	112	55	12	24	42	85	8	704	13	66	452	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.99			0.92		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1796			1662		1805	1840		1752	1817	
Flt Permitted		0.51			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		936			1561		1805	1840		1752	1817	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	112	55	12	24	42	85	8	704	13	66	452	17
RTOR Reduction (vph)	0	2	0	0	36	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	177	0	0	115	0	8	717	0	66	468	0
Confl. Peds. (#/hr)			22	22			6		1	1		6
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	2%	7%	4%	0%	4%	0%	3%	0%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		22.7			22.7		4.8	103.7		11.0	109.9	
Effective Green, g (s)		22.7			22.7		4.8	103.7		11.0	109.9	
Actuated g/C Ratio		0.15			0.15		0.03	0.69		0.07	0.73	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		141			236		57	1272		128	1331	
v/s Ratio Prot							0.00	c0.39		c0.04	0.26	
v/s Ratio Perm		c0.19			0.07							
v/c Ratio		1.26			0.49		0.14	0.56		0.52	0.35	
Uniform Delay, d1		63.6			58.3		70.6	11.7		66.9	7.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		160.8			0.6		0.4	1.8		1.5	0.7	
Delay (s)		224.4			58.9		71.0	13.5		68.4	8.0	
Level of Service		F			E		E	B		E	A	
Approach Delay (s)		224.4			58.9			14.1			15.4	
Approach LOS		F			E			B			B	

Intersection Summary				
HCM 2000 Control Delay	42.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	80.3%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

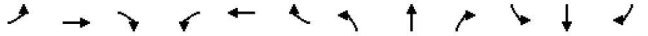
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	51	73	82	204	122	27
Future Volume (Veh/h)	51	73	82	204	122	27
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	51	73	82	204	122	27
Pedestrians	15			7	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	524	158	164			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	524	158	164			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	92	94			
cM capacity (veh/h)	475	872	1397			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	124	286	149
Volume Left	51	82	0
Volume Right	73	0	27
cSH	649	1397	1700
Volume to Capacity	0.19	0.06	0.09
Queue Length 95th (ft)	18	5	0
Control Delay (s)	11.9	2.6	0.0
Lane LOS	B	A	
Approach Delay (s)	11.9	2.6	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		4.0		
Intersection Capacity Utilization		44.5%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	3	3	2	3	20	5	679	2	30	481	5
Future Volume (Veh/h)	7	3	3	2	3	20	5	679	2	30	481	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	7	3	3	2	3	20	5	679	2	30	481	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1268			1190	
pX, platoon unblocked												
vC, conflicting volume	1254	1234	484	1236	1236	680	486			681		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1254	1234	484	1236	1236	680	486			681		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	98	99	99	98	96	100			97		
cM capacity (veh/h)	136	170	583	146	170	451	1077			912		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	13	25	5	681	30	486
Volume Left	7	2	5	0	30	0
Volume Right	3	20	0	2	0	5
cSH	175	330	1077	1700	912	1700
Volume to Capacity	0.07	0.08	0.00	0.40	0.03	0.29
Queue Length 95th (ft)	6	6	0	0	3	0
Control Delay (s)	27.2	16.8	8.4	0.0	9.1	0.0
Lane LOS	D	C	A		A	
Approach Delay (s)	27.2	16.8	0.1		0.5	
Approach LOS	D	C				

Intersection Summary				
Average Delay		0.9		
Intersection Capacity Utilization		45.9%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	6	14	0	11	9	14	127	0	9	61	18
Future Volume (vph)	16	6	14	0	11	9	14	127	0	9	61	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	6	14	0	11	9	14	127	0	9	61	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	36	20	141	88
Volume Left (vph)	16	0	14	9
Volume Right (vph)	14	9	0	18
Hadj (s)	-0.11	-0.24	0.05	-0.07
Departure Headway (s)	4.3	4.2	4.2	4.1
Degree Utilization, x	0.04	0.02	0.16	0.10
Capacity (veh/h)	789	796	842	858
Control Delay (s)	7.5	7.3	8.0	7.6
Approach Delay (s)	7.5	7.3	8.0	7.6
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.7	
Level of Service			A	
Intersection Capacity Utilization			27.5%	ICU Level of Service
Analysis Period (min)			15	A

HCM Signalized Intersection Capacity Analysis
8: SR 1 & Main St

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	66	16	667	111	25	462
Future Volume (vph)	66	16	667	111	25	462
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	66	16	667	111	25	462
RTOR Reduction (vph)	0	15	0	38	0	0
Lane Group Flow (vph)	66	1	667	73	25	462
Turn Type	Prot	Perm	NA	Prot	Prot	NA
Protected Phases	8		2	2	1	6
Permitted Phases		8				
Actuated Green, G (s)	4.8	4.8	34.2	34.2	0.9	39.1
Effective Green, g (s)	4.8	4.8	34.2	34.2	0.9	39.1
Actuated g/C Ratio	0.09	0.09	0.66	0.66	0.02	0.75
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	163	146	2332	1043	30	2666
v/s Ratio Prot	c0.04		c0.19	0.05	c0.01	0.13
v/s Ratio Perm		0.00				
v/c Ratio	0.40	0.01	0.29	0.07	0.83	0.17
Uniform Delay, d1	22.2	21.4	3.7	3.2	25.4	1.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.0	0.3	0.1	95.9	0.1
Delay (s)	23.8	21.4	4.0	3.3	121.3	2.0
Level of Service	C	C	A	A	F	A
Approach Delay (s)	23.4		3.9			8.1
Approach LOS	C		A			A

Intersection Summary				
HCM 2000 Control Delay		6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio		0.31		
Actuated Cycle Length (s)		51.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization		31.1%	ICU Level of Service	A
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	64	66	61	92	580	63	734	21	259	720	134
Future Volume (vph)	174	64	66	61	92	580	63	734	21	259	720	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1805	1552		1848	1583	1805	3554		1770	3437	
Flt Permitted		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1805	1552		1848	1583	1805	3554		1770	3437	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	174	64	66	61	92	580	63	734	21	259	720	134
RTOR Reduction (vph)	0	0	54	0	0	162	0	1	0	0	7	0
Lane Group Flow (vph)	0	238	12	0	153	418	63	754	0	259	847	0
Confl. Peds. (#/hr)	9		7	7		9	6		3	3		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	2%	2%	0%	1%	0%	1%	4%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		26.3	26.3		22.7	51.4	7.7	54.6		28.7	75.6	
Effective Green, g (s)		26.3	26.3		22.7	51.4	7.7	54.6		28.7	75.6	
Actuated g/C Ratio		0.18	0.18		0.15	0.34	0.05	0.36		0.19	0.50	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		316	272		279	542	92	1293		338	1732	
v/s Ratio Prot		c0.13			0.08	c0.15	0.03	c0.21		0.15	0.25	
v/s Ratio Perm			0.01			0.12						
v/c Ratio		0.75	0.04		0.55	0.77	0.68	0.58		0.77	0.49	
Uniform Delay, d1		58.8	51.4		58.9	44.1	70.0	38.5		57.5	24.5	
Progression Factor		1.00	1.00		1.00	1.00	1.45	0.42		1.00	1.00	
Incremental Delay, d2		9.7	0.1		1.2	6.1	14.4	1.8		9.0	1.0	
Delay (s)		68.5	51.5		60.1	50.2	115.7	18.0		66.5	25.5	
Level of Service		E	D		E	D	F	B		E	C	
Approach Delay (s)		64.8			52.3			25.6			35.0	
Approach LOS		E			D			C			D	

Intersection Summary				
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	89.3%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	35	192	637	141	112	149	720	305	186	604	16
Future Volume (vph)	33	35	192	637	141	112	149	720	305	186	604	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1855	1573	1681	1727	1533	1787	3539	1583	3467	3541	
Flt Permitted		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1855	1573	1681	1727	1533	1787	3539	1583	3467	3541	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	33	35	192	637	141	112	149	720	305	186	604	16
RTOR Reduction (vph)	0	0	178	0	0	82	0	0	168	0	1	0
Lane Group Flow (vph)	0	68	14	389	389	30	149	720	137	186	619	0
Confl. Peds. (#/hr)	10		1	1		10	7					7
Heavy Vehicles (%)	0%	0%	1%	2%	0%	3%	1%	2%	2%	1%	1%	18%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.1	11.1	40.4	40.4	40.4	18.2	67.3	67.3	13.5	62.6	
Effective Green, g (s)		11.1	11.1	40.4	40.4	40.4	18.2	67.3	67.3	13.5	62.6	
Actuated g/C Ratio		0.07	0.07	0.27	0.27	0.27	0.12	0.45	0.45	0.09	0.42	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		137	116	452	465	412	216	1587	710	312	1477	
v/s Ratio Prot		c0.04		c0.23	0.23		c0.08	c0.20		c0.05	0.17	
v/s Ratio Perm			0.01			0.02			0.09			
v/c Ratio		0.50	0.12	0.86	0.84	0.07	0.69	0.45	0.19	0.60	0.42	
Uniform Delay, d1		66.8	64.9	52.1	51.7	40.8	63.2	28.6	25.0	65.6	30.9	
Progression Factor		1.00	1.00	0.79	0.79	0.62	1.00	1.00	1.00	0.67	0.37	
Incremental Delay, d2		1.0	0.2	14.2	11.3	0.0	7.1	0.9	0.6	2.8	0.8	
Delay (s)		67.8	65.1	55.4	52.0	25.3	70.3	29.6	25.6	46.6	12.2	
Level of Service		E	E	E	D	C	E	C	C	D	B	
Approach Delay (s)		65.8			50.1			33.7			20.1	
Approach LOS		E			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	37.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.62			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	70.0%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	400	109	192	693	482	148	163	133	183	149	32
Future Volume (vph)	37	400	109	192	693	482	148	163	133	183	149	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3505	1561	1787	3574	1489	1787	1881	1547	1752	1781	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3505	1561	1787	3574	1489	1787	1881	1547	1752	1781	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	400	109	192	693	482	148	163	133	183	149	32
RTOR Reduction (vph)	0	0	60	0	0	116	0	0	116	0	6	0
Lane Group Flow (vph)	37	400	49	192	693	366	148	163	17	183	175	0
Confl. Peds. (#/hr)	13		1	1		13	14		13	13		14
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	3%	1%	1%	1%	2%	1%	1%	1%	3%	1%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	6.7	66.8	66.8	22.5	82.6	82.6	19.5	19.5	19.5	23.7	23.7	
Effective Green, g (s)	6.7	66.8	66.8	22.5	82.6	82.6	19.5	19.5	19.5	23.7	23.7	
Actuated g/C Ratio	0.04	0.45	0.45	0.15	0.55	0.55	0.13	0.13	0.13	0.16	0.16	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	77	1560	695	268	1968	819	232	244	201	276	281	
v/s Ratio Prot	c0.02	0.11		c0.11	0.19		0.08	c0.09		c0.10	0.10	
v/s Ratio Perm			0.03			c0.25			0.01			
v/c Ratio	0.48	0.26	0.07	0.72	0.35	0.45	0.64	0.67	0.09	0.66	0.62	
Uniform Delay, d1	70.0	26.0	23.8	60.7	18.8	20.1	61.9	62.2	57.4	59.4	59.0	
Progression Factor	1.20	0.57	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.4	0.2	7.4	0.5	1.8	4.2	5.3	0.1	4.6	3.1	
Delay (s)	85.7	15.3	5.0	68.1	19.3	21.9	66.1	67.4	57.5	64.0	62.1	
Level of Service	F	B	A	E	B	C	E	E	E	E	E	
Approach Delay (s)		18.0			27.0			64.0			63.0	
Approach LOS		B			C			E			E	

Intersection Summary				
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.56			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	71.4%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	26	14	59	26	46	8	669	13	46	874	47
Future Volume (vph)	81	26	14	59	26	46	8	669	13	46	874	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1780			1727		1805	1853		1805	1865	
Flt Permitted		0.62			0.81		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1139			1431		1805	1853		1805	1865	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	81	26	14	59	26	46	8	669	13	46	874	47
RTOR Reduction (vph)	0	4	0	0	15	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	117	0	0	116	0	8	682	0	46	920	0
Confl. Peds. (#/hr)			11	11			3					3
Heavy Vehicles (%)	0%	5%	0%	2%	3%	0%	0%	2%	15%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		17.8			17.8		1.5	110.7		8.9	118.1	
Effective Green, g (s)		17.8			17.8		1.5	110.7		8.9	118.1	
Actuated g/C Ratio		0.12			0.12		0.01	0.74		0.06	0.79	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		135			169		18	1367		107	1468	
v/s Ratio Prot							0.00	0.37		c0.03	c0.49	
v/s Ratio Perm		c0.10			0.08							
v/c Ratio		0.87			0.69		0.44	0.50		0.43	0.63	
Uniform Delay, d1		65.0			63.4		73.8	8.1		68.1	6.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		40.5			8.9		6.2	1.3		1.0	2.0	
Delay (s)		105.4			72.3		80.1	9.4		69.1	8.7	
Level of Service		F			E		F	A		E	A	
Approach Delay (s)		105.4			72.3			10.3			11.6	
Approach LOS		F			E			B			B	

Intersection Summary				
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	70.0%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

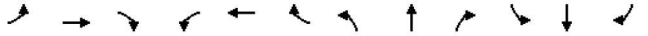
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	42	31	152	164	66
Future Volume (Veh/h)	33	42	31	152	164	66
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	33	42	31	152	164	66
Pedestrians	9			8	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	422	214	239			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	422	214	239			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	95	98			
cM capacity (veh/h)	569	814	1318			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	75	183	230
Volume Left	33	31	0
Volume Right	42	0	66
cSH	685	1318	1700
Volume to Capacity	0.11	0.02	0.14
Queue Length 95th (ft)	9	2	0
Control Delay (s)	10.9	1.5	0.0
Lane LOS	B	A	
Approach Delay (s)	10.9	1.5	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		2.2		
Intersection Capacity Utilization		39.6%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	3	6	2	0	28	8	656	10	26	895	11
Future Volume (Veh/h)	4	3	6	2	0	28	8	656	10	26	895	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	3	6	2	0	28	8	656	10	26	895	11
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1268			1190	
pX, platoon unblocked												
vC, conflicting volume	1652	1634	902	1632	1635	661	906			666		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1652	1634	902	1632	1635	661	906			666		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	97	98	97	100	94	99			97		
cM capacity (veh/h)	72	97	336	75	97	462	751			923		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	13	30	8	666	26	906
Volume Left	4	2	8	0	26	0
Volume Right	6	28	0	10	0	11
cSH	124	345	751	1700	923	1700
Volume to Capacity	0.10	0.09	0.01	0.39	0.03	0.53
Queue Length 95th (ft)	9	7	1	0	2	0
Control Delay (s)	37.3	16.4	9.8	0.0	9.0	0.0
Lane LOS	E	C	A		A	
Approach Delay (s)	37.3	16.4	0.1		0.3	
Approach LOS	E	C				

Intersection Summary				
Average Delay		0.8		
Intersection Capacity Utilization		58.1%	ICU Level of Service	B
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	6	12	0	6	4	7	105	2	7	98	8
Future Volume (vph)	17	6	12	0	6	4	7	105	2	7	98	8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	17	6	12	0	6	4	7	105	2	7	98	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	35	10	114	113
Volume Left (vph)	17	0	7	7
Volume Right (vph)	12	4	2	8
Hadj (s)	-0.07	-0.21	0.04	0.00
Departure Headway (s)	4.3	4.2	4.1	4.1
Degree Utilization, x	0.04	0.01	0.13	0.13
Capacity (veh/h)	787	802	845	858
Control Delay (s)	7.5	7.3	7.8	7.7
Approach Delay (s)	7.5	7.3	7.8	7.7
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.7	
Level of Service			A	
Intersection Capacity Utilization			26.9%	ICU Level of Service
Analysis Period (min)			15	A

HCM Signalized Intersection Capacity Analysis
8: SR 1 & Main St

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	83	19	651	91	24	879
Future Volume (vph)	83	19	651	91	24	879
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	83	19	651	91	24	879
RTOR Reduction (vph)	0	17	0	32	0	0
Lane Group Flow (vph)	83	2	651	59	24	879
Turn Type	Prot	Perm	NA	Prot	Prot	NA
Protected Phases	8		2	2	1	6
Permitted Phases		8				
Actuated Green, G (s)	5.1	5.1	33.2	33.2	0.9	38.1
Effective Green, g (s)	5.1	5.1	33.2	33.2	0.9	38.1
Actuated g/C Ratio	0.10	0.10	0.65	0.65	0.02	0.74
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	176	157	2294	1026	31	2633
v/s Ratio Prot	c0.05		0.18	0.04	0.01	c0.25
v/s Ratio Perm		0.00				
v/c Ratio	0.47	0.01	0.28	0.06	0.77	0.33
Uniform Delay, d1	21.8	20.8	3.9	3.3	25.0	2.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.0	0.3	0.1	73.6	0.3
Delay (s)	23.8	20.8	4.2	3.4	98.7	2.6
Level of Service	C	C	A	A	F	A
Approach Delay (s)	23.2		4.1			5.1
Approach LOS	C		A			A

Intersection Summary				
HCM 2000 Control Delay		5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio		0.39		
Actuated Cycle Length (s)		51.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization		35.6%	ICU Level of Service	A
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	66	91	46	70	426	119	793	40	299	862	170
Future Volume (vph)	170	66	91	46	70	426	119	793	40	299	862	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1806	1553		1848	1586	1805	3539		1770	3433	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1806	1553		1848	1586	1805	3539		1770	3433	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	170	66	91	46	70	426	119	793	40	299	862	170
RTOR Reduction (vph)	0	0	74	0	0	182	0	2	0	0	8	0
Lane Group Flow (vph)	0	236	17	0	116	244	119	831	0	299	1024	0
Confl. Peds. (#/hr)	9		7	7		9	6		3	3		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	2%	2%	0%	1%	0%	1%	4%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		24.8	24.8		21.2	57.9	8.5	35.6		36.7	63.8	
Effective Green, g (s)		24.8	24.8		21.2	57.9	8.5	35.6		36.7	63.8	
Actuated g/C Ratio		0.18	0.18		0.16	0.43	0.06	0.26		0.27	0.47	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		329	283		288	675	112	926		477	1610	
v/s Ratio Prot		c0.13			c0.06	0.10	c0.07	c0.23		0.17	c0.30	
v/s Ratio Perm			0.01			0.06						
v/c Ratio		0.72	0.06		0.40	0.36	1.06	0.90		0.63	0.64	
Uniform Delay, d1		52.3	46.0		51.7	26.5	63.8	48.4		43.6	27.3	
Progression Factor		1.00	1.00		1.00	1.00	0.70	0.61		1.00	1.00	
Incremental Delay, d2		7.3	0.1		0.3	0.1	98.3	12.1		1.9	1.9	
Delay (s)		59.6	46.0		52.0	26.6	143.2	41.9		45.5	29.2	
Level of Service		E	D		D	C	F	D		D	C	
Approach Delay (s)		55.8			32.1			54.5			32.9	
Approach LOS		E			C			D			C	

Intersection Summary				
HCM 2000 Control Delay	41.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	79.7%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	41	206	616	98	206	171	725	475	310	711	30
Future Volume (vph)	48	41	206	616	98	206	171	725	475	310	711	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1850	1574	1681	1717	1535	1787	3539	1583	3467	3523	
Flt Permitted		0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1850	1574	1681	1717	1535	1787	3539	1583	3467	3523	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	48	41	206	616	98	206	171	725	475	310	711	30
RTOR Reduction (vph)	0	0	188	0	0	152	0	0	287	0	2	0
Lane Group Flow (vph)	0	89	18	357	357	54	171	725	188	310	739	0
Confl. Peds. (#/hr)	10		1	1		10	7					7
Heavy Vehicles (%)	0%	0%	1%	2%	0%	3%	1%	2%	2%	1%	1%	18%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.8	11.8	35.7	35.7	35.7	18.4	53.7	53.7	17.1	52.4	
Effective Green, g (s)		11.8	11.8	35.7	35.7	35.7	18.4	53.7	53.7	17.1	52.4	
Actuated g/C Ratio		0.09	0.09	0.26	0.26	0.26	0.14	0.39	0.39	0.13	0.39	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		160	136	441	450	402	241	1397	625	435	1357	
v/s Ratio Prot		c0.05		c0.21	0.21		c0.10	0.20		c0.09	c0.21	
v/s Ratio Perm			0.01			0.04			0.12			
v/c Ratio		0.56	0.13	0.81	0.79	0.13	0.71	0.52	0.30	0.71	0.54	
Uniform Delay, d1		59.6	57.4	47.0	46.7	38.3	56.2	31.3	28.2	57.1	32.5	
Progression Factor		1.00	1.00	0.66	0.66	0.27	1.00	1.00	1.00	0.71	0.47	
Incremental Delay, d2		2.4	0.2	9.5	8.3	0.1	7.6	1.4	1.2	4.6	1.3	
Delay (s)		62.0	57.5	40.5	39.2	10.3	63.8	32.7	29.5	45.3	16.5	
Level of Service		E	E	D	D	B	E	C	C	D	B	
Approach Delay (s)		58.9			33.2			35.5			25.0	
Approach LOS		E			C			D			C	

Intersection Summary				
HCM 2000 Control Delay	33.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	71.1%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	729	108	178	694	286	103	170	162	308	139	47
Future Volume (vph)	52	729	108	178	694	286	103	170	162	308	139	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3505	1561	1787	3574	1495	1787	1881	1550	1752	1740	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3505	1561	1787	3574	1495	1787	1881	1550	1752	1740	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	52	729	108	178	694	286	103	170	162	308	139	47
RTOR Reduction (vph)	0	0	67	0	0	82	0	0	139	0	10	0
Lane Group Flow (vph)	52	729	41	178	694	204	103	170	23	308	176	0
Confl. Peds. (#/hr)	13		1	1		13	14		13	13		14
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	3%	1%	1%	1%	2%	1%	1%	1%	3%	1%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	7.1	51.7	51.7	19.3	63.9	63.9	19.2	19.2	19.2	28.3	28.3	
Effective Green, g (s)	7.1	51.7	51.7	19.3	63.9	63.9	19.2	19.2	19.2	28.3	28.3	
Actuated g/C Ratio	0.05	0.38	0.38	0.14	0.47	0.47	0.14	0.14	0.14	0.21	0.21	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	90	1332	593	253	1679	702	252	265	218	364	362	
v/s Ratio Prot	0.03	c0.21		c0.10	0.19		0.06	c0.09		c0.18	0.10	
v/s Ratio Perm			0.03			0.14			0.01			
v/c Ratio	0.58	0.55	0.07	0.70	0.41	0.29	0.41	0.64	0.10	0.85	0.49	
Uniform Delay, d1	63.0	33.0	26.8	55.6	23.7	22.1	53.2	55.2	50.9	51.8	47.5	
Progression Factor	0.98	0.65	0.22	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.7	1.4	0.2	7.1	0.8	1.0	0.4	3.9	0.1	15.8	0.4	
Delay (s)	66.6	22.8	6.0	62.7	24.5	23.2	53.6	59.1	51.0	67.5	47.8	
Level of Service	E	C	A	E	C	C	D	E	D	E	D	
Approach Delay (s)		23.3			30.0			54.8			60.1	
Approach LOS		C			C			D			E	

Intersection Summary				
HCM 2000 Control Delay	36.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	76.5%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	23	19	46	19	58	15	752	12	31	967	59
Future Volume (vph)	114	23	19	46	19	58	15	752	12	31	967	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.96			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1779			1714		1805	1855		1805	1863	
Flt Permitted		0.61			0.86		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1118			1507		1805	1855		1805	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	114	23	19	46	19	58	15	752	12	31	967	59
RTOR Reduction (vph)	0	4	0	0	28	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	152	0	0	95	0	15	764	0	31	1025	0
Confl. Peds. (#/hr)			11	11			3					3
Heavy Vehicles (%)	0%	5%	0%	2%	3%	0%	0%	2%	15%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.3			19.3		2.8	88.4		15.7	101.3	
Effective Green, g (s)		19.3			19.3		2.8	88.4		15.7	101.3	
Actuated g/C Ratio		0.14			0.14		0.02	0.65		0.12	0.74	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		158			213		37	1205		208	1387	
v/s Ratio Prot							c0.01	0.41		0.02	c0.55	
v/s Ratio Perm		c0.14			0.06							
v/c Ratio		0.96			0.44		0.41	0.63		0.15	0.74	
Uniform Delay, d1		58.0			53.4		65.8	14.2		54.1	9.8	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		59.2			0.5		2.6	2.5		0.1	3.6	
Delay (s)		117.2			54.0		68.4	16.7		54.3	13.4	
Level of Service		F			D		E	B		D	B	
Approach Delay (s)		117.2			54.0			17.7			14.6	
Approach LOS		F			D			B			B	

Intersection Summary				
HCM 2000 Control Delay	25.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	79.2%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

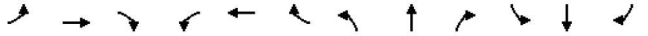
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	21	38	160	119	62
Future Volume (Veh/h)	42	21	38	160	119	62
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	42	21	38	160	119	62
Pedestrians	9			8	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	397	167	190			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	397	167	190			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	98	97			
cM capacity (veh/h)	586	865	1373			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	63	198	181
Volume Left	42	38	0
Volume Right	21	0	62
cSH	657	1373	1700
Volume to Capacity	0.10	0.03	0.11
Queue Length 95th (ft)	8	2	0
Control Delay (s)	11.1	1.7	0.0
Lane LOS	B	A	
Approach Delay (s)	11.1	1.7	0.0
Approach LOS	B		

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	37.8%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	2	5	3	2	16	6	765	5	23	972	7
Future Volume (Veh/h)	3	2	5	3	2	16	6	765	5	23	972	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	3	2	5	3	2	16	6	765	5	23	972	7
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1267			1190	
pX, platoon unblocked												
vC, conflicting volume	1816	1804	976	1804	1804	768	979			770		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1816	1804	976	1804	1804	768	979			770		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	97	98	95	97	96	99			97		
cM capacity (veh/h)	55	77	304	58	76	402	705			844		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	10	21	6	770	23	979
Volume Left	3	3	6	0	23	0
Volume Right	5	16	0	5	0	7
cSH	103	178	705	1700	844	1700
Volume to Capacity	0.10	0.12	0.01	0.45	0.03	0.58
Queue Length 95th (ft)	8	10	1	0	2	0
Control Delay (s)	43.6	27.9	10.2	0.0	9.4	0.0
Lane LOS	E	D	B		A	
Approach Delay (s)	43.6	27.9	0.1		0.2	
Approach LOS	E	D				

Intersection Summary				
Average Delay	0.7			
Intersection Capacity Utilization	61.9%	ICU Level of Service		B
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	14	7	5	2	2	4	4	115	0	7	82	10
Future Volume (vph)	14	7	5	2	2	4	4	115	0	7	82	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	14	7	5	2	2	4	4	115	0	7	82	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	26	8	119	99
Volume Left (vph)	14	2	4	7
Volume Right (vph)	5	4	0	10
Hadj (s)	0.03	-0.22	0.04	-0.01
Departure Headway (s)	4.4	4.2	4.1	4.1
Degree Utilization, x	0.03	0.01	0.14	0.11
Capacity (veh/h)	775	812	855	867
Control Delay (s)	7.6	7.2	7.8	7.6
Approach Delay (s)	7.6	7.2	7.8	7.6
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.7	
Level of Service			A	
Intersection Capacity Utilization			23.9%	ICU Level of Service
Analysis Period (min)			15	A

HCM Signalized Intersection Capacity Analysis
8: SR 1 & Main St

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	74	29	757	100	20	967
Future Volume (vph)	74	29	757	100	20	967
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	74	29	757	100	20	967
RTOR Reduction (vph)	0	26	0	35	0	0
Lane Group Flow (vph)	74	3	757	65	20	967
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	5.0	5.0	33.2	33.2	0.9	38.1
Effective Green, g (s)	5.0	5.0	33.2	33.2	0.9	38.1
Actuated g/C Ratio	0.10	0.10	0.65	0.65	0.02	0.75
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	173	154	2299	1028	31	2638
v/s Ratio Prot	c0.04		0.21		0.01	c0.27
v/s Ratio Perm		0.00		0.04		
v/c Ratio	0.43	0.02	0.33	0.06	0.65	0.37
Uniform Delay, d1	21.7	20.8	4.0	3.3	24.9	2.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.0	0.4	0.1	37.9	0.4
Delay (s)	23.4	20.9	4.4	3.4	62.8	2.7
Level of Service	C	C	A	A	E	A
Approach Delay (s)	22.7		4.3			3.9
Approach LOS	C		A			A

Intersection Summary				
HCM 2000 Control Delay		5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio		0.41		
Actuated Cycle Length (s)		51.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization		37.5%	ICU Level of Service	A
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	98	43	124	57	303	45	591	137	366	965	173
Future Volume (vph)	56	98	43	124	57	303	45	591	137	366	965	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1833	1518		1751	1521	1805	3286		1770	3445	
Flt Permitted		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1833	1518		1751	1521	1805	3286		1770	3445	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	56	98	43	124	57	303	45	591	137	366	965	173
RTOR Reduction (vph)	0	0	37	0	0	172	0	12	0	0	6	0
Lane Group Flow (vph)	0	154	6	0	181	131	45	716	0	366	1132	0
Confl. Peds. (#/hr)	15		1	1		15	2		1	1		2
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	5%	0%	5%	4%	7%	5%	0%	5%	12%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		21.0	21.0		24.3	64.7	6.6	46.6		40.4	80.4	
Effective Green, g (s)		21.0	21.0		24.3	64.7	6.6	46.6		40.4	80.4	
Actuated g/C Ratio		0.14	0.14		0.16	0.43	0.04	0.31		0.27	0.54	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		256	212		283	656	79	1020		476	1846	
v/s Ratio Prot		c0.08			c0.10	0.05	0.02	c0.22		c0.21	0.33	
v/s Ratio Perm			0.00			0.03						
v/c Ratio		0.60	0.03		0.64	0.20	0.57	0.70		0.77	0.61	
Uniform Delay, d1		60.6	55.7		58.8	26.5	70.3	45.6		50.5	24.0	
Progression Factor		1.00	1.00		1.00	1.00	1.48	0.62		1.00	1.00	
Incremental Delay, d2		3.9	0.1		3.5	0.1	5.1	3.8		6.6	1.5	
Delay (s)		64.5	55.7		62.2	26.6	109.3	32.1		57.1	25.6	
Level of Service		E	E		E	C	F	C		E	C	
Approach Delay (s)		62.6			39.9			36.6			33.3	
Approach LOS		E			D			D			C	

Intersection Summary				
HCM 2000 Control Delay	37.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	78.1%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	40	78	272	38	72	114	745	458	463	713	4
Future Volume (vph)	27	40	78	272	38	72	114	745	458	463	713	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1741	1575	1618	1611	1379	1805	3505	1548	3400	3536	
Flt Permitted		0.98	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1741	1575	1618	1611	1379	1805	3505	1548	3400	3536	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	40	78	272	38	72	114	745	458	463	713	4
RTOR Reduction (vph)	0	0	72	0	0	61	0	0	234	0	0	0
Lane Group Flow (vph)	0	67	6	155	155	11	114	745	224	463	717	0
Confl. Peds. (#/hr)	6					6	6					6
Confl. Bikes (#/hr)			1						1			1
Heavy Vehicles (%)	7%	7%	1%	6%	14%	15%	0%	3%	3%	3%	2%	0%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.2	11.2	22.6	22.6	22.6	13.5	73.5	73.5	25.0	85.0	
Effective Green, g (s)		11.2	11.2	22.6	22.6	22.6	13.5	73.5	73.5	25.0	85.0	
Actuated g/C Ratio		0.07	0.07	0.15	0.15	0.15	0.09	0.49	0.49	0.17	0.57	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		129	117	243	242	207	162	1717	758	566	2003	
v/s Ratio Prot		c0.04		0.10	c0.10		c0.06	c0.21		c0.14	0.20	
v/s Ratio Perm			0.00			0.01			0.14			
v/c Ratio		0.52	0.05	0.64	0.64	0.05	0.70	0.43	0.30	0.82	0.36	
Uniform Delay, d1		66.8	64.5	59.9	59.9	54.5	66.3	24.8	22.8	60.3	17.7	
Progression Factor		1.00	1.00	0.86	0.86	7.80	1.00	1.00	1.00	0.79	0.38	
Incremental Delay, d2		1.5	0.1	4.0	4.3	0.0	10.7	0.8	1.0	7.7	0.4	
Delay (s)		68.3	64.5	55.7	56.0	425.5	77.1	25.6	23.8	55.2	7.2	
Level of Service		E	E	E	E	F	E	C	C	E	A	
Approach Delay (s)		66.3			125.5			29.4			26.0	
Approach LOS		E			F			C			C	

Intersection Summary				
HCM 2000 Control Delay	42.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	64.6%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	770	96	122	296	204	74	166	181	242	85	20
Future Volume (vph)	77	770	96	122	296	204	74	166	181	242	85	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1542	1703	3438	1456	1703	1863	1560	1736	1753	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1542	1703	3438	1456	1703	1863	1560	1736	1753	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	77	770	96	122	296	204	74	166	181	242	85	20
RTOR Reduction (vph)	0	0	50	0	0	100	0	0	157	0	7	0
Lane Group Flow (vph)	77	770	46	122	296	104	74	166	24	242	98	0
Confl. Peds. (#/hr)	2		2	2		2	10		8	8		10
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	6%	5%	8%	6%	2%	1%	4%	0%	25%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	10.8	71.6	71.6	15.9	76.7	76.7	19.7	19.7	19.7	25.3	25.3	
Effective Green, g (s)	10.8	71.6	71.6	15.9	76.7	76.7	19.7	19.7	19.7	25.3	25.3	
Actuated g/C Ratio	0.07	0.48	0.48	0.11	0.51	0.51	0.13	0.13	0.13	0.17	0.17	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	127	1689	736	180	1757	744	223	244	204	292	295	
v/s Ratio Prot	c0.04	c0.22		c0.07	0.09		0.04	c0.09		c0.14	0.06	
v/s Ratio Perm			0.03			0.07			0.02			
v/c Ratio	0.61	0.46	0.06	0.68	0.17	0.14	0.33	0.68	0.12	0.83	0.33	
Uniform Delay, d1	67.5	26.2	21.1	64.6	19.6	19.3	59.2	62.1	57.5	60.3	54.9	
Progression Factor	1.19	0.86	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.5	0.7	0.1	7.7	0.2	0.4	0.3	6.1	0.1	16.6	0.2	
Delay (s)	85.0	23.2	18.6	72.3	19.8	19.7	59.5	68.2	57.6	76.9	55.2	
Level of Service	F	C	B	E	B	B	E	E	E	E	E	
Approach Delay (s)		27.8			30.1			62.1			70.3	
Approach LOS		C			C			E			E	

Intersection Summary				
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.60			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	69.0%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	55	12	24	42	85	8	720	13	66	469	17
Future Volume (vph)	112	55	12	24	42	85	8	720	13	66	469	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.99			0.92		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1796			1662		1805	1840		1752	1817	
Flt Permitted		0.51			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		936			1561		1805	1840		1752	1817	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	112	55	12	24	42	85	8	720	13	66	469	17
RTOR Reduction (vph)	0	2	0	0	36	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	177	0	0	115	0	8	733	0	66	485	0
Confl. Peds. (#/hr)			22	22			6		1	1		6
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	2%	7%	4%	0%	4%	0%	3%	0%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		22.7			22.7		4.7	103.7		11.0	110.0	
Effective Green, g (s)		22.7			22.7		4.7	103.7		11.0	110.0	
Actuated g/C Ratio		0.15			0.15		0.03	0.69		0.07	0.73	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		141			236		56	1272		128	1332	
v/s Ratio Prot							0.00	c0.40		c0.04	0.27	
v/s Ratio Perm		c0.19			0.07							
v/c Ratio		1.26			0.49		0.14	0.58		0.52	0.36	
Uniform Delay, d1		63.6			58.3		70.7	11.9		66.9	7.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		160.8			0.6		0.4	1.9		1.5	0.8	
Delay (s)		224.4			58.9		71.1	13.8		68.4	8.1	
Level of Service		F			E		E	B		E	A	
Approach Delay (s)		224.4			58.9			14.4			15.3	
Approach LOS		F			E			B			B	

Intersection Summary				
HCM 2000 Control Delay	42.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	81.1%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

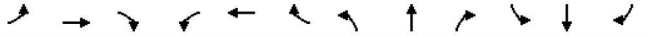
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	51	73	82	208	126	27
Future Volume (Veh/h)	51	73	82	208	126	27
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	51	73	82	208	126	27
Pedestrians	15			7	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	532	162	168			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	532	162	168			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	92	94			
cM capacity (veh/h)	470	867	1392			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	124	290	153
Volume Left	51	82	0
Volume Right	73	0	27
cSH	643	1392	1700
Volume to Capacity	0.19	0.06	0.09
Queue Length 95th (ft)	18	5	0
Control Delay (s)	11.9	2.6	0.0
Lane LOS	B	A	
Approach Delay (s)	11.9	2.6	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		3.9		
Intersection Capacity Utilization	44.8%	ICU Level of Service		A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	3	3	2	3	30	5	685	2	41	488	5
Future Volume (Veh/h)	7	3	3	2	3	30	5	685	2	41	488	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	7	3	3	2	3	30	5	685	2	41	488	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1268			1190	
pX, platoon unblocked												
vC, conflicting volume	1299	1270	490	1270	1271	686	493			687		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1299	1270	490	1270	1271	686	493			687		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	98	99	99	98	93	100			95		
cM capacity (veh/h)	122	160	578	137	159	447	1071			907		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	13	35	5	687	41	493
Volume Left	7	2	5	0	41	0
Volume Right	3	30	0	2	0	5
cSH	160	348	1071	1700	907	1700
Volume to Capacity	0.08	0.10	0.00	0.40	0.05	0.29
Queue Length 95th (ft)	7	8	0	0	4	0
Control Delay (s)	29.4	16.5	8.4	0.0	9.2	0.0
Lane LOS	D	C	A		A	
Approach Delay (s)	29.4	16.5	0.1		0.7	
Approach LOS	D	C				

Intersection Summary				
Average Delay		1.1		
Intersection Capacity Utilization	46.2%	ICU Level of Service		A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	6	25	0	11	9	24	131	0	9	65	18
Future Volume (vph)	16	6	25	0	11	9	24	131	0	9	65	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	6	25	0	11	9	24	131	0	9	65	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	47	20	155	92
Volume Left (vph)	16	0	24	9
Volume Right (vph)	25	9	0	18
Hadj (s)	-0.22	-0.24	0.06	-0.06
Departure Headway (s)	4.2	4.3	4.2	4.1
Degree Utilization, x	0.06	0.02	0.18	0.11
Capacity (veh/h)	798	783	832	847
Control Delay (s)	7.5	7.4	8.1	7.6
Approach Delay (s)	7.5	7.4	8.1	7.6
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.8	
Level of Service			A	
Intersection Capacity Utilization			29.3%	ICU Level of Service
Analysis Period (min)			15	A

HCM Signalized Intersection Capacity Analysis
8: SR 1 & Main St

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	69	22	667	114	32	462
Future Volume (vph)	69	22	667	114	32	462
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	69	22	667	114	32	462
RTOR Reduction (vph)	0	20	0	39	0	0
Lane Group Flow (vph)	69	2	667	75	32	462
Turn Type	Prot	Perm	NA	Prot	Prot	NA
Protected Phases	8		2	2	1	6
Permitted Phases		8				
Actuated Green, G (s)	4.8	4.8	33.4	33.4	0.9	38.3
Effective Green, g (s)	4.8	4.8	33.4	33.4	0.9	38.3
Actuated g/C Ratio	0.09	0.09	0.65	0.65	0.02	0.75
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	166	148	2313	1034	31	2652
v/s Ratio Prot	c0.04		c0.19	0.05	c0.02	0.13
v/s Ratio Perm		0.00				
v/c Ratio	0.42	0.01	0.29	0.07	1.03	0.17
Uniform Delay, d1	21.8	21.0	3.8	3.2	25.1	1.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.0	0.3	0.1	171.6	0.1
Delay (s)	23.5	21.0	4.1	3.4	196.7	2.0
Level of Service	C	C	A	A	F	A
Approach Delay (s)	22.9		4.0			14.6
Approach LOS	C		A			B

Intersection Summary				
HCM 2000 Control Delay		9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio		0.32		
Actuated Cycle Length (s)		51.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization		35.6%	ICU Level of Service	A
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	75	78	72	108	718	74	919	24	327	871	158
Future Volume (vph)	205	75	78	72	108	718	74	919	24	327	871	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1805	1552		1848	1585	1805	3555		1770	3439	
Flt Permitted		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1805	1552		1848	1585	1805	3555		1770	3439	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	205	75	78	72	108	718	74	919	24	327	871	158
RTOR Reduction (vph)	0	0	63	0	0	119	0	1	0	0	8	0
Lane Group Flow (vph)	0	280	15	0	180	599	74	942	0	327	1021	0
Confl. Peds. (#/hr)	9		7	7		9	6		3	3		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	2%	2%	0%	1%	0%	1%	4%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		28.9	28.9		23.9	63.0	9.7	40.4		39.1	69.8	
Effective Green, g (s)		28.9	28.9		23.9	63.0	9.7	40.4		39.1	69.8	
Actuated g/C Ratio		0.19	0.19		0.16	0.42	0.06	0.27		0.26	0.47	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		347	299		294	665	116	957		461	1600	
v/s Ratio Prot		c0.16			0.10	c0.23	0.04	c0.26		0.18	0.30	
v/s Ratio Perm			0.01			0.14						
v/c Ratio		0.81	0.05		0.61	0.90	0.64	0.98		0.71	0.64	
Uniform Delay, d1		57.9	49.4		58.7	40.6	68.4	54.5		50.3	30.5	
Progression Factor		1.00	1.00		1.00	1.00	1.34	0.54		1.00	1.00	
Incremental Delay, d2		12.8	0.1		2.6	15.0	6.8	22.9		4.1	2.0	
Delay (s)		70.7	49.4		61.4	55.6	98.8	52.3		54.4	32.5	
Level of Service		E	D		E	E	F	D		D	C	
Approach Delay (s)		66.1			56.7			55.7			37.7	
Approach LOS		E			E			E			D	

Intersection Summary				
HCM 2000 Control Delay	50.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	101.7%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	42	227	752	167	166	175	869	359	241	726	19
Future Volume (vph)	39	42	227	752	167	166	175	869	359	241	726	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1855	1574	1681	1727	1533	1787	3539	1583	3467	3542	
Flt Permitted		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1855	1574	1681	1727	1533	1787	3539	1583	3467	3542	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	39	42	227	752	167	166	175	869	359	241	726	19
RTOR Reduction (vph)	0	0	169	0	0	99	0	0	198	0	1	0
Lane Group Flow (vph)	0	81	58	459	460	67	175	869	161	241	744	0
Confl. Peds. (#/hr)	10		1	1		10	7					7
Heavy Vehicles (%)	0%	0%	1%	2%	0%	3%	1%	2%	2%	1%	1%	18%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		12.6	12.6	45.8	45.8	45.8	20.6	58.2	58.2	15.7	53.3	
Effective Green, g (s)		12.6	12.6	45.8	45.8	45.8	20.6	58.2	58.2	15.7	53.3	
Actuated g/C Ratio		0.08	0.08	0.31	0.31	0.31	0.14	0.39	0.39	0.10	0.36	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		155	132	513	527	468	245	1373	614	362	1258	
v/s Ratio Prot		c0.04		c0.27	0.27		c0.10	c0.25		c0.07	0.21	
v/s Ratio Perm			0.04			0.04			0.10			
v/c Ratio		0.52	0.44	0.89	0.87	0.14	0.71	0.63	0.26	0.67	0.59	
Uniform Delay, d1		65.8	65.4	49.8	49.3	37.9	61.9	37.2	31.3	64.6	39.5	
Progression Factor		1.00	1.00	0.73	0.73	0.48	1.00	1.00	1.00	0.65	0.43	
Incremental Delay, d2		1.5	0.9	16.1	13.2	0.0	8.0	2.2	1.0	3.7	1.7	
Delay (s)		67.3	66.2	52.7	49.4	18.4	69.8	39.5	32.3	46.0	18.8	
Level of Service		E	E	D	D	B	E	D	C	D	B	
Approach Delay (s)		66.5			46.0			41.4			25.4	
Approach LOS		E			D			D			C	

Intersection Summary				
HCM 2000 Control Delay	40.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	79.2%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	494	128	227	852	602	174	192	157	237	175	38
Future Volume (vph)	43	494	128	227	852	602	174	192	157	237	175	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3505	1561	1787	3574	1489	1787	1881	1547	1752	1780	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3505	1561	1787	3574	1489	1787	1881	1547	1752	1780	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	494	128	227	852	602	174	192	157	237	175	38
RTOR Reduction (vph)	0	0	80	0	0	126	0	0	135	0	6	0
Lane Group Flow (vph)	43	494	48	227	852	476	174	192	22	237	207	0
Confl. Peds. (#/hr)	13		1	1		13	14		13	13		14
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	3%	1%	1%	1%	2%	1%	1%	1%	3%	1%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	7.2	56.8	56.8	28.7	78.3	78.3	20.8	20.8	20.8	26.2	26.2	
Effective Green, g (s)	7.2	56.8	56.8	28.7	78.3	78.3	20.8	20.8	20.8	26.2	26.2	
Actuated g/C Ratio	0.05	0.38	0.38	0.19	0.52	0.52	0.14	0.14	0.14	0.17	0.17	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	83	1327	591	341	1865	777	247	260	214	306	310	
v/s Ratio Prot	c0.02	0.14		c0.13	0.24		0.10	c0.10		c0.14	0.12	
v/s Ratio Perm			0.03			c0.32			0.01			
v/c Ratio	0.52	0.37	0.08	0.67	0.46	0.61	0.70	0.74	0.10	0.77	0.67	
Uniform Delay, d1	69.7	33.7	29.9	56.2	22.5	25.2	61.7	62.0	56.4	59.1	57.8	
Progression Factor	0.86	0.59	0.28	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	0.7	0.2	3.8	0.8	3.6	7.2	9.1	0.1	10.6	4.2	
Delay (s)	62.3	20.7	8.6	60.0	23.3	28.8	68.9	71.1	56.5	69.7	62.0	
Level of Service	E	C	A	E	C	C	E	E	E	E	E	
Approach Delay (s)		21.1			30.2			66.0			66.1	
Approach LOS		C			C			E			E	

Intersection Summary				
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	75.9%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	30	17	69	30	54	9	809	15	54	1043	55
Future Volume (vph)	95	30	17	69	30	54	9	809	15	54	1043	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1779			1728		1805	1853		1805	1865	
Flt Permitted		0.61			0.81		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1115			1425		1805	1853		1805	1865	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	95	30	17	69	30	54	9	809	15	54	1043	55
RTOR Reduction (vph)	0	3	0	0	15	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	139	0	0	138	0	9	824	0	54	1097	0
Confl. Peds. (#/hr)			11	11			3					3
Heavy Vehicles (%)	0%	5%	0%	2%	3%	0%	0%	2%	15%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.5			19.5		1.3	106.1		11.8	116.6	
Effective Green, g (s)		19.5			19.5		1.3	106.1		11.8	116.6	
Actuated g/C Ratio		0.13			0.13		0.01	0.71		0.08	0.78	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		144			185		15	1310		141	1449	
v/s Ratio Prot							0.00	0.44		c0.03	c0.59	
v/s Ratio Perm		c0.12			0.10							
v/c Ratio		0.96			0.75		0.60	0.63		0.38	0.76	
Uniform Delay, d1		64.9			62.9		74.1	11.6		65.6	9.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		62.8			13.4		36.3	2.3		0.6	3.7	
Delay (s)		127.7			76.2		110.3	13.9		66.3	12.8	
Level of Service		F			E		F	B		E	B	
Approach Delay (s)		127.7			76.2			14.9			15.3	
Approach LOS		F			E			B			B	

Intersection Summary				
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	80.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

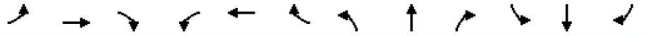
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	49	37	179	193	78
Future Volume (Veh/h)	39	49	37	179	193	78
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	39	49	37	179	193	78
Pedestrians	9			8	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	496	249	280			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	496	249	280			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	94	97			
cM capacity (veh/h)	513	779	1273			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	88	216	271
Volume Left	39	37	0
Volume Right	49	0	78
cSH	633	1273	1700
Volume to Capacity	0.14	0.03	0.16
Queue Length 95th (ft)	12	2	0
Control Delay (s)	11.6	1.6	0.0
Lane LOS	B	A	
Approach Delay (s)	11.6	1.6	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		2.4		
Intersection Capacity Utilization	44.1%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	3	7	2	0	33	9	794	12	30	1068	13
Future Volume (Veh/h)	4	3	7	2	0	33	9	794	12	30	1068	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	3	7	2	0	33	9	794	12	30	1068	13
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1268			1190	
pX, platoon unblocked												
vC, conflicting volume	1980	1958	1076	1956	1959	800	1081			806		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1980	1958	1076	1956	1959	800	1081			806		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	95	97	95	100	91	99			96		
cM capacity (veh/h)	41	60	266	43	60	385	645			819		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	14	35	9	806	30	1081
Volume Left	4	2	9	0	30	0
Volume Right	7	33	0	12	0	13
cSH	80	265	645	1700	819	1700
Volume to Capacity	0.17	0.13	0.01	0.47	0.04	0.64
Queue Length 95th (ft)	15	11	1	0	3	0
Control Delay (s)	59.1	20.6	10.7	0.0	9.6	0.0
Lane LOS	F	C	B		A	
Approach Delay (s)	59.1	20.6	0.1		0.3	
Approach LOS	F	C				

Intersection Summary				
Average Delay		1.0		
Intersection Capacity Utilization	67.3%	ICU Level of Service		C
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	20	7	14	0	7	4	8	124	2	8	115	9
Future Volume (vph)	20	7	14	0	7	4	8	124	2	8	115	9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	20	7	14	0	7	4	8	124	2	8	115	9

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	41	11	134	132
Volume Left (vph)	20	0	8	8
Volume Right (vph)	14	4	2	9
Hadj (s)	-0.07	-0.18	0.04	0.01
Departure Headway (s)	4.4	4.3	4.2	4.2
Degree Utilization, x	0.05	0.01	0.16	0.15
Capacity (veh/h)	756	765	836	848
Control Delay (s)	7.7	7.4	8.0	7.9
Approach Delay (s)	7.7	7.4	8.0	7.9
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.9	
Level of Service			A	
Intersection Capacity Utilization			27.6%	ICU Level of Service
Analysis Period (min)			15	A

HCM Signalized Intersection Capacity Analysis
8: SR 1 & Main St

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	98	22	788	107	28	1050
Future Volume (vph)	98	22	788	107	28	1050
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	98	22	788	107	28	1050
RTOR Reduction (vph)	0	20	0	39	0	0
Lane Group Flow (vph)	98	2	788	68	28	1050
Turn Type	Prot	Perm	NA	Prot	Prot	NA
Protected Phases	8		2	2	1	6
Permitted Phases		8				
Actuated Green, G (s)	5.4	5.4	32.3	32.3	0.8	37.1
Effective Green, g (s)	5.4	5.4	32.3	32.3	0.8	37.1
Actuated g/C Ratio	0.11	0.11	0.64	0.64	0.02	0.73
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	189	169	2263	1012	28	2599
v/s Ratio Prot	c0.06		0.22	0.04	0.02	c0.30
v/s Ratio Perm		0.00				
v/c Ratio	0.52	0.01	0.35	0.07	1.00	0.40
Uniform Delay, d1	21.3	20.2	4.2	3.4	24.9	2.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.4	0.0	0.4	0.1	170.1	0.5
Delay (s)	23.7	20.2	4.6	3.6	194.9	3.0
Level of Service	C	C	A	A	F	A
Approach Delay (s)	23.1		4.5			8.0
Approach LOS	C		A			A

Intersection Summary				
HCM 2000 Control Delay		7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio		0.46		
Actuated Cycle Length (s)		50.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization		41.1%	ICU Level of Service	A
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	78	107	54	83	534	140	985	47	377	1041	200
Future Volume (vph)	200	78	107	54	83	534	140	985	47	377	1041	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1806	1553		1849	1587	1805	3540		1770	3435	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1806	1553		1849	1587	1805	3540		1770	3435	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	200	78	107	54	83	534	140	985	47	377	1041	200
RTOR Reduction (vph)	0	0	85	0	0	151	0	2	0	0	9	0
Lane Group Flow (vph)	0	278	22	0	137	383	140	1030	0	377	1232	0
Confl. Peds. (#/hr)	9		7	7		9	6		3	3		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	2%	2%	0%	1%	0%	1%	4%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		27.4	27.4		21.7	61.1	8.5	29.8		39.4	60.7	
Effective Green, g (s)		27.4	27.4		21.7	61.1	8.5	29.8		39.4	60.7	
Actuated g/C Ratio		0.20	0.20		0.16	0.45	0.06	0.22		0.29	0.45	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		363	312		295	712	112	775		512	1533	
v/s Ratio Prot		c0.15			0.07	c0.16	0.08	c0.29		0.21	c0.36	
v/s Ratio Perm			0.01			0.09						
v/c Ratio		0.77	0.07		0.46	0.54	1.25	1.33		0.74	0.80	
Uniform Delay, d1		51.3	44.0		51.9	27.2	63.8	53.1		43.6	32.5	
Progression Factor		1.00	1.00		1.00	1.00	0.61	0.54		1.00	1.00	
Incremental Delay, d2		9.3	0.1		0.4	0.4	157.7	154.9		4.7	4.6	
Delay (s)		60.6	44.1		52.3	27.6	196.4	183.7		48.3	37.1	
Level of Service		E	D		D	C	F	F		D	D	
Approach Delay (s)		56.0			32.6			185.2			39.7	
Approach LOS		E			C			F			D	

Intersection Summary				
HCM 2000 Control Delay	84.4	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	92.8%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	48	243	727	115	274	202	874	560	389	853	35
Future Volume (vph)	57	48	243	727	115	274	202	874	560	389	853	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1850	1575	1681	1717	1535	1787	3539	1583	3467	3524	
Flt Permitted		0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1850	1575	1681	1717	1535	1787	3539	1583	3467	3524	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	57	48	243	727	115	274	202	874	560	389	853	35
RTOR Reduction (vph)	0	0	164	0	0	195	0	0	361	0	2	0
Lane Group Flow (vph)	0	105	79	422	420	79	202	874	199	389	886	0
Confl. Peds. (#/hr)	10		1	1		10	7					7
Heavy Vehicles (%)	0%	0%	1%	2%	0%	3%	1%	2%	2%	1%	1%	18%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		12.9	12.9	39.2	39.2	39.2	21.3	48.3	48.3	17.9	44.9	
Effective Green, g (s)		12.9	12.9	39.2	39.2	39.2	21.3	48.3	48.3	17.9	44.9	
Actuated g/C Ratio		0.09	0.09	0.29	0.29	0.29	0.16	0.36	0.36	0.13	0.33	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		175	149	484	494	442	279	1256	562	456	1163	
v/s Ratio Prot		c0.06		c0.25	0.24		0.11	c0.25		c0.11	c0.25	
v/s Ratio Perm			0.05			0.05			0.13			
v/c Ratio		0.60	0.53	0.87	0.85	0.18	0.72	0.70	0.35	0.85	0.76	
Uniform Delay, d1		59.1	58.7	46.0	45.6	36.3	54.6	37.6	32.3	57.8	40.8	
Progression Factor		1.00	1.00	0.63	0.63	0.42	1.00	1.00	1.00	0.77	0.59	
Incremental Delay, d2		3.7	1.8	13.9	11.5	0.1	7.7	3.2	1.7	10.8	3.4	
Delay (s)		62.7	60.5	43.1	40.4	15.4	62.2	40.8	34.1	55.1	27.7	
Level of Service		E	E	D	D	B	E	D	C	E	C	
Approach Delay (s)		61.2			35.2			41.1			36.1	
Approach LOS		E			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	79.4%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	884	127	210	850	368	122	200	190	387	164	55
Future Volume (vph)	62	884	127	210	850	368	122	200	190	387	164	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3505	1561	1787	3574	1495	1787	1881	1550	1752	1741	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3505	1561	1787	3574	1495	1787	1881	1550	1752	1741	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	62	884	127	210	850	368	122	200	190	387	164	55
RTOR Reduction (vph)	0	0	77	0	0	93	0	0	162	0	9	0
Lane Group Flow (vph)	62	884	50	210	850	275	122	200	29	387	210	0
Confl. Peds. (#/hr)	13		1	1		13	14		13	13		14
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	3%	1%	1%	1%	2%	1%	1%	1%	3%	1%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	7.4	45.3	45.3	20.3	58.2	58.2	20.4	20.4	20.4	32.5	32.5	
Effective Green, g (s)	7.4	45.3	45.3	20.3	58.2	58.2	20.4	20.4	20.4	32.5	32.5	
Actuated g/C Ratio	0.05	0.33	0.33	0.15	0.43	0.43	0.15	0.15	0.15	0.24	0.24	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	94	1167	519	266	1529	639	268	282	232	418	416	
v/s Ratio Prot	0.04	c0.25		c0.12	0.24		0.07	c0.11		c0.22	0.12	
v/s Ratio Perm			0.03			0.18			0.02			
v/c Ratio	0.66	0.76	0.10	0.79	0.56	0.43	0.46	0.71	0.12	0.93	0.50	
Uniform Delay, d1	63.1	40.5	31.3	55.8	29.2	27.3	52.7	55.0	50.1	50.6	44.8	
Progression Factor	1.07	0.64	0.15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.3	3.5	0.3	13.3	1.5	2.1	0.4	6.5	0.1	25.9	0.4	
Delay (s)	76.8	29.4	5.1	69.1	30.7	29.4	53.2	61.5	50.1	76.5	45.1	
Level of Service	E	C	A	E	C	C	D	E	D	E	D	
Approach Delay (s)		29.2			36.0			55.3			65.2	
Approach LOS		C			D			E			E	

Intersection Summary				
HCM 2000 Control Delay	41.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	88.0%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	27	22	54	22	68	18	906	14	37	1154	69
Future Volume (vph)	134	27	22	54	22	68	18	906	14	37	1154	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.96			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1779			1714		1805	1855		1805	1863	
Flt Permitted		0.59			0.86		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1085			1500		1805	1855		1805	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	134	27	22	54	22	68	18	906	14	37	1154	69
RTOR Reduction (vph)	0	4	0	0	28	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	179	0	0	116	0	18	920	0	37	1222	0
Confl. Peds. (#/hr)			11	11			3					3
Heavy Vehicles (%)	0%	5%	0%	2%	3%	0%	0%	2%	15%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		21.4			21.4		3.4	89.8		12.2	98.6	
Effective Green, g (s)		21.4			21.4		3.4	89.8		12.2	98.6	
Actuated g/C Ratio		0.16			0.16		0.02	0.66		0.09	0.72	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		170			236		45	1224		161	1350	
v/s Ratio Prot							c0.01	0.50		0.02	c0.66	
v/s Ratio Perm		c0.16			0.08							
v/c Ratio		1.05			0.49		0.40	0.75		0.23	0.91	
Uniform Delay, d1		57.3			52.3		65.3	15.6		57.5	15.0	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		83.4			0.6		2.1	4.3		0.3	10.3	
Delay (s)		140.7			52.9		67.4	19.9		57.8	25.2	
Level of Service		F			D		E	B		E	C	
Approach Delay (s)		140.7			52.9			20.8			26.2	
Approach LOS		F			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	34.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.92			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	90.7%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

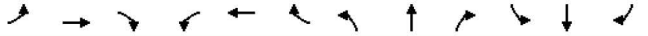
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	49	24	44	189	140	73
Future Volume (Veh/h)	49	24	44	189	140	73
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	49	24	44	189	140	73
Pedestrians	9			8	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	464	194	222			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	464	194	222			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	97	97			
cM capacity (veh/h)	533	836	1337			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	73	233	213
Volume Left	49	44	0
Volume Right	24	0	73
cSH	605	1337	1700
Volume to Capacity	0.12	0.03	0.13
Queue Length 95th (ft)	10	3	0
Control Delay (s)	11.8	1.7	0.0
Lane LOS	B	A	
Approach Delay (s)	11.8	1.7	0.0
Approach LOS	B		

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	41.4%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	2	5	3	2	19	7	922	5	27	1161	8
Future Volume (Veh/h)	3	2	5	3	2	19	7	922	5	27	1161	8
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	3	2	5	3	2	19	7	922	5	27	1161	8
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1267			1190	
pX, platoon unblocked												
vC, conflicting volume	2175	2160	1166	2160	2162	924	1169			927		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2175	2160	1166	2160	2162	924	1169			927		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	96	98	90	96	94	99			96		
cM capacity (veh/h)	29	45	236	31	45	326	598			737		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	10	24	7	927	27	1169
Volume Left	3	3	7	0	27	0
Volume Right	5	19	0	5	0	8
cSH	60	121	598	1700	737	1700
Volume to Capacity	0.17	0.20	0.01	0.55	0.04	0.69
Queue Length 95th (ft)	14	18	1	0	3	0
Control Delay (s)	77.2	42.1	11.1	0.0	10.1	0.0
Lane LOS	F	E	B		B	
Approach Delay (s)	77.2	42.1	0.1		0.2	
Approach LOS	F	E				

Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	71.9%	ICU Level of Service		C
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	8	5	2	2	4	4	135	0	8	97	12
Future Volume (vph)	17	8	5	2	2	4	4	135	0	8	97	12
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	17	8	5	2	2	4	4	135	0	8	97	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	30	8	139	117
Volume Left (vph)	17	2	4	8
Volume Right (vph)	5	4	0	12
Hadj (s)	0.05	-0.22	0.04	-0.01
Departure Headway (s)	4.5	4.3	4.1	4.1
Degree Utilization, x	0.04	0.01	0.16	0.13
Capacity (veh/h)	752	779	848	860
Control Delay (s)	7.7	7.3	7.9	7.7
Approach Delay (s)	7.7	7.3	7.9	7.7
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.8	
Level of Service			A	
Intersection Capacity Utilization			24.3%	ICU Level of Service
Analysis Period (min)			15	A

HCM Signalized Intersection Capacity Analysis
8: SR 1 & Main St

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	87	34	912	118	23	1154
Future Volume (vph)	87	34	912	118	23	1154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	87	34	912	118	23	1154
RTOR Reduction (vph)	0	30	0	42	0	0
Lane Group Flow (vph)	87	4	912	76	23	1154
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	5.2	5.2	32.4	32.4	0.8	37.2
Effective Green, g (s)	5.2	5.2	32.4	32.4	0.8	37.2
Actuated g/C Ratio	0.10	0.10	0.64	0.64	0.02	0.74
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	182	163	2275	1017	28	2612
v/s Ratio Prot	c0.05		0.26		0.01	c0.33
v/s Ratio Perm		0.00		0.05		
v/c Ratio	0.48	0.02	0.40	0.07	0.82	0.44
Uniform Delay, d1	21.3	20.3	4.3	3.4	24.7	2.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.1	0.5	0.1	96.0	0.5
Delay (s)	23.3	20.4	4.9	3.5	120.7	3.1
Level of Service	C	C	A	A	F	A
Approach Delay (s)	22.5		4.7			5.4
Approach LOS	C		A			A

Intersection Summary				
HCM 2000 Control Delay		6.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio		0.49		
Actuated Cycle Length (s)		50.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization		43.4%	ICU Level of Service	A
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	93	41	118	54	289	43	565	130	349	922	165
Future Volume (vph)	53	93	41	118	54	289	43	565	130	349	922	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1833	1518		1751	1521	1805	3286		1770	3445	
Flt Permitted		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1833	1518		1751	1521	1805	3286		1770	3445	
Peak-hour factor, PHF	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)	56	98	43	124	57	304	45	595	137	367	971	174
RTOR Reduction (vph)	0	0	37	0	0	173	0	12	0	0	6	0
Lane Group Flow (vph)	0	154	6	0	181	131	45	720	0	367	1139	0
Confl. Peds. (#/hr)	15		1	1		15	2		1	1		2
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	5%	0%	5%	4%	7%	5%	0%	5%	12%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		21.0	21.0		24.3	64.8	6.6	46.5		40.5	80.4	
Effective Green, g (s)		21.0	21.0		24.3	64.8	6.6	46.5		40.5	80.4	
Actuated g/C Ratio		0.14	0.14		0.16	0.43	0.04	0.31		0.27	0.54	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		256	212		283	657	79	1018		477	1846	
v/s Ratio Prot		c0.08			c0.10	0.05	0.02	c0.22		c0.21	0.33	
v/s Ratio Perm			0.00			0.03						
v/c Ratio		0.60	0.03		0.64	0.20	0.57	0.71		0.77	0.62	
Uniform Delay, d1		60.6	55.7		58.8	26.5	70.3	45.7		50.4	24.1	
Progression Factor		1.00	1.00		1.00	1.00	1.47	0.62		1.00	1.00	
Incremental Delay, d2		3.9	0.1		3.5	0.1	5.1	3.8		6.6	1.6	
Delay (s)		64.5	55.7		62.2	26.5	108.3	32.1		57.1	25.7	
Level of Service		E	E		E	C	F	C		E	C	
Approach Delay (s)		62.6			39.9			36.5			33.3	
Approach LOS		E			D			D			C	

Intersection Summary				
HCM 2000 Control Delay	37.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	76.9%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	38	74	260	36	68	108	712	437	442	681	3
Future Volume (vph)	25	38	74	260	36	68	108	712	437	442	681	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1741	1575	1618	1611	1379	1805	3505	1548	3400	3537	
Flt Permitted		0.98	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1741	1575	1618	1611	1379	1805	3505	1548	3400	3537	
Peak-hour factor, PHF	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)	27	40	79	277	38	72	115	757	465	470	724	3
RTOR Reduction (vph)	0	0	73	0	0	61	0	0	238	0	0	0
Lane Group Flow (vph)	0	67	6	158	157	11	115	757	227	470	727	0
Confl. Peds. (#/hr)	6					6	6					6
Confl. Bikes (#/hr)			1						1			1
Heavy Vehicles (%)	7%	7%	1%	6%	14%	15%	0%	3%	3%	3%	2%	0%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.2	11.2	22.7	22.7	22.7	13.6	73.2	73.2	25.2	84.8	
Effective Green, g (s)		11.2	11.2	22.7	22.7	22.7	13.6	73.2	73.2	25.2	84.8	
Actuated g/C Ratio		0.07	0.07	0.15	0.15	0.15	0.09	0.49	0.49	0.17	0.57	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		129	117	244	243	208	163	1710	755	571	1999	
v/s Ratio Prot		c0.04		c0.10	0.10		c0.06	c0.22		c0.14	0.21	
v/s Ratio Perm			0.00			0.01			0.15			
v/c Ratio		0.52	0.05	0.65	0.65	0.05	0.71	0.44	0.30	0.82	0.36	
Uniform Delay, d1		66.8	64.5	59.9	59.9	54.4	66.3	25.1	23.0	60.2	17.8	
Progression Factor		1.00	1.00	0.85	0.85	7.60	1.00	1.00	1.00	0.79	0.38	
Incremental Delay, d2		1.5	0.1	4.3	4.3	0.0	10.8	0.8	1.0	8.0	0.4	
Delay (s)		68.3	64.5	55.3	55.3	413.8	77.0	25.9	24.1	55.8	7.2	
Level of Service		E	E	E	E	F	E	C	C	E	A	
Approach Delay (s)		66.2			122.0			29.7			26.3	
Approach LOS		E			F			C			C	

Intersection Summary				
HCM 2000 Control Delay	41.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.58			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	62.8%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	736	91	116	283	194	70	158	173	231	81	19
Future Volume (vph)	73	736	91	116	283	194	70	158	173	231	81	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1542	1703	3438	1456	1703	1863	1560	1736	1753	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1542	1703	3438	1456	1703	1863	1560	1736	1753	
Peak-hour factor, PHF	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)	80	809	100	127	311	213	77	174	190	254	89	21
RTOR Reduction (vph)	0	0	51	0	0	106	0	0	165	0	7	0
Lane Group Flow (vph)	80	809	49	127	311	107	77	174	25	254	103	0
Confl. Peds. (#/hr)	2		2	2		2	10		8	8		10
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	6%	5%	8%	6%	2%	1%	4%	0%	25%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	11.0	70.2	70.2	16.1	75.3	75.3	20.1	20.1	20.1	26.1	26.1	
Effective Green, g (s)	11.0	70.2	70.2	16.1	75.3	75.3	20.1	20.1	20.1	26.1	26.1	
Actuated g/C Ratio	0.07	0.47	0.47	0.11	0.50	0.50	0.13	0.13	0.13	0.17	0.17	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	129	1656	721	182	1725	730	228	249	209	302	305	
v/s Ratio Prot	c0.05	c0.23		c0.07	0.09		0.05	c0.09		c0.15	0.06	
v/s Ratio Perm			0.03			0.07			0.02			
v/c Ratio	0.62	0.49	0.07	0.70	0.18	0.15	0.34	0.70	0.12	0.84	0.34	
Uniform Delay, d1	67.5	27.5	21.9	64.6	20.5	20.1	58.9	62.1	57.2	59.9	54.4	
Progression Factor	1.21	0.76	0.64	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	5.3	0.8	0.1	9.0	0.2	0.4	0.3	6.7	0.1	18.0	0.2	
Delay (s)	86.8	21.8	14.1	73.6	20.7	20.5	59.2	68.8	57.3	77.9	54.6	
Level of Service	F	C	B	E	C	C	E	E	E	E	D	
Approach Delay (s)		26.3			31.0			62.2			70.9	
Approach LOS		C			C			E			E	

Intersection Summary				
HCM 2000 Control Delay	40.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.62			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	66.8%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	52	11	22	40	81	7	688	12	63	448	16
Future Volume (vph)	107	52	11	22	40	81	7	688	12	63	448	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.99			0.92		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1798			1662		1805	1840		1752	1817	
Flt Permitted		0.50			0.94		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		935			1567		1805	1840		1752	1817	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	111	54	11	23	42	84	7	717	12	66	467	17
RTOR Reduction (vph)	0	2	0	0	36	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	174	0	0	113	0	7	730	0	66	483	0
Confl. Peds. (#/hr)			22	22			6		1	1		6
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	2%	7%	4%	0%	4%	0%	3%	0%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		22.5			22.5		4.6	103.9		11.0	110.3	
Effective Green, g (s)		22.5			22.5		4.6	103.9		11.0	110.3	
Actuated g/C Ratio		0.15			0.15		0.03	0.69		0.07	0.74	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		140			235		55	1274		128	1336	
v/s Ratio Prot							0.00	c0.40		c0.04	0.27	
v/s Ratio Perm		c0.19			0.07							
v/c Ratio		1.25			0.48		0.13	0.57		0.52	0.36	
Uniform Delay, d1		63.8			58.4		70.7	11.7		66.9	7.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		156.3			0.6		0.4	1.9		1.5	0.8	
Delay (s)		220.1			59.0		71.1	13.6		68.4	7.9	
Level of Service		F			E		E	B		E	A	
Approach Delay (s)		220.1			59.0			14.2			15.2	
Approach LOS		F			E			B			B	

Intersection Summary				
HCM 2000 Control Delay	41.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	78.5%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

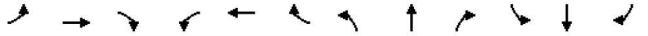
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	48	69	78	198	120	25
Future Volume (Veh/h)	48	69	78	198	120	25
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Hourly flow rate (vph)	60	86	98	248	150	31
Pedestrians	15			7	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	630	188	196			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	630	188	196			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	90	93			
cM capacity (veh/h)	406	839	1360			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	146	346	181
Volume Left	60	98	0
Volume Right	86	0	31
cSH	583	1360	1700
Volume to Capacity	0.25	0.07	0.11
Queue Length 95th (ft)	25	6	0
Control Delay (s)	13.2	2.7	0.0
Lane LOS	B	A	
Approach Delay (s)	13.2	2.7	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		4.3		
Intersection Capacity Utilization	43.5%	ICU Level of Service		A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	2	2	1	2	29	4	654	1	39	466	4
Future Volume (Veh/h)	6	2	2	1	2	29	4	654	1	39	466	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	6	2	2	1	2	30	4	681	1	41	485	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											1190	
pX, platoon unblocked												
vC, conflicting volume	1289	1259	487	1260	1260	682	489			682		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1289	1259	487	1260	1260	682	489			682		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	99	100	99	99	93	100			95		
cM capacity (veh/h)	125	162	581	140	162	450	1074			911		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	10	33	4	682	41	489
Volume Left	6	1	4	0	41	0
Volume Right	2	30	0	1	0	4
cSH	157	383	1074	1700	911	1700
Volume to Capacity	0.06	0.09	0.00	0.40	0.05	0.29
Queue Length 95th (ft)	5	7	0	0	4	0
Control Delay (s)	29.5	15.3	8.4	0.0	9.1	0.0
Lane LOS	D	C	A		A	
Approach Delay (s)	29.5	15.3	0.0		0.7	
Approach LOS	D	C				

Intersection Summary				
Average Delay		1.0		
Intersection Capacity Utilization	44.8%	ICU Level of Service		A
Analysis Period (min)		15		

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	5	24	0	10	8	23	125	0	8	62	17
Future Volume (vph)	15	5	24	0	10	8	23	125	0	8	62	17
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Hourly flow rate (vph)	18	6	29	0	12	10	28	152	0	10	76	21

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	53	22	180	107
Volume Left (vph)	18	0	28	10
Volume Right (vph)	29	10	0	21
Hadj (s)	-0.23	-0.24	0.07	-0.07
Departure Headway (s)	4.3	4.4	4.2	4.2
Degree Utilization, x	0.06	0.03	0.21	0.12
Capacity (veh/h)	767	760	824	836
Control Delay (s)	7.6	7.5	8.4	7.8
Approach Delay (s)	7.6	7.5	8.4	7.8
Approach LOS	A	A	A	A

Intersection Summary				
Delay			8.0	
Level of Service			A	
Intersection Capacity Utilization			29.1%	ICU Level of Service
Analysis Period (min)			15	

HCM Unsignalized Intersection Capacity Analysis
8: SR 1 & Higgins Canyon Rd

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	66	21	637	109	30	441
Future Volume (Veh/h)	66	21	637	109	30	441
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	69	22	671	115	32	464
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	967	336			671	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	967	336			671	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	72	97			97	
cM capacity (veh/h)	243	660			915	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	69	22	336	336	115	32	232	232
Volume Left	69	0	0	0	0	32	0	0
Volume Right	0	22	0	0	115	0	0	0
cSH	243	660	1700	1700	1700	915	1700	1700
Volume to Capacity	0.28	0.03	0.20	0.20	0.07	0.03	0.14	0.14
Queue Length 95th (ft)	28	3	0	0	0	3	0	0
Control Delay (s)	25.6	10.6	0.0	0.0	0.0	9.1	0.0	0.0
Lane LOS	D	B				A		
Approach Delay (s)	22.0		0.0			0.6		
Approach LOS	C							

Intersection Summary				
Average Delay		1.7		
Intersection Capacity Utilization		34.6%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	60	62	57	86	547	59	704	19	244	690	126
Future Volume (vph)	164	60	62	57	86	547	59	704	19	244	690	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1805	1552		1848	1583	1805	3555		1770	3439	
Flt Permitted		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1805	1552		1848	1583	1805	3555		1770	3439	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	171	62	65	59	90	570	61	733	20	254	719	131
RTOR Reduction (vph)	0	0	54	0	0	166	0	1	0	0	7	0
Lane Group Flow (vph)	0	234	11	0	149	404	61	752	0	254	843	0
Confl. Peds. (#/hr)	9		7	7		9	6		3	3		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	2%	2%	0%	1%	0%	1%	4%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		26.0	26.0		22.5	50.4	7.5	55.9		27.9	76.3	
Effective Green, g (s)		26.0	26.0		22.5	50.4	7.5	55.9		27.9	76.3	
Actuated g/C Ratio		0.17	0.17		0.15	0.34	0.05	0.37		0.19	0.51	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		312	269		277	531	90	1324		329	1749	
v/s Ratio Prot		c0.13			0.08	c0.14	0.03	c0.21		c0.14	0.25	
v/s Ratio Perm			0.01			0.11						
v/c Ratio		0.75	0.04		0.54	0.76	0.68	0.57		0.77	0.48	
Uniform Delay, d1		58.9	51.6		58.9	44.4	70.1	37.4		58.0	24.0	
Progression Factor		1.00	1.00		1.00	1.00	1.46	0.42		1.00	1.00	
Incremental Delay, d2		9.7	0.1		1.0	5.7	13.8	1.6		9.8	1.0	
Delay (s)		68.6	51.7		60.0	50.2	115.9	17.4		67.8	24.9	
Level of Service		E	D		E	D	F	B		E	C	
Approach Delay (s)		64.9			52.2			24.8			34.8	
Approach LOS		E			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	39.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	86.7%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	33	181	607	133	105	140	691	293	175	581	15
Future Volume (vph)	31	33	181	607	133	105	140	691	293	175	581	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1855	1573	1681	1726	1533	1787	3539	1583	3467	3541	
Flt Permitted		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1855	1573	1681	1726	1533	1787	3539	1583	3467	3541	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	32	34	189	632	139	109	146	720	305	182	605	16
RTOR Reduction (vph)	0	0	175	0	0	80	0	0	166	0	1	0
Lane Group Flow (vph)	0	66	14	379	392	29	146	720	139	182	620	0
Confl. Peds. (#/hr)	10		1	1		10	7					7
Heavy Vehicles (%)	0%	0%	1%	2%	0%	3%	1%	2%	2%	1%	1%	18%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.0	11.0	39.8	39.8	39.8	18.0	68.2	68.2	13.3	63.5	
Effective Green, g (s)		11.0	11.0	39.8	39.8	39.8	18.0	68.2	68.2	13.3	63.5	
Actuated g/C Ratio		0.07	0.07	0.27	0.27	0.27	0.12	0.45	0.45	0.09	0.42	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		136	115	446	457	406	214	1609	719	307	1499	
v/s Ratio Prot		c0.04		0.23	c0.23		c0.08	c0.20		c0.05	0.18	
v/s Ratio Perm			0.01			0.02			0.09			
v/c Ratio		0.49	0.12	0.85	0.86	0.07	0.68	0.45	0.19	0.59	0.41	
Uniform Delay, d1		66.8	65.0	52.3	52.4	41.3	63.3	28.0	24.4	65.7	30.2	
Progression Factor		1.00	1.00	0.79	0.79	0.62	1.00	1.00	1.00	0.67	0.37	
Incremental Delay, d2		1.0	0.2	13.0	13.6	0.0	7.0	0.9	0.6	2.8	0.8	
Delay (s)		67.8	65.1	54.3	55.1	25.4	70.2	28.9	25.0	46.8	11.9	
Level of Service		E	E	D	E	C	E	C	C	D	B	
Approach Delay (s)		65.8			51.1			33.0			19.8	
Approach LOS		E			D			C			B	

Intersection Summary				
HCM 2000 Control Delay	37.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.62			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	68.4%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	383	102	185	660	454	139	153	129	172	140	30
Future Volume (vph)	34	383	102	185	660	454	139	153	129	172	140	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3505	1561	1787	3574	1489	1787	1881	1547	1752	1782	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3505	1561	1787	3574	1489	1787	1881	1547	1752	1782	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	35	399	106	193	688	473	145	159	134	179	146	31
RTOR Reduction (vph)	0	0	58	0	0	114	0	0	117	0	6	0
Lane Group Flow (vph)	35	399	48	193	688	359	145	159	17	179	171	0
Confl. Peds. (#/hr)	13		1	1		13	14		13	13		14
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	3%	1%	1%	1%	2%	1%	1%	1%	3%	1%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	6.6	67.3	67.3	22.2	82.9	82.9	19.4	19.4	19.4	23.6	23.6	
Effective Green, g (s)	6.6	67.3	67.3	22.2	82.9	82.9	19.4	19.4	19.4	23.6	23.6	
Actuated g/C Ratio	0.04	0.45	0.45	0.15	0.55	0.55	0.13	0.13	0.13	0.16	0.16	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	76	1572	700	264	1975	822	231	243	200	275	280	
v/s Ratio Prot	c0.02	0.11		c0.11	0.19		0.08	c0.08		c0.10	0.10	
v/s Ratio Perm			0.03			c0.24			0.01			
v/c Ratio	0.46	0.25	0.07	0.73	0.35	0.44	0.63	0.65	0.09	0.65	0.61	
Uniform Delay, d1	70.0	25.7	23.5	61.0	18.6	19.8	61.9	62.1	57.5	59.3	58.9	
Progression Factor	1.23	0.57	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.5	0.4	0.2	8.6	0.5	1.7	3.8	4.8	0.1	4.2	2.8	
Delay (s)	87.7	15.2	5.2	69.7	19.1	21.5	65.7	66.9	57.6	63.5	61.7	
Level of Service	F	B	A	E	B	C	E	E	E	E	E	
Approach Delay (s)		17.9			27.1			63.6			62.6	
Approach LOS		B			C			E			E	

Intersection Summary				
HCM 2000 Control Delay	35.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.55			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	70.2%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	24	13	55	24	43	7	649	12	43	841	44
Future Volume (vph)	76	24	13	55	24	43	7	649	12	43	841	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1779			1726		1805	1853		1805	1865	
Flt Permitted		0.62			0.81		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1144			1432		1805	1853		1805	1865	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	79	25	14	57	25	45	7	676	12	45	876	46
RTOR Reduction (vph)	0	4	0	0	15	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	114	0	0	112	0	7	689	0	45	921	0
Confl. Peds. (#/hr)			11	11			3					3
Heavy Vehicles (%)	0%	5%	0%	2%	3%	0%	0%	2%	15%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		17.6			17.6		1.6	111.1		8.7	118.2	
Effective Green, g (s)		17.6			17.6		1.6	111.1		8.7	118.2	
Actuated g/C Ratio		0.12			0.12		0.01	0.74		0.06	0.79	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		134			168		19	1372		104	1469	
v/s Ratio Prot							0.00	0.37		c0.02	c0.49	
v/s Ratio Perm		c0.10			0.08							
v/c Ratio		0.85			0.67		0.37	0.50		0.43	0.63	
Uniform Delay, d1		64.9			63.4		73.7	8.0		68.3	6.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		36.8			7.5		4.4	1.3		1.1	2.0	
Delay (s)		101.8			70.9		78.1	9.3		69.3	8.7	
Level of Service		F			E		E	A		E	A	
Approach Delay (s)		101.8			70.9			10.0			11.5	
Approach LOS		F			E			B			B	

Intersection Summary				
HCM 2000 Control Delay	20.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	67.6%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

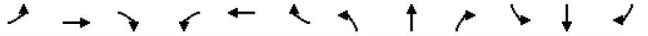
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	31	39	29	147	158	62
Future Volume (Veh/h)	31	39	29	147	158	62
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	34	42	32	160	172	67
Pedestrians	9			8	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	440	222	248			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	440	222	248			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	95	98			
cM capacity (veh/h)	555	805	1308			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	76	192	239
Volume Left	34	32	0
Volume Right	42	0	67
cSH	670	1308	1700
Volume to Capacity	0.11	0.02	0.14
Queue Length 95th (ft)	10	2	0
Control Delay (s)	11.1	1.5	0.0
Lane LOS	B	A	
Approach Delay (s)	11.1	1.5	0.0
Approach LOS	B		

Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	38.6%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	2	5	1	0	37	7	626	9	34	851	10
Future Volume (Veh/h)	3	2	5	1	0	37	7	626	9	34	851	10
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	3	2	5	1	0	39	7	652	9	35	886	10
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											1190	
pX, platoon unblocked												
vC, conflicting volume	1666	1636	892	1634	1636	656	896			661		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1666	1636	892	1634	1636	656	896			661		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	98	99	99	100	92	99			96		
cM capacity (veh/h)	68	96	340	76	96	465	757			927		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	10	40	7	661	35	896
Volume Left	3	1	7	0	35	0
Volume Right	5	39	0	9	0	10
cSH	125	412	757	1700	927	1700
Volume to Capacity	0.08	0.10	0.01	0.39	0.04	0.53
Queue Length 95th (ft)	6	8	1	0	3	0
Control Delay (s)	36.2	14.7	9.8	0.0	9.0	0.0
Lane LOS	E	B	A		A	
Approach Delay (s)	36.2	14.7	0.1		0.3	
Approach LOS	E	B				

Intersection Summary				
Average Delay	0.8			
Intersection Capacity Utilization	55.7%	ICU Level of Service		B
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	5	21	0	5	3	17	103	1	6	96	7
Future Volume (vph)	16	5	21	0	5	3	17	103	1	6	96	7
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	18	6	24	0	6	3	20	118	1	7	110	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	48	9	139	125
Volume Left (vph)	18	0	20	7
Volume Right (vph)	24	3	1	8
Hadj (s)	-0.19	-0.17	0.06	0.01
Departure Headway (s)	4.3	4.4	4.2	4.2
Degree Utilization, x	0.06	0.01	0.16	0.15
Capacity (veh/h)	787	761	831	843
Control Delay (s)	7.6	7.4	8.0	7.9
Approach Delay (s)	7.6	7.4	8.0	7.9
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.9	
Level of Service			A	
Intersection Capacity Utilization			28.5%	ICU Level of Service
Analysis Period (min)			15	A

HCM Unsignalized Intersection Capacity Analysis
8: SR 1 & Higgins Canyon Rd

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	81	24	614	88	29	829
Future Volume (Veh/h)	81	24	614	88	29	829
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	84	25	640	92	30	864
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1132	320			640	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1132	320			640	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	56	96			97	
cM capacity (veh/h)	191	676			940	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	84	25	320	320	92	30	432	432
Volume Left	84	0	0	0	0	30	0	0
Volume Right	0	25	0	0	92	0	0	0
cSH	191	676	1700	1700	1700	940	1700	1700
Volume to Capacity	0.44	0.04	0.19	0.19	0.05	0.03	0.25	0.25
Queue Length 95th (ft)	51	3	0	0	0	2	0	0
Control Delay (s)	38.0	10.5	0.0	0.0	0.0	9.0	0.0	0.0
Lane LOS	E	B				A		
Approach Delay (s)	31.7		0.0			0.3		
Approach LOS	D							

Intersection Summary				
Average Delay		2.1		
Intersection Capacity Utilization		34.8%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	62	85	43	66	402	112	768	37	282	838	160
Future Volume (vph)	160	62	85	43	66	402	112	768	37	282	838	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1806	1553		1849	1586	1805	3541		1770	3435	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1806	1553		1849	1586	1805	3541		1770	3435	
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	162	63	86	43	67	406	113	776	37	285	846	162
RTOR Reduction (vph)	0	0	71	0	0	193	0	2	0	0	8	0
Lane Group Flow (vph)	0	225	15	0	110	213	113	811	0	285	1000	0
Confl. Peds. (#/hr)	9		7	7		9	6		3	3		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	2%	2%	0%	1%	0%	1%	4%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		24.2	24.2		21.0	56.2	8.5	37.9		35.2	64.6	
Effective Green, g (s)		24.2	24.2		21.0	56.2	8.5	37.9		35.2	64.6	
Actuated g/C Ratio		0.18	0.18		0.15	0.41	0.06	0.28		0.26	0.47	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		321	276		285	655	112	986		458	1631	
v/s Ratio Prot		c0.12			c0.06	0.08	c0.06	c0.23		0.16	c0.29	
v/s Ratio Perm			0.01			0.05						
v/c Ratio		0.70	0.06		0.39	0.33	1.01	0.82		0.62	0.61	
Uniform Delay, d1		52.5	46.4		51.7	27.0	63.8	45.9		44.5	26.4	
Progression Factor		1.00	1.00		1.00	1.00	0.67	0.56		1.00	1.00	
Incremental Delay, d2		6.8	0.1		0.3	0.1	82.2	6.9		1.9	1.7	
Delay (s)		59.3	46.5		52.0	27.2	125.0	32.3		46.4	28.2	
Level of Service		E	D		D	C	F	C		D	C	
Approach Delay (s)		55.7			32.5			43.6			32.2	
Approach LOS		E			C			D			C	

Intersection Summary				
HCM 2000 Control Delay	38.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	77.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	38	194	594	92	194	161	704	459	292	696	28
Future Volume (vph)	45	38	194	594	92	194	161	704	459	292	696	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1850	1574	1681	1716	1535	1787	3539	1583	3467	3526	
Flt Permitted		0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1850	1574	1681	1716	1535	1787	3539	1583	3467	3526	
Peak-hour factor, PHF	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)	49	41	211	646	100	211	175	765	499	317	757	30
RTOR Reduction (vph)	0	0	180	0	0	155	0	0	303	0	2	0
Lane Group Flow (vph)	0	90	31	368	378	56	175	765	196	317	785	0
Confl. Peds. (#/hr)	10		1	1		10	7					7
Heavy Vehicles (%)	0%	0%	1%	2%	0%	3%	1%	2%	2%	1%	1%	18%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.9	11.9	35.9	35.9	35.9	19.3	53.4	53.4	17.1	51.2	
Effective Green, g (s)		11.9	11.9	35.9	35.9	35.9	19.3	53.4	53.4	17.1	51.2	
Actuated g/C Ratio		0.09	0.09	0.26	0.26	0.26	0.14	0.39	0.39	0.13	0.38	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		161	137	443	452	405	253	1389	621	435	1327	
v/s Ratio Prot		c0.05		0.22	c0.22		c0.10	0.22		c0.09	c0.22	
v/s Ratio Perm			0.02			0.04			0.12			
v/c Ratio		0.56	0.23	0.83	0.84	0.14	0.69	0.55	0.32	0.73	0.59	
Uniform Delay, d1		59.5	57.8	47.2	47.3	38.2	55.5	32.0	28.6	57.2	34.0	
Progression Factor		1.00	1.00	0.67	0.67	0.31	1.00	1.00	1.00	0.76	0.55	
Incremental Delay, d2		2.4	0.3	11.5	11.6	0.1	6.4	1.6	1.3	5.3	1.7	
Delay (s)		61.9	58.1	43.2	43.5	12.0	62.0	33.6	30.0	48.7	20.5	
Level of Service		E	E	D	D	B	E	C	C	D	C	
Approach Delay (s)		59.2			36.5			35.8			28.6	
Approach LOS		E			D			D			C	

Intersection Summary				
HCM 2000 Control Delay	35.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	69.5%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	699	101	176	668	269	97	160	159	290	131	44
Future Volume (vph)	49	699	101	176	668	269	97	160	159	290	131	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3505	1561	1787	3574	1495	1787	1881	1550	1752	1740	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3505	1561	1787	3574	1495	1787	1881	1550	1752	1740	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	51	728	105	183	696	280	101	167	166	302	136	46
RTOR Reduction (vph)	0	0	65	0	0	80	0	0	143	0	10	0
Lane Group Flow (vph)	51	728	40	183	696	200	101	167	23	302	172	0
Confl. Peds. (#/hr)	13		1	1		13	14		13	13		14
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	3%	1%	1%	1%	2%	1%	1%	1%	3%	1%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	7.0	51.3	51.3	20.0	64.3	64.3	19.1	19.1	19.1	28.1	28.1	
Effective Green, g (s)	7.0	51.3	51.3	20.0	64.3	64.3	19.1	19.1	19.1	28.1	28.1	
Actuated g/C Ratio	0.05	0.38	0.38	0.15	0.47	0.47	0.14	0.14	0.14	0.21	0.21	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	89	1322	588	262	1689	706	250	264	217	361	359	
v/s Ratio Prot	0.03	c0.21		c0.10	0.19		0.06	c0.09		c0.17	0.10	
v/s Ratio Perm			0.03			0.13			0.02			
v/c Ratio	0.57	0.55	0.07	0.70	0.41	0.28	0.40	0.63	0.11	0.84	0.48	
Uniform Delay, d1	63.0	33.3	27.1	55.1	23.5	21.8	53.3	55.1	51.0	51.7	47.5	
Progression Factor	1.01	0.63	0.20	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.5	1.4	0.2	6.4	0.7	1.0	0.4	3.6	0.1	14.8	0.4	
Delay (s)	68.0	22.4	5.6	61.5	24.2	22.8	53.7	58.7	51.1	66.5	47.9	
Level of Service	E	C	A	E	C	C	D	E	D	E	D	
Approach Delay (s)		23.0			29.8			54.6			59.5	
Approach LOS		C			C			D			E	

Intersection Summary				
HCM 2000 Control Delay	36.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	74.9%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	21	17	43	17	54	14	739	11	29	950	55
Future Volume (vph)	107	21	17	43	17	54	14	739	11	29	950	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.96			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1780			1713		1805	1855		1805	1864	
Flt Permitted		0.61			0.87		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1122			1510		1805	1855		1805	1864	
Peak-hour factor, PHF	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)	113	22	18	45	18	57	15	778	12	31	1000	58
RTOR Reduction (vph)	0	4	0	0	29	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	149	0	0	91	0	15	790	0	31	1057	0
Confl. Peds. (#/hr)			11	11			3					3
Heavy Vehicles (%)	0%	5%	0%	2%	3%	0%	0%	2%	15%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.1			19.1		2.8	87.7		16.6	101.5	
Effective Green, g (s)		19.1			19.1		2.8	87.7		16.6	101.5	
Actuated g/C Ratio		0.14			0.14		0.02	0.64		0.12	0.75	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		157			212		37	1196		220	1391	
v/s Ratio Prot							c0.01	0.43		0.02	c0.57	
v/s Ratio Perm		c0.13			0.06							
v/c Ratio		0.95			0.43		0.41	0.66		0.14	0.76	
Uniform Delay, d1		57.9			53.5		65.8	14.9		53.3	10.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		55.2			0.5		2.6	2.9		0.1	4.0	
Delay (s)		113.1			54.0		68.4	17.8		53.4	14.1	
Level of Service		F			D		E	B		D	B	
Approach Delay (s)		113.1			54.0			18.7			15.2	
Approach LOS		F			D			B			B	

Intersection Summary				
HCM 2000 Control Delay	25.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	77.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

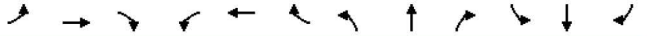
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	19	35	158	120	58
Future Volume (Veh/h)	39	19	35	158	120	58
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	44	21	39	178	135	65
Pedestrians	9			8	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	434	184	209			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	434	184	209			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	98	97			
cM capacity (veh/h)	557	846	1352			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	65	217	200
Volume Left	44	39	0
Volume Right	21	0	65
cSH	626	1352	1700
Volume to Capacity	0.10	0.03	0.12
Queue Length 95th (ft)	9	2	0
Control Delay (s)	11.4	1.6	0.0
Lane LOS	B	A	
Approach Delay (s)	11.4	1.6	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		2.3		
Intersection Capacity Utilization	37.1%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1	4	2	1	34	5	734	4	45	932	6
Future Volume (Veh/h)	2	1	4	2	1	34	5	734	4	45	932	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
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
Hourly flow rate (vph)	2	1	4	2	1	36	5	781	4	48	991	6
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)											1190	
pX, platoon unblocked												
vC, conflicting volume	1918	1885	995	1886	1886	783	997			785		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1918	1885	995	1886	1886	783	997			785		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	95	98	99	96	98	91	99			94		
cM capacity (veh/h)	44	66	297	50	66	394	694			834		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	7	39	5	785	48	997
Volume Left	2	2	5	0	48	0
Volume Right	4	36	0	4	0	6
cSH	94	266	694	1700	834	1700
Volume to Capacity	0.07	0.15	0.01	0.46	0.06	0.59
Queue Length 95th (ft)	6	13	1	0	5	0
Control Delay (s)	46.4	20.9	10.2	0.0	9.6	0.0
Lane LOS	E	C	B		A	
Approach Delay (s)	46.4	20.9	0.1		0.4	
Approach LOS	E	C				

Intersection Summary				
Average Delay	0.9			
Intersection Capacity Utilization	59.7%	ICU Level of Service		B
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	13	6	28	1	1	3	22	115	0	6	85	9
Future Volume (vph)	13	6	28	1	1	3	22	115	0	6	85	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
Hourly flow rate (vph)	15	7	33	1	1	4	26	135	0	7	100	11

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	55	6	161	118
Volume Left (vph)	15	1	26	7
Volume Right (vph)	33	4	0	11
Hadj (s)	-0.27	-0.33	0.07	-0.01
Departure Headway (s)	4.2	4.2	4.2	4.2
Degree Utilization, x	0.06	0.01	0.19	0.14
Capacity (veh/h)	784	779	830	839
Control Delay (s)	7.5	7.3	8.2	7.9
Approach Delay (s)	7.5	7.3	8.2	7.9
Approach LOS	A	A	A	A

Intersection Summary				
Delay			8.0	
Level of Service			A	
Intersection Capacity Utilization			26.0%	ICU Level of Service
Analysis Period (min)			15	

HCM Unsignalized Intersection Capacity Analysis
8: SR 1 & Higgins Canyon Rd

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	74	39	714	101	33	912
Future Volume (Veh/h)	74	39	714	101	33	912
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	78	41	752	106	35	960
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1302	376			752	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1302	376			752	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	47	93			96	
cM capacity (veh/h)	146	622			853	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	78	41	376	376	106	35	480	480
Volume Left	78	0	0	0	0	35	0	0
Volume Right	0	41	0	0	106	0	0	0
cSH	146	622	1700	1700	1700	853	1700	1700
Volume to Capacity	0.53	0.07	0.22	0.22	0.06	0.04	0.28	0.28
Queue Length 95th (ft)	66	5	0	0	0	3	0	0
Control Delay (s)	54.8	11.2	0.0	0.0	0.0	9.4	0.0	0.0
Lane LOS	F	B				A		
Approach Delay (s)	39.8		0.0			0.3		
Approach LOS	E							

Intersection Summary					
Average Delay		2.6			
Intersection Capacity Utilization		37.2%	ICU Level of Service		A
Analysis Period (min)		15			

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	98	43	124	57	303	45	591	137	366	965	173
Future Volume (vph)	56	98	43	124	57	303	45	591	137	366	965	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1833	1518		1751	1521	1805	3286		1770	3445	
Flt Permitted		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1833	1518		1751	1521	1805	3286		1770	3445	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	56	98	43	124	57	303	45	591	137	366	965	173
RTOR Reduction (vph)	0	0	37	0	0	172	0	12	0	0	6	0
Lane Group Flow (vph)	0	154	6	0	181	131	45	716	0	366	1132	0
Confl. Peds. (#/hr)	15		1	1		15	2		1	1		2
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	5%	0%	5%	4%	7%	5%	0%	5%	12%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		21.0	21.0		24.3	64.7	6.6	46.6		40.4	80.4	
Effective Green, g (s)		21.0	21.0		24.3	64.7	6.6	46.6		40.4	80.4	
Actuated g/C Ratio		0.14	0.14		0.16	0.43	0.04	0.31		0.27	0.54	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		256	212		283	656	79	1020		476	1846	
v/s Ratio Prot		c0.08			c0.10	0.05	0.02	c0.22		c0.21	0.33	
v/s Ratio Perm			0.00			0.03						
v/c Ratio		0.60	0.03		0.64	0.20	0.57	0.70		0.77	0.61	
Uniform Delay, d1		60.6	55.7		58.8	26.5	70.3	45.6		50.5	24.0	
Progression Factor		1.00	1.00		1.00	1.00	1.48	0.62		1.00	1.00	
Incremental Delay, d2		3.9	0.1		3.5	0.1	5.1	3.8		6.6	1.5	
Delay (s)		64.5	55.7		62.2	26.6	109.3	32.1		57.1	25.6	
Level of Service		E	E		E	C	F	C		E	C	
Approach Delay (s)		62.6			39.9			36.6			33.3	
Approach LOS		E			D			D			C	

Intersection Summary				
HCM 2000 Control Delay	37.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	78.1%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	40	78	272	38	72	114	745	458	463	713	4
Future Volume (vph)	27	40	78	272	38	72	114	745	458	463	713	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1741	1575	1618	1611	1379	1805	3505	1548	3400	3536	
Flt Permitted		0.98	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1741	1575	1618	1611	1379	1805	3505	1548	3400	3536	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	40	78	272	38	72	114	745	458	463	713	4
RTOR Reduction (vph)	0	0	72	0	0	61	0	0	234	0	0	0
Lane Group Flow (vph)	0	67	6	155	155	11	114	745	224	463	717	0
Confl. Peds. (#/hr)	6					6	6					6
Confl. Bikes (#/hr)			1						1			1
Heavy Vehicles (%)	7%	7%	1%	6%	14%	15%	0%	3%	3%	3%	2%	0%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.2	11.2	22.6	22.6	22.6	13.5	73.5	73.5	25.0	85.0	
Effective Green, g (s)		11.2	11.2	22.6	22.6	22.6	13.5	73.5	73.5	25.0	85.0	
Actuated g/C Ratio		0.07	0.07	0.15	0.15	0.15	0.09	0.49	0.49	0.17	0.57	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		129	117	243	242	207	162	1717	758	566	2003	
v/s Ratio Prot		c0.04		0.10	c0.10		c0.06	c0.21		c0.14	0.20	
v/s Ratio Perm			0.00			0.01			0.14			
v/c Ratio		0.52	0.05	0.64	0.64	0.05	0.70	0.43	0.30	0.82	0.36	
Uniform Delay, d1		66.8	64.5	59.9	59.9	54.5	66.3	24.8	22.8	60.3	17.7	
Progression Factor		1.00	1.00	0.86	0.86	7.80	1.00	1.00	1.00	0.79	0.38	
Incremental Delay, d2		1.5	0.1	4.0	4.3	0.0	10.7	0.8	1.0	7.7	0.4	
Delay (s)		68.3	64.5	55.7	56.0	425.5	77.1	25.6	23.8	55.2	7.2	
Level of Service		E	E	E	E	F	E	C	C	E	A	
Approach Delay (s)		66.3			125.5			29.4			26.0	
Approach LOS		E			F			C			C	

Intersection Summary				
HCM 2000 Control Delay	42.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	64.6%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	770	96	122	296	204	74	166	181	242	85	20
Future Volume (vph)	77	770	96	122	296	204	74	166	181	242	85	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1542	1703	3438	1456	1703	1863	1560	1736	1753	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1542	1703	3438	1456	1703	1863	1560	1736	1753	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	77	770	96	122	296	204	74	166	181	242	85	20
RTOR Reduction (vph)	0	0	50	0	0	100	0	0	157	0	7	0
Lane Group Flow (vph)	77	770	46	122	296	104	74	166	24	242	98	0
Confl. Peds. (#/hr)	2		2	2		2	10		8	8		10
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	6%	5%	8%	6%	2%	1%	4%	0%	25%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	10.8	71.6	71.6	15.9	76.7	76.7	19.7	19.7	19.7	25.3	25.3	
Effective Green, g (s)	10.8	71.6	71.6	15.9	76.7	76.7	19.7	19.7	19.7	25.3	25.3	
Actuated g/C Ratio	0.07	0.48	0.48	0.11	0.51	0.51	0.13	0.13	0.13	0.17	0.17	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	127	1689	736	180	1757	744	223	244	204	292	295	
v/s Ratio Prot	c0.04	c0.22		c0.07	0.09		0.04	c0.09		c0.14	0.06	
v/s Ratio Perm			0.03			0.07			0.02			
v/c Ratio	0.61	0.46	0.06	0.68	0.17	0.14	0.33	0.68	0.12	0.83	0.33	
Uniform Delay, d1	67.5	26.2	21.1	64.6	19.6	19.3	59.2	62.1	57.5	60.3	54.9	
Progression Factor	1.19	0.86	0.88	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.5	0.7	0.1	7.7	0.2	0.4	0.3	6.1	0.1	16.6	0.2	
Delay (s)	85.0	23.2	18.6	72.3	19.8	19.7	59.5	68.2	57.6	76.9	55.2	
Level of Service	F	C	B	E	B	B	E	E	E	E	E	
Approach Delay (s)		27.8			30.1			62.1			70.3	
Approach LOS		C			C			E			E	

Intersection Summary				
HCM 2000 Control Delay	40.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.60			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	69.0%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	55	12	24	42	85	8	720	13	66	469	17
Future Volume (vph)	112	55	12	24	42	85	8	720	13	66	469	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.99			0.92		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1796			1662		1805	1840		1752	1817	
Flt Permitted		0.51			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		936			1561		1805	1840		1752	1817	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	112	55	12	24	42	85	8	720	13	66	469	17
RTOR Reduction (vph)	0	2	0	0	36	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	177	0	0	115	0	8	733	0	66	485	0
Confl. Peds. (#/hr)			22	22			6		1	1		6
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	2%	7%	4%	0%	4%	0%	3%	0%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		22.7			22.7		4.7	103.7		11.0	110.0	
Effective Green, g (s)		22.7			22.7		4.7	103.7		11.0	110.0	
Actuated g/C Ratio		0.15			0.15		0.03	0.69		0.07	0.73	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		141			236		56	1272		128	1332	
v/s Ratio Prot							0.00	c0.40		c0.04	0.27	
v/s Ratio Perm		c0.19			0.07							
v/c Ratio		1.26			0.49		0.14	0.58		0.52	0.36	
Uniform Delay, d1		63.6			58.3		70.7	11.9		66.9	7.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		160.8			0.6		0.4	1.9		1.5	0.8	
Delay (s)		224.4			58.9		71.1	13.8		68.4	8.1	
Level of Service		F			E		E	B		E	A	
Approach Delay (s)		224.4			58.9			14.4			15.3	
Approach LOS		F			E			B			B	

Intersection Summary				
HCM 2000 Control Delay	42.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	81.1%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

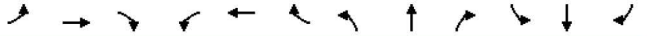
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	51	73	82	208	126	27
Future Volume (Veh/h)	51	73	82	208	126	27
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	51	73	82	208	126	27
Pedestrians	15			7	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	532	162	168			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	532	162	168			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	92	94			
cM capacity (veh/h)	470	867	1392			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	124	290	153
Volume Left	51	82	0
Volume Right	73	0	27
cSH	643	1392	1700
Volume to Capacity	0.19	0.06	0.09
Queue Length 95th (ft)	18	5	0
Control Delay (s)	11.9	2.6	0.0
Lane LOS	B	A	
Approach Delay (s)	11.9	2.6	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		3.9		
Intersection Capacity Utilization	44.8%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	3	3	2	3	30	5	685	2	41	488	5
Future Volume (Veh/h)	7	3	3	2	3	30	5	685	2	41	488	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	7	3	3	2	3	30	5	685	2	41	488	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1268			1190	
pX, platoon unblocked												
vC, conflicting volume	1299	1270	490	1270	1271	686	493			687		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1299	1270	490	1270	1271	686	493			687		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	98	99	99	98	93	100			95		
cM capacity (veh/h)	122	160	578	137	159	447	1071			907		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	13	35	5	687	41	493
Volume Left	7	2	5	0	41	0
Volume Right	3	30	0	2	0	5
cSH	160	348	1071	1700	907	1700
Volume to Capacity	0.08	0.10	0.00	0.40	0.05	0.29
Queue Length 95th (ft)	7	8	0	0	4	0
Control Delay (s)	29.4	16.5	8.4	0.0	9.2	0.0
Lane LOS	D	C	A		A	
Approach Delay (s)	29.4	16.5	0.1		0.7	
Approach LOS	D	C				

Intersection Summary				
Average Delay		1.1		
Intersection Capacity Utilization	46.2%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	16	6	25	0	11	9	24	131	0	9	65	18
Future Volume (vph)	16	6	25	0	11	9	24	131	0	9	65	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	6	25	0	11	9	24	131	0	9	65	18

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	47	20	155	92
Volume Left (vph)	16	0	24	9
Volume Right (vph)	25	9	0	18
Hadj (s)	-0.22	-0.24	0.06	-0.06
Departure Headway (s)	4.2	4.3	4.2	4.1
Degree Utilization, x	0.06	0.02	0.18	0.11
Capacity (veh/h)	798	783	832	847
Control Delay (s)	7.5	7.4	8.1	7.6
Approach Delay (s)	7.5	7.4	8.1	7.6
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.8	
Level of Service			A	
Intersection Capacity Utilization			29.3%	ICU Level of Service
Analysis Period (min)			15	A

HCM Signalized Intersection Capacity Analysis
8: SR 1 & Main St

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	69	22	667	114	32	462
Future Volume (vph)	69	22	667	114	32	462
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	69	22	667	114	32	462
RTOR Reduction (vph)	0	20	0	39	0	0
Lane Group Flow (vph)	69	2	667	75	32	462
Turn Type	Prot	Perm	NA	Prot	Prot	NA
Protected Phases	8		2	2	1	6
Permitted Phases		8				
Actuated Green, G (s)	4.8	4.8	33.4	33.4	0.9	38.3
Effective Green, g (s)	4.8	4.8	33.4	33.4	0.9	38.3
Actuated g/C Ratio	0.09	0.09	0.65	0.65	0.02	0.75
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	166	148	2313	1034	31	2652
v/s Ratio Prot	c0.04		c0.19	0.05	c0.02	0.13
v/s Ratio Perm		0.00				
v/c Ratio	0.42	0.01	0.29	0.07	1.03	0.17
Uniform Delay, d1	21.8	21.0	3.8	3.2	25.1	1.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.0	0.3	0.1	171.6	0.1
Delay (s)	23.5	21.0	4.1	3.4	196.7	2.0
Level of Service	C	C	A	A	F	A
Approach Delay (s)	22.9		4.0			14.6
Approach LOS	C		A			B

Intersection Summary				
HCM 2000 Control Delay		9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio		0.32		
Actuated Cycle Length (s)		51.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization		35.6%	ICU Level of Service	A
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	174	64	66	61	92	580	63	746	21	259	731	134
Future Volume (vph)	174	64	66	61	92	580	63	746	21	259	731	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1805	1552		1848	1583	1805	3554		1770	3438	
Flt Permitted		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1805	1552		1848	1583	1805	3554		1770	3438	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	174	64	66	61	92	580	63	746	21	259	731	134
RTOR Reduction (vph)	0	0	54	0	0	162	0	1	0	0	7	0
Lane Group Flow (vph)	0	238	12	0	153	418	63	766	0	259	858	0
Confl. Peds. (#/hr)	9		7	7		9	6		3	3		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	2%	2%	0%	1%	0%	1%	4%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		26.3	26.3		22.7	51.4	7.7	54.6		28.7	75.6	
Effective Green, g (s)		26.3	26.3		22.7	51.4	7.7	54.6		28.7	75.6	
Actuated g/C Ratio		0.18	0.18		0.15	0.34	0.05	0.36		0.19	0.50	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		316	272		279	542	92	1293		338	1732	
v/s Ratio Prot		c0.13			0.08	c0.15	0.03	c0.22		0.15	0.25	
v/s Ratio Perm			0.01			0.12						
v/c Ratio		0.75	0.04		0.55	0.77	0.68	0.59		0.77	0.50	
Uniform Delay, d1		58.8	51.4		58.9	44.1	70.0	38.7		57.5	24.6	
Progression Factor		1.00	1.00		1.00	1.00	1.45	0.42		1.00	1.00	
Incremental Delay, d2		9.7	0.1		1.2	6.1	14.4	1.9		9.0	1.0	
Delay (s)		68.5	51.5		60.1	50.2	115.9	18.2		66.5	25.6	
Level of Service		E	D		E	D	F	B		E	C	
Approach Delay (s)		64.8			52.3			25.6			35.0	
Approach LOS		E			D			C			D	

Intersection Summary				
HCM 2000 Control Delay	39.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	89.3%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	35	192	643	141	112	149	732	311	186	615	16
Future Volume (vph)	33	35	192	643	141	112	149	732	311	186	615	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1855	1573	1681	1726	1533	1787	3539	1583	3467	3542	
Flt Permitted		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1855	1573	1681	1726	1533	1787	3539	1583	3467	3542	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	33	35	192	643	141	112	149	732	311	186	615	16
RTOR Reduction (vph)	0	0	178	0	0	82	0	0	171	0	1	0
Lane Group Flow (vph)	0	68	14	386	398	30	149	732	140	186	630	0
Confl. Peds. (#/hr)	10		1	1		10	7					7
Heavy Vehicles (%)	0%	0%	1%	2%	0%	3%	1%	2%	2%	1%	1%	18%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.1	11.1	40.3	40.3	40.3	18.2	67.5	67.5	13.4	62.7	
Effective Green, g (s)		11.1	11.1	40.3	40.3	40.3	18.2	67.5	67.5	13.4	62.7	
Actuated g/C Ratio		0.07	0.07	0.27	0.27	0.27	0.12	0.45	0.45	0.09	0.42	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		137	116	451	463	411	216	1592	712	309	1480	
v/s Ratio Prot		c0.04		0.23	c0.23		c0.08	c0.21		c0.05	0.18	
v/s Ratio Perm			0.01			0.02			0.09			
v/c Ratio		0.50	0.12	0.86	0.86	0.07	0.69	0.46	0.20	0.60	0.43	
Uniform Delay, d1		66.8	64.9	52.1	52.2	40.9	63.2	28.6	24.9	65.7	30.9	
Progression Factor		1.00	1.00	0.79	0.79	0.61	1.00	1.00	1.00	0.67	0.37	
Incremental Delay, d2		1.0	0.2	13.6	13.6	0.0	7.1	1.0	0.6	3.0	0.8	
Delay (s)		67.8	65.1	54.5	54.7	24.9	70.3	29.6	25.5	46.8	12.1	
Level of Service		E	E	D	D	C	E	C	C	D	B	
Approach Delay (s)		65.8			50.9			33.6			20.0	
Approach LOS		E			D			C			B	

Intersection Summary				
HCM 2000 Control Delay	37.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	70.0%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	406	109	196	699	482	148	163	137	183	149	32
Future Volume (vph)	37	406	109	196	699	482	148	163	137	183	149	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3505	1561	1787	3574	1489	1787	1881	1547	1752	1781	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3505	1561	1787	3574	1489	1787	1881	1547	1752	1781	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	406	109	196	699	482	148	163	137	183	149	32
RTOR Reduction (vph)	0	0	61	0	0	115	0	0	119	0	6	0
Lane Group Flow (vph)	37	406	48	196	699	367	148	163	18	183	175	0
Confl. Peds. (#/hr)	13		1	1		13	14		13	13		14
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	3%	1%	1%	1%	2%	1%	1%	1%	3%	1%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	6.7	66.5	66.5	22.8	82.6	82.6	19.5	19.5	19.5	23.7	23.7	
Effective Green, g (s)	6.7	66.5	66.5	22.8	82.6	82.6	19.5	19.5	19.5	23.7	23.7	
Actuated g/C Ratio	0.04	0.44	0.44	0.15	0.55	0.55	0.13	0.13	0.13	0.16	0.16	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	77	1553	692	271	1968	819	232	244	201	276	281	
v/s Ratio Prot	c0.02	0.12		c0.11	0.20		0.08	c0.09		c0.10	0.10	
v/s Ratio Perm			0.03			c0.25			0.01			
v/c Ratio	0.48	0.26	0.07	0.72	0.36	0.45	0.64	0.67	0.09	0.66	0.62	
Uniform Delay, d1	70.0	26.3	24.0	60.6	18.8	20.1	61.9	62.2	57.4	59.4	59.0	
Progression Factor	1.20	0.58	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	0.4	0.2	7.8	0.5	1.8	4.2	5.3	0.1	4.6	3.1	
Delay (s)	85.4	15.6	5.1	68.4	19.3	21.9	66.1	67.4	57.5	64.0	62.1	
Level of Service	F	B	A	E	B	C	E	E	E	E	E	
Approach Delay (s)		18.2			27.2			64.0			63.0	
Approach LOS		B			C			E			E	

Intersection Summary				
HCM 2000 Control Delay	36.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	71.6%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	81	26	14	59	26	46	8	687	13	46	891	47
Future Volume (vph)	81	26	14	59	26	46	8	687	13	46	891	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1780			1727		1805	1853		1805	1865	
Flt Permitted		0.62			0.81		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1139			1431		1805	1853		1805	1865	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	81	26	14	59	26	46	8	687	13	46	891	47
RTOR Reduction (vph)	0	4	0	0	15	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	117	0	0	116	0	8	700	0	46	937	0
Confl. Peds. (#/hr)			11	11			3					3
Heavy Vehicles (%)	0%	5%	0%	2%	3%	0%	0%	2%	15%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		17.8			17.8		1.3	110.6		9.0	118.3	
Effective Green, g (s)		17.8			17.8		1.3	110.6		9.0	118.3	
Actuated g/C Ratio		0.12			0.12		0.01	0.74		0.06	0.79	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		135			169		15	1366		108	1470	
v/s Ratio Prot							0.00	0.38		c0.03	c0.50	
v/s Ratio Perm		c0.10			0.08							
v/c Ratio		0.87			0.69		0.53	0.51		0.43	0.64	
Uniform Delay, d1		65.0			63.4		74.0	8.3		68.0	6.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		40.5			8.9		17.0	1.4		1.0	2.1	
Delay (s)		105.4			72.3		91.0	9.7		69.0	8.9	
Level of Service		F			E		F	A		E	A	
Approach Delay (s)		105.4			72.3			10.6			11.7	
Approach LOS		F			E			B			B	

Intersection Summary				
HCM 2000 Control Delay	21.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	70.9%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

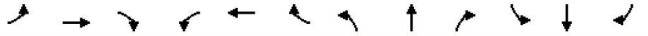
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	33	42	31	156	168	66
Future Volume (Veh/h)	33	42	31	156	168	66
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	33	42	31	156	168	66
Pedestrians	9			8	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	430	218	243			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	430	218	243			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	94	95	98			
cM capacity (veh/h)	563	810	1313			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	75	187	234
Volume Left	33	31	0
Volume Right	42	0	66
cSH	679	1313	1700
Volume to Capacity	0.11	0.02	0.14
Queue Length 95th (ft)	9	2	0
Control Delay (s)	11.0	1.5	0.0
Lane LOS	B	A	
Approach Delay (s)	11.0	1.5	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		2.2		
Intersection Capacity Utilization	40.0%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	3	6	2	0	39	8	663	10	36	902	11
Future Volume (Veh/h)	4	3	6	2	0	39	8	663	10	36	902	11
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	3	6	2	0	39	8	663	10	36	902	11
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1268			1190	
pX, platoon unblocked												
vC, conflicting volume	1698	1668	908	1666	1669	668	913			673		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1698	1668	908	1666	1669	668	913			673		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	94	97	98	97	100	91	99			96		
cM capacity (veh/h)	64	91	333	71	91	458	746			918		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	13	41	8	673	36	913
Volume Left	4	2	8	0	36	0
Volume Right	6	39	0	10	0	11
cSH	115	362	746	1700	918	1700
Volume to Capacity	0.11	0.11	0.01	0.40	0.04	0.54
Queue Length 95th (ft)	9	10	1	0	3	0
Control Delay (s)	40.3	16.2	9.9	0.0	9.1	0.0
Lane LOS	E	C	A		A	
Approach Delay (s)	40.3	16.2	0.1		0.3	
Approach LOS	E	C				

Intersection Summary				
Average Delay		0.9		
Intersection Capacity Utilization	58.5%	ICU Level of Service		B
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	6	22	0	6	4	18	109	2	7	102	8
Future Volume (vph)	17	6	22	0	6	4	18	109	2	7	102	8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	17	6	22	0	6	4	18	109	2	7	102	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	45	10	129	117
Volume Left (vph)	17	0	18	7
Volume Right (vph)	22	4	2	8
Hadj (s)	-0.18	-0.21	0.05	0.00
Departure Headway (s)	4.3	4.3	4.2	4.2
Degree Utilization, x	0.05	0.01	0.15	0.14
Capacity (veh/h)	795	778	835	847
Control Delay (s)	7.5	7.3	7.9	7.8
Approach Delay (s)	7.5	7.3	7.9	7.8
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.8	
Level of Service			A	
Intersection Capacity Utilization			28.8%	ICU Level of Service
Analysis Period (min)			15	A

HCM Signalized Intersection Capacity Analysis
8: SR 1 & Main St

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	86	26	651	94	31	879
Future Volume (vph)	86	26	651	94	31	879
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	86	26	651	94	31	879
RTOR Reduction (vph)	0	23	0	34	0	0
Lane Group Flow (vph)	86	3	651	60	31	879
Turn Type	Prot	Perm	NA	Prot	Prot	NA
Protected Phases	8		2	2	1	6
Permitted Phases		8				
Actuated Green, G (s)	5.2	5.2	32.5	32.5	0.8	37.3
Effective Green, g (s)	5.2	5.2	32.5	32.5	0.8	37.3
Actuated g/C Ratio	0.10	0.10	0.64	0.64	0.02	0.74
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	182	163	2277	1018	28	2613
v/s Ratio Prot	c0.05		0.18	0.04	c0.02	c0.25
v/s Ratio Perm		0.00				
v/c Ratio	0.47	0.02	0.29	0.06	1.11	0.34
Uniform Delay, d1	21.4	20.4	3.9	3.3	24.9	2.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.9	0.0	0.3	0.1	204.7	0.3
Delay (s)	23.3	20.4	4.2	3.4	229.5	2.6
Level of Service	C	C	A	A	F	A
Approach Delay (s)	22.6		4.1			10.4
Approach LOS	C		A			B

Intersection Summary				
HCM 2000 Control Delay		8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio		0.39		
Actuated Cycle Length (s)		50.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization		36.1%	ICU Level of Service	A
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	66	91	46	70	426	119	813	40	299	887	170
Future Volume (vph)	170	66	91	46	70	426	119	813	40	299	887	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1806	1553		1848	1586	1805	3539		1770	3435	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1806	1553		1848	1586	1805	3539		1770	3435	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	170	66	91	46	70	426	119	813	40	299	887	170
RTOR Reduction (vph)	0	0	74	0	0	182	0	2	0	0	8	0
Lane Group Flow (vph)	0	236	17	0	116	244	119	851	0	299	1049	0
Confl. Peds. (#/hr)	9		7	7		9	6		3	3		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	2%	2%	0%	1%	0%	1%	4%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		24.8	24.8		21.2	57.9	8.5	35.6		36.7	63.8	
Effective Green, g (s)		24.8	24.8		21.2	57.9	8.5	35.6		36.7	63.8	
Actuated g/C Ratio		0.18	0.18		0.16	0.43	0.06	0.26		0.27	0.47	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		329	283		288	675	112	926		477	1611	
v/s Ratio Prot		c0.13			c0.06	0.10	c0.07	c0.24		0.17	c0.31	
v/s Ratio Perm			0.01			0.06						
v/c Ratio		0.72	0.06		0.40	0.36	1.06	0.92		0.63	0.65	
Uniform Delay, d1		52.3	46.0		51.7	26.5	63.8	48.8		43.6	27.6	
Progression Factor		1.00	1.00		1.00	1.00	0.69	0.60		1.00	1.00	
Incremental Delay, d2		7.3	0.1		0.3	0.1	98.0	14.1		1.9	2.1	
Delay (s)		59.6	46.0		52.0	26.6	141.9	43.5		45.5	29.6	
Level of Service		E	D		D	C	F	D		D	C	
Approach Delay (s)		55.8			32.1			55.6			33.1	
Approach LOS		E			C			E			C	

Intersection Summary				
HCM 2000 Control Delay	42.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	79.7%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	41	206	629	98	206	171	745	486	310	736	30
Future Volume (vph)	48	41	206	629	98	206	171	745	486	310	736	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1850	1574	1681	1716	1535	1787	3539	1583	3467	3524	
Flt Permitted		0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1850	1574	1681	1716	1535	1787	3539	1583	3467	3524	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	48	41	206	629	98	206	171	745	486	310	736	30
RTOR Reduction (vph)	0	0	184	0	0	152	0	0	294	0	2	0
Lane Group Flow (vph)	0	89	22	359	368	54	171	745	192	310	764	0
Confl. Peds. (#/hr)	10		1	1		10	7					7
Heavy Vehicles (%)	0%	0%	1%	2%	0%	3%	1%	2%	2%	1%	1%	18%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.8	11.8	35.9	35.9	35.9	18.4	53.7	53.7	16.9	52.2	
Effective Green, g (s)		11.8	11.8	35.9	35.9	35.9	18.4	53.7	53.7	16.9	52.2	
Actuated g/C Ratio		0.09	0.09	0.26	0.26	0.26	0.14	0.39	0.39	0.12	0.38	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		160	136	443	452	405	241	1397	625	430	1352	
v/s Ratio Prot		c0.05		0.21	c0.21		c0.10	0.21		c0.09	c0.22	
v/s Ratio Perm			0.01			0.04			0.12			
v/c Ratio		0.56	0.16	0.81	0.81	0.13	0.71	0.53	0.31	0.72	0.57	
Uniform Delay, d1		59.6	57.5	46.9	46.9	38.2	56.2	31.5	28.3	57.3	33.0	
Progression Factor		1.00	1.00	0.65	0.65	0.23	1.00	1.00	1.00	0.71	0.47	
Incremental Delay, d2		2.4	0.2	9.7	9.7	0.1	7.6	1.5	1.3	4.9	1.4	
Delay (s)		62.0	57.7	40.3	40.4	8.9	63.8	33.0	29.6	45.7	16.9	
Level of Service		E	E	D	D	A	E	C	C	D	B	
Approach Delay (s)		59.0			33.4			35.6			25.2	
Approach LOS		E			C			D			C	

Intersection Summary				
HCM 2000 Control Delay	33.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	72.1%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	740	108	186	707	286	103	170	169	308	139	47
Future Volume (vph)	52	740	108	186	707	286	103	170	169	308	139	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3505	1561	1787	3574	1495	1787	1881	1550	1752	1740	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3505	1561	1787	3574	1495	1787	1881	1550	1752	1740	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	52	740	108	186	707	286	103	170	169	308	139	47
RTOR Reduction (vph)	0	0	68	0	0	81	0	0	145	0	10	0
Lane Group Flow (vph)	52	740	40	186	707	205	103	170	24	308	176	0
Confl. Peds. (#/hr)	13		1	1		13	14		13	13		14
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	3%	1%	1%	1%	2%	1%	1%	1%	3%	1%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	7.1	50.7	50.7	20.3	63.9	63.9	19.2	19.2	19.2	28.3	28.3	
Effective Green, g (s)	7.1	50.7	50.7	20.3	63.9	63.9	19.2	19.2	19.2	28.3	28.3	
Actuated g/C Ratio	0.05	0.37	0.37	0.15	0.47	0.47	0.14	0.14	0.14	0.21	0.21	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	90	1306	581	266	1679	702	252	265	218	364	362	
v/s Ratio Prot	0.03	c0.21		c0.10	0.20		0.06	c0.09		c0.18	0.10	
v/s Ratio Perm			0.03			0.14			0.02			
v/c Ratio	0.58	0.57	0.07	0.70	0.42	0.29	0.41	0.64	0.11	0.85	0.49	
Uniform Delay, d1	63.0	33.9	27.5	55.0	23.8	22.2	53.2	55.2	50.9	51.8	47.5	
Progression Factor	1.00	0.65	0.21	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.6	1.5	0.2	6.3	0.8	1.1	0.4	3.9	0.1	15.8	0.4	
Delay (s)	67.7	23.5	6.0	61.3	24.6	23.2	53.6	59.1	51.0	67.5	47.8	
Level of Service	E	C	A	E	C	C	D	E	D	E	D	
Approach Delay (s)		24.0			30.1			54.7			60.1	
Approach LOS		C			C			D			E	

Intersection Summary				
HCM 2000 Control Delay	36.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	77.2%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	23	19	46	19	58	15	782	12	31	1005	59
Future Volume (vph)	114	23	19	46	19	58	15	782	12	31	1005	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.96			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1779			1714		1805	1855		1805	1864	
Flt Permitted		0.61			0.86		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1118			1507		1805	1855		1805	1864	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	114	23	19	46	19	58	15	782	12	31	1005	59
RTOR Reduction (vph)	0	4	0	0	28	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	152	0	0	95	0	15	794	0	31	1063	0
Confl. Peds. (#/hr)			11	11			3					3
Heavy Vehicles (%)	0%	5%	0%	2%	3%	0%	0%	2%	15%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.3			19.3		2.8	87.5		16.6	101.3	
Effective Green, g (s)		19.3			19.3		2.8	87.5		16.6	101.3	
Actuated g/C Ratio		0.14			0.14		0.02	0.64		0.12	0.74	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		158			213		37	1193		220	1388	
v/s Ratio Prot							c0.01	0.43		0.02	c0.57	
v/s Ratio Perm		c0.14			0.06							
v/c Ratio		0.96			0.44		0.41	0.67		0.14	0.77	
Uniform Delay, d1		58.0			53.4		65.8	15.1		53.3	10.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		59.2			0.5		2.6	2.9		0.1	4.1	
Delay (s)		117.2			54.0		68.4	18.1		53.4	14.4	
Level of Service		F			D		E	B		D	B	
Approach Delay (s)		117.2			54.0			19.0			15.5	
Approach LOS		F			D			B			B	

Intersection Summary				
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	81.2%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

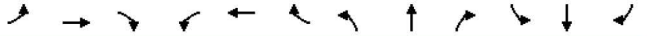
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	21	38	167	127	62
Future Volume (Veh/h)	42	21	38	167	127	62
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	42	21	38	167	127	62
Pedestrians	9			8	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	412	175	198			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	412	175	198			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	98	97			
cM capacity (veh/h)	574	856	1364			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	63	205	189
Volume Left	42	38	0
Volume Right	21	0	62
cSH	645	1364	1700
Volume to Capacity	0.10	0.03	0.11
Queue Length 95th (ft)	8	2	0
Control Delay (s)	11.2	1.6	0.0
Lane LOS	B	A	
Approach Delay (s)	11.2	1.6	0.0
Approach LOS	B		

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	38.4%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	2	5	3	2	35	6	777	5	47	987	7
Future Volume (Veh/h)	3	2	5	3	2	35	6	777	5	47	987	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	3	2	5	3	2	35	6	777	5	47	987	7
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1267			1190	
pX, platoon unblocked												
vC, conflicting volume	1910	1878	992	1880	1880	780	994			782		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1910	1878	992	1880	1880	780	994			782		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	93	97	98	94	97	91	99			94		
cM capacity (veh/h)	44	67	298	50	67	396	696			836		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	10	40	6	782	47	994
Volume Left	3	3	6	0	47	0
Volume Right	5	35	0	5	0	7
cSH	87	223	696	1700	836	1700
Volume to Capacity	0.12	0.18	0.01	0.46	0.06	0.58
Queue Length 95th (ft)	9	16	1	0	4	0
Control Delay (s)	51.8	24.6	10.2	0.0	9.6	0.0
Lane LOS	F	C	B		A	
Approach Delay (s)	51.8	24.6	0.1		0.4	
Approach LOS	F	C				

Intersection Summary				
Average Delay	1.1			
Intersection Capacity Utilization	62.7%	ICU Level of Service		B
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	14	7	29	2	2	4	23	122	0	7	90	10
Future Volume (vph)	14	7	29	2	2	4	23	122	0	7	90	10
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	14	7	29	2	2	4	23	122	0	7	90	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	50	8	145	107
Volume Left (vph)	14	2	23	7
Volume Right (vph)	29	4	0	10
Hadj (s)	-0.26	-0.22	0.07	-0.01
Departure Headway (s)	4.2	4.3	4.2	4.2
Degree Utilization, x	0.06	0.01	0.17	0.12
Capacity (veh/h)	806	775	834	845
Control Delay (s)	7.5	7.3	8.1	7.8
Approach Delay (s)	7.5	7.3	8.1	7.8
Approach LOS	A	A	A	A

Intersection Summary				
Delay			7.8	
Level of Service			A	
Intersection Capacity Utilization			26.3%	ICU Level of Service
Analysis Period (min)			15	A

HCM Signalized Intersection Capacity Analysis
8: SR 1 & Main St

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	79	41	757	107	35	967
Future Volume (vph)	79	41	757	107	35	967
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	79	41	757	107	35	967
RTOR Reduction (vph)	0	37	0	38	0	0
Lane Group Flow (vph)	79	4	757	69	35	967
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	5.0	5.0	32.1	32.1	0.8	36.9
Effective Green, g (s)	5.0	5.0	32.1	32.1	0.8	36.9
Actuated g/C Ratio	0.10	0.10	0.64	0.64	0.02	0.74
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	177	158	2276	1018	28	2617
v/s Ratio Prot	c0.04		0.21		c0.02	c0.27
v/s Ratio Perm		0.00		0.04		
v/c Ratio	0.45	0.03	0.33	0.07	1.25	0.37
Uniform Delay, d1	21.1	20.3	4.0	3.3	24.6	2.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.1	0.4	0.1	254.6	0.4
Delay (s)	22.9	20.3	4.4	3.4	279.1	2.7
Level of Service	C	C	A	A	F	A
Approach Delay (s)	22.0		4.3			12.4
Approach LOS	C		A			B

Intersection Summary				
HCM 2000 Control Delay		9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio		0.42		
Actuated Cycle Length (s)		49.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization		38.6%	ICU Level of Service	A
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	112	50	142	65	365	52	704	156	443	1125	198
Future Volume (vph)	64	112	50	142	65	365	52	704	156	443	1125	198
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.99		1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.97		1.00	0.98	
Flt Protected		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1833	1518		1750	1523	1805	3291		1770	3446	
Flt Permitted		0.98	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1833	1518		1750	1523	1805	3291		1770	3446	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	64	112	50	142	65	365	52	704	156	443	1125	198
RTOR Reduction (vph)	0	0	43	0	0	179	0	12	0	0	7	0
Lane Group Flow (vph)	0	176	7	0	207	186	52	848	0	443	1316	0
Confl. Peds. (#/hr)	15		1	1		15	2		1	1		2
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	5%	0%	5%	4%	7%	5%	0%	5%	12%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		22.3	22.3		25.5	76.6	7.0	33.4		51.1	77.5	
Effective Green, g (s)		22.3	22.3		25.5	76.6	7.0	33.4		51.1	77.5	
Actuated g/C Ratio		0.15	0.15		0.17	0.51	0.05	0.22		0.34	0.52	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		272	225		297	777	84	732		602	1780	
v/s Ratio Prot		c0.10			c0.12	0.08	0.03	c0.26		c0.25	0.38	
v/s Ratio Perm			0.00			0.04						
v/c Ratio		0.65	0.03		0.70	0.24	0.62	1.16		0.74	0.74	
Uniform Delay, d1		60.1	54.6		58.6	20.5	70.2	58.3		43.5	28.4	
Progression Factor		1.00	1.00		1.00	1.00	1.37	0.66		1.00	1.00	
Incremental Delay, d2		5.2	0.1		5.6	0.1	8.1	84.4		4.0	2.8	
Delay (s)		65.4	54.7		64.3	20.5	104.5	122.7		47.5	31.2	
Level of Service		E	D		E	C	F	F		D	C	
Approach Delay (s)		63.0			36.4			121.7			35.3	
Approach LOS		E			D			F			D	

Intersection Summary				
HCM 2000 Control Delay	59.9	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	83.5%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	46	89	310	44	101	130	860	522	554	827	4
Future Volume (vph)	30	46	89	310	44	101	130	860	522	554	827	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1741	1575	1618	1611	1379	1805	3505	1548	3400	3536	
Flt Permitted		0.98	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1741	1575	1618	1611	1379	1805	3505	1548	3400	3536	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	46	89	310	44	101	130	860	522	554	827	4
RTOR Reduction (vph)	0	0	82	0	0	85	0	0	262	0	0	0
Lane Group Flow (vph)	0	76	7	177	177	16	130	860	260	554	831	0
Confl. Peds. (#/hr)	6					6	6					6
Confl. Bikes (#/hr)			1						1			1
Heavy Vehicles (%)	7%	7%	1%	6%	14%	15%	0%	3%	3%	3%	2%	0%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		11.5	11.5	24.1	24.1	24.1	14.5	68.8	68.8	27.9	82.2	
Effective Green, g (s)		11.5	11.5	24.1	24.1	24.1	14.5	68.8	68.8	27.9	82.2	
Actuated g/C Ratio		0.08	0.08	0.16	0.16	0.16	0.10	0.46	0.46	0.19	0.55	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		133	120	259	258	221	174	1607	710	632	1937	
v/s Ratio Prot		c0.04		0.11	c0.11		c0.07	c0.25		c0.16	0.23	
v/s Ratio Perm			0.00			0.01			0.17			
v/c Ratio		0.57	0.06	0.68	0.69	0.07	0.75	0.54	0.37	0.88	0.43	
Uniform Delay, d1		66.9	64.2	59.4	59.4	53.5	66.0	29.1	26.4	59.4	20.0	
Progression Factor		1.00	1.00	0.82	0.82	2.20	1.00	1.00	1.00	0.78	0.38	
Incremental Delay, d2		3.6	0.1	5.7	5.8	0.1	14.1	1.3	1.5	10.2	0.5	
Delay (s)		70.5	64.3	54.7	54.8	117.9	80.1	30.4	27.9	56.6	8.1	
Level of Service		E	E	D	D	F	F	C	C	E	A	
Approach Delay (s)		67.2			68.8			33.8			27.5	
Approach LOS		E			E			C			C	

Intersection Summary				
HCM 2000 Control Delay	37.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	71.4%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	904	109	138	357	251	84	189	207	302	97	23
Future Volume (vph)	88	904	109	138	357	251	84	189	207	302	97	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1542	1703	3438	1456	1703	1863	1560	1736	1752	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1542	1703	3438	1456	1703	1863	1560	1736	1752	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	88	904	109	138	357	251	84	189	207	302	97	23
RTOR Reduction (vph)	0	0	52	0	0	132	0	0	178	0	6	0
Lane Group Flow (vph)	88	904	57	138	357	119	84	189	29	302	114	0
Confl. Peds. (#/hr)	2		2	2		2	10		8	8		10
Confl. Bikes (#/hr)												1
Heavy Vehicles (%)	2%	2%	2%	6%	5%	8%	6%	2%	1%	4%	0%	25%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	11.0	65.4	65.4	16.5	70.9	70.9	20.7	20.7	20.7	29.9	29.9	
Effective Green, g (s)	11.0	65.4	65.4	16.5	70.9	70.9	20.7	20.7	20.7	29.9	29.9	
Actuated g/C Ratio	0.07	0.44	0.44	0.11	0.47	0.47	0.14	0.14	0.14	0.20	0.20	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	129	1543	672	187	1625	688	235	257	215	346	349	
v/s Ratio Prot	c0.05	c0.26		c0.08	0.10		0.05	c0.10		c0.17	0.06	
v/s Ratio Perm			0.04			0.08			0.02			
v/c Ratio	0.68	0.59	0.08	0.74	0.22	0.17	0.36	0.74	0.13	0.87	0.33	
Uniform Delay, d1	67.8	32.0	24.8	64.7	23.3	22.7	58.6	62.0	56.8	58.2	51.4	
Progression Factor	1.22	0.80	0.62	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	8.2	1.2	0.2	12.3	0.3	0.5	0.3	9.0	0.1	20.2	0.2	
Delay (s)	91.0	27.0	15.5	76.9	23.6	23.3	59.0	71.1	56.9	78.4	51.6	
Level of Service	F	C	B	E	C	C	E	E	E	E	D	
Approach Delay (s)		31.0			33.3			62.8			70.8	
Approach LOS		C			C			E			E	

Intersection Summary				
HCM 2000 Control Delay	43.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.70			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	77.9%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	128	63	14	27	48	97	9	831	15	76	548	20
Future Volume (vph)	128	63	14	27	48	97	9	831	15	76	548	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.99			0.92		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1795			1663		1805	1840		1752	1817	
Flt Permitted		0.49			0.93		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		904			1557		1805	1840		1752	1817	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	128	63	14	27	48	97	9	831	15	76	548	20
RTOR Reduction (vph)	0	2	0	0	35	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	203	0	0	137	0	9	846	0	76	567	0
Confl. Peds. (#/hr)			22	22			6		1	1		6
Confl. Bikes (#/hr)						1						
Heavy Vehicles (%)	0%	2%	7%	4%	0%	4%	0%	3%	0%	3%	4%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		24.9			24.9		6.4	98.8		13.7	106.1	
Effective Green, g (s)		24.9			24.9		6.4	98.8		13.7	106.1	
Actuated g/C Ratio		0.17			0.17		0.04	0.66		0.09	0.71	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		150			258		77	1211		160	1285	
v/s Ratio Prot							0.00	c0.46		c0.04	0.31	
v/s Ratio Perm		c0.23			0.09							
v/c Ratio		1.36			0.53		0.12	0.70		0.47	0.44	
Uniform Delay, d1		62.5			57.2		69.1	16.2		64.7	9.3	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		197.1			1.1		0.2	3.4		0.8	1.1	
Delay (s)		259.7			58.3		69.3	19.5		65.5	10.4	
Level of Service		F			E		E	B		E	B	
Approach Delay (s)		259.7			58.3			20.1			16.9	
Approach LOS		F			E			C			B	

Intersection Summary				
HCM 2000 Control Delay	48.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	89.5%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

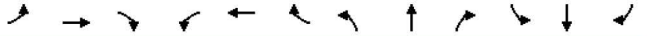
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	83	94	236	143	30
Future Volume (Veh/h)	58	83	94	236	143	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	58	83	94	236	143	30
Pedestrians	15			7	6	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	603	180	188			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	603	180	188			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	90	93			
cM capacity (veh/h)	423	847	1369			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	141	330	173
Volume Left	58	94	0
Volume Right	83	0	30
cSH	600	1369	1700
Volume to Capacity	0.24	0.07	0.10
Queue Length 95th (ft)	23	6	0
Control Delay (s)	12.8	2.7	0.0
Lane LOS	B	A	
Approach Delay (s)	12.8	2.7	0.0
Approach LOS	B		

Intersection Summary				
Average Delay		4.2		
Intersection Capacity Utilization	48.4%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	3	3	2	3	33	5	792	2	45	571	5
Future Volume (Veh/h)	8	3	3	2	3	33	5	792	2	45	571	5
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	8	3	3	2	3	33	5	792	2	45	571	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1268			1190	
pX, platoon unblocked												
vC, conflicting volume	1500	1468	574	1468	1469	793	576			794		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1500	1468	574	1468	1469	793	576			794		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	91	98	99	98	97	92	99			95		
cM capacity (veh/h)	86	120	519	98	120	389	997			827		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	14	38	5	794	45	576
Volume Left	8	2	5	0	45	0
Volume Right	3	33	0	2	0	5
cSH	113	292	997	1700	827	1700
Volume to Capacity	0.12	0.13	0.01	0.47	0.05	0.34
Queue Length 95th (ft)	10	11	0	0	4	0
Control Delay (s)	41.3	19.2	8.6	0.0	9.6	0.0
Lane LOS	E	C	A		A	
Approach Delay (s)	41.3	19.2	0.1		0.7	
Approach LOS	E	C				

Intersection Summary				
Average Delay		1.2		
Intersection Capacity Utilization	52.5%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	18	6	27	0	12	10	26	149	0	10	74	21
Future Volume (vph)	18	6	27	0	12	10	26	149	0	10	74	21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	18	6	27	0	12	10	26	149	0	10	74	21

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	51	22	175	105
Volume Left (vph)	18	0	26	10
Volume Right (vph)	27	10	0	21
Hadj (s)	-0.21	-0.24	0.06	-0.07
Departure Headway (s)	4.3	4.3	4.2	4.2
Degree Utilization, x	0.06	0.03	0.21	0.12
Capacity (veh/h)	768	764	826	838
Control Delay (s)	7.6	7.5	8.3	7.8
Approach Delay (s)	7.6	7.5	8.3	7.8
Approach LOS	A	A	A	A

Intersection Summary				
Delay			8.0	
Level of Service			A	
Intersection Capacity Utilization			30.7%	ICU Level of Service
Analysis Period (min)			15	A

HCM Signalized Intersection Capacity Analysis
8: SR 1 & Main St

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	79	24	773	130	35	543
Future Volume (vph)	79	24	773	130	35	543
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	79	24	773	130	35	543
RTOR Reduction (vph)	0	22	0	46	0	0
Lane Group Flow (vph)	79	2	773	84	35	543
Turn Type	Prot	Perm	NA	Prot	Prot	NA
Protected Phases	8		2	2	1	6
Permitted Phases		8				
Actuated Green, G (s)	5.0	5.0	32.7	32.7	0.8	37.5
Effective Green, g (s)	5.0	5.0	32.7	32.7	0.8	37.5
Actuated g/C Ratio	0.10	0.10	0.65	0.65	0.02	0.74
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	175	156	2291	1025	28	2627
v/s Ratio Prot	c0.04		c0.22	0.05	c0.02	0.15
v/s Ratio Perm		0.00				
v/c Ratio	0.45	0.02	0.34	0.08	1.25	0.21
Uniform Delay, d1	21.5	20.5	4.0	3.3	24.9	2.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	0.0	0.4	0.2	254.6	0.2
Delay (s)	23.3	20.6	4.4	3.5	279.4	2.2
Level of Service	C	C	A	A	F	A
Approach Delay (s)	22.7		4.3			18.9
Approach LOS	C		A			B

Intersection Summary				
HCM 2000 Control Delay		10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio		0.37		
Actuated Cycle Length (s)		50.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization		39.1%	ICU Level of Service	A
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	75	78	72	108	718	74	931	24	327	882	158
Future Volume (vph)	205	75	78	72	108	718	74	931	24	327	882	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1805	1552		1848	1585	1805	3556		1770	3440	
Flt Permitted		0.96	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1805	1552		1848	1585	1805	3556		1770	3440	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	205	75	78	72	108	718	74	931	24	327	882	158
RTOR Reduction (vph)	0	0	63	0	0	119	0	1	0	0	7	0
Lane Group Flow (vph)	0	280	15	0	180	599	74	954	0	327	1033	0
Confl. Peds. (#/hr)	9		7	7		9	6		3	3		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	2%	2%	0%	1%	0%	1%	4%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		28.9	28.9		23.9	63.0	9.7	40.4		39.1	69.8	
Effective Green, g (s)		28.9	28.9		23.9	63.0	9.7	40.4		39.1	69.8	
Actuated g/C Ratio		0.19	0.19		0.16	0.42	0.06	0.27		0.26	0.47	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		347	299		294	665	116	957		461	1600	
v/s Ratio Prot		c0.16			0.10	c0.23	0.04	c0.27		0.18	0.30	
v/s Ratio Perm			0.01			0.14						
v/c Ratio		0.81	0.05		0.61	0.90	0.64	1.00		0.71	0.65	
Uniform Delay, d1		57.9	49.4		58.7	40.6	68.4	54.7		50.3	30.6	
Progression Factor		1.00	1.00		1.00	1.00	1.34	0.54		1.00	1.00	
Incremental Delay, d2		12.8	0.1		2.6	15.0	6.8	25.6		4.1	2.0	
Delay (s)		70.7	49.4		61.4	55.6	98.6	55.0		54.4	32.7	
Level of Service		E	D		E	E	F	D		D	C	
Approach Delay (s)		66.1			56.7			58.1			37.9	
Approach LOS		E			E			E			D	

Intersection Summary				
HCM 2000 Control Delay	51.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.91			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	102.0%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	42	227	758	167	166	175	881	365	241	737	19
Future Volume (vph)	39	42	227	758	167	166	175	881	365	241	737	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1855	1574	1681	1726	1533	1787	3539	1583	3467	3542	
Flt Permitted		0.98	1.00	0.95	0.97	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1855	1574	1681	1726	1533	1787	3539	1583	3467	3542	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	39	42	227	758	167	166	175	881	365	241	737	19
RTOR Reduction (vph)	0	0	167	0	0	97	0	0	198	0	1	0
Lane Group Flow (vph)	0	81	60	455	470	69	175	881	167	241	755	0
Confl. Peds. (#/hr)	10		1	1		10	7					7
Heavy Vehicles (%)	0%	0%	1%	2%	0%	3%	1%	2%	2%	1%	1%	18%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		12.7	12.7	45.6	45.6	45.6	20.6	58.2	58.2	15.8	53.4	
Effective Green, g (s)		12.7	12.7	45.6	45.6	45.6	20.6	58.2	58.2	15.8	53.4	
Actuated g/C Ratio		0.08	0.08	0.30	0.30	0.30	0.14	0.39	0.39	0.11	0.36	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		157	133	511	524	466	245	1373	614	365	1260	
v/s Ratio Prot		c0.04		0.27	c0.27		c0.10	c0.25		c0.07	0.21	
v/s Ratio Perm			0.04			0.05			0.11			
v/c Ratio		0.52	0.45	0.89	0.90	0.15	0.71	0.64	0.27	0.66	0.60	
Uniform Delay, d1		65.7	65.4	49.8	50.0	38.1	61.9	37.4	31.4	64.5	39.5	
Progression Factor		1.00	1.00	0.73	0.73	0.49	1.00	1.00	1.00	0.66	0.44	
Incremental Delay, d2		1.2	0.9	15.7	16.1	0.0	8.0	2.3	1.1	3.6	1.7	
Delay (s)		66.9	66.2	52.3	52.8	18.5	69.8	39.7	32.5	46.0	19.0	
Level of Service		E	E	D	D	B	E	D	C	D	B	
Approach Delay (s)		66.4			47.3			41.6			25.6	
Approach LOS		E			D			D			C	

Intersection Summary				
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	79.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	500	128	231	858	602	174	192	161	237	175	38
Future Volume (vph)	43	500	128	231	858	602	174	192	161	237	175	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3505	1561	1787	3574	1489	1787	1881	1547	1752	1780	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3505	1561	1787	3574	1489	1787	1881	1547	1752	1780	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	500	128	231	858	602	174	192	161	237	175	38
RTOR Reduction (vph)	0	0	80	0	0	124	0	0	139	0	6	0
Lane Group Flow (vph)	43	500	48	231	858	478	174	192	22	237	207	0
Confl. Peds. (#/hr)	13		1	1		13	14		13	13		14
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	3%	1%	1%	1%	2%	1%	1%	1%	3%	1%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	7.2	56.8	56.8	28.7	78.3	78.3	20.8	20.8	20.8	26.2	26.2	
Effective Green, g (s)	7.2	56.8	56.8	28.7	78.3	78.3	20.8	20.8	20.8	26.2	26.2	
Actuated g/C Ratio	0.05	0.38	0.38	0.19	0.52	0.52	0.14	0.14	0.14	0.17	0.17	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	83	1327	591	341	1865	777	247	260	214	306	310	
v/s Ratio Prot	c0.02	0.14		c0.13	0.24		0.10	c0.10		c0.14	0.12	
v/s Ratio Perm			0.03			c0.32			0.01			
v/c Ratio	0.52	0.38	0.08	0.68	0.46	0.61	0.70	0.74	0.10	0.77	0.67	
Uniform Delay, d1	69.7	33.8	29.9	56.3	22.6	25.2	61.7	62.0	56.5	59.1	57.8	
Progression Factor	0.86	0.60	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.1	0.7	0.2	4.2	0.8	3.6	7.2	9.1	0.1	10.6	4.2	
Delay (s)	61.9	21.1	9.2	60.5	23.4	28.9	68.9	71.1	56.5	69.7	62.0	
Level of Service	E	C	A	E	C	C	E	E	E	E	E	
Approach Delay (s)		21.5			30.4			65.9			66.1	
Approach LOS		C			C			E			E	

Intersection Summary				
HCM 2000 Control Delay	39.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	76.1%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	30	17	69	30	54	9	827	15	54	1060	55
Future Volume (vph)	95	30	17	69	30	54	9	827	15	54	1060	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.95		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1779			1728		1805	1854		1805	1866	
Flt Permitted		0.61			0.81		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1115			1425		1805	1854		1805	1866	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	95	30	17	69	30	54	9	827	15	54	1060	55
RTOR Reduction (vph)	0	3	0	0	15	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	139	0	0	138	0	9	842	0	54	1114	0
Confl. Peds. (#/hr)			11	11			3					3
Heavy Vehicles (%)	0%	5%	0%	2%	3%	0%	0%	2%	15%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		19.5			19.5		1.3	105.2		12.7	116.6	
Effective Green, g (s)		19.5			19.5		1.3	105.2		12.7	116.6	
Actuated g/C Ratio		0.13			0.13		0.01	0.70		0.08	0.78	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		144			185		15	1300		152	1450	
v/s Ratio Prot							0.00	0.45		c0.03	c0.60	
v/s Ratio Perm		c0.12			0.10							
v/c Ratio		0.96			0.75		0.60	0.65		0.36	0.77	
Uniform Delay, d1		64.9			62.9		74.1	12.3		64.8	9.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		62.8			13.4		36.3	2.5		0.5	4.0	
Delay (s)		127.7			76.2		110.3	14.8		65.3	13.2	
Level of Service		F			E		F	B		E	B	
Approach Delay (s)		127.7			76.2			15.8			15.6	
Approach LOS		F			E			B			B	

Intersection Summary				
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	81.5%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

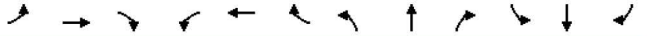
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	49	37	183	197	78
Future Volume (Veh/h)	39	49	37	183	197	78
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	39	49	37	183	197	78
Pedestrians	9			8	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	504	253	284			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	504	253	284			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	94	97			
cM capacity (veh/h)	507	775	1269			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	88	220	275
Volume Left	39	37	0
Volume Right	49	0	78
cSH	628	1269	1700
Volume to Capacity	0.14	0.03	0.16
Queue Length 95th (ft)	12	2	0
Control Delay (s)	11.7	1.5	0.0
Lane LOS	B	A	
Approach Delay (s)	11.7	1.5	0.0
Approach LOS	B		

Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	44.5%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	3	7	2	0	44	9	801	12	40	1075	13
Future Volume (Veh/h)	4	3	7	2	0	44	9	801	12	40	1075	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	4	3	7	2	0	44	9	801	12	40	1075	13
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1268			1190	
pX, platoon unblocked												
vC, conflicting volume	2024	1992	1082	1990	1993	807	1088			813		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2024	1992	1082	1990	1993	807	1088			813		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	89	95	97	95	100	88	99			95		
cM capacity (veh/h)	36	57	264	40	57	381	641			814		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	14	46	9	813	40	1088
Volume Left	4	2	9	0	40	0
Volume Right	7	44	0	12	0	13
cSH	74	279	641	1700	814	1700
Volume to Capacity	0.19	0.16	0.01	0.48	0.05	0.64
Queue Length 95th (ft)	16	15	1	0	4	0
Control Delay (s)	65.0	20.4	10.7	0.0	9.7	0.0
Lane LOS	F	C	B		A	
Approach Delay (s)	65.0	20.4	0.1		0.3	
Approach LOS	F	C				

Intersection Summary				
Average Delay	1.2			
Intersection Capacity Utilization	67.7%	ICU Level of Service		C
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	20	7	24	0	7	4	19	128	2	8	119	9
Future Volume (vph)	20	7	24	0	7	4	19	128	2	8	119	9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	20	7	24	0	7	4	19	128	2	8	119	9

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	51	11	149	136
Volume Left (vph)	20	0	19	8
Volume Right (vph)	24	4	2	9
Hadj (s)	-0.17	-0.18	0.05	0.01
Departure Headway (s)	4.4	4.4	4.2	4.2
Degree Utilization, x	0.06	0.01	0.18	0.16
Capacity (veh/h)	762	752	827	838
Control Delay (s)	7.7	7.5	8.1	8.0
Approach Delay (s)	7.7	7.5	8.1	8.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay			8.0	
Level of Service			A	
Intersection Capacity Utilization			29.6%	ICU Level of Service
Analysis Period (min)			15	A

HCM Signalized Intersection Capacity Analysis
8: SR 1 & Main St

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	101	29	788	110	35	1050
Future Volume (vph)	101	29	788	110	35	1050
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	101	29	788	110	35	1050
RTOR Reduction (vph)	0	26	0	40	0	0
Lane Group Flow (vph)	101	3	788	70	35	1050
Turn Type	Prot	Perm	NA	Prot	Prot	NA
Protected Phases	8		2	2	1	6
Permitted Phases		8				
Actuated Green, G (s)	5.4	5.4	31.8	31.8	0.8	36.6
Effective Green, g (s)	5.4	5.4	31.8	31.8	0.8	36.6
Actuated g/C Ratio	0.11	0.11	0.64	0.64	0.02	0.73
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	191	170	2250	1006	28	2590
v/s Ratio Prot	c0.06		0.22	0.04	c0.02	c0.30
v/s Ratio Perm		0.00				
v/c Ratio	0.53	0.02	0.35	0.07	1.25	0.41
Uniform Delay, d1	21.1	19.9	4.3	3.5	24.6	2.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	0.0	0.4	0.1	254.6	0.5
Delay (s)	23.7	20.0	4.7	3.6	279.2	3.0
Level of Service	C	B	A	A	F	A
Approach Delay (s)	22.9		4.6			11.9
Approach LOS	C		A			B

Intersection Summary				
HCM 2000 Control Delay		9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio		0.47		
Actuated Cycle Length (s)		50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization		41.3%	ICU Level of Service	A
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: SR 1 & Main St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	78	107	54	83	534	140	1005	47	377	1066	200
Future Volume (vph)	200	78	107	54	83	534	140	1005	47	377	1066	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.99	1.00	1.00		1.00	0.99	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.99		1.00	0.98	
Flt Protected		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1806	1553		1849	1587	1805	3541		1770	3437	
Flt Permitted		0.97	1.00		0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1806	1553		1849	1587	1805	3541		1770	3437	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	200	78	107	54	83	534	140	1005	47	377	1066	200
RTOR Reduction (vph)	0	0	85	0	0	151	0	2	0	0	8	0
Lane Group Flow (vph)	0	278	22	0	137	383	140	1050	0	377	1258	0
Confl. Peds. (#/hr)	9		7	7		9	6		3	3		6
Confl. Bikes (#/hr)									1			
Heavy Vehicles (%)	1%	3%	2%	2%	0%	1%	0%	1%	4%	2%	2%	2%
Turn Type	Split	NA	Perm	Split	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	3		4	4	5	1	6		5	2	
Permitted Phases			3			4						
Actuated Green, G (s)		27.4	27.4		21.7	61.1	8.5	29.8		39.4	60.7	
Effective Green, g (s)		27.4	27.4		21.7	61.1	8.5	29.8		39.4	60.7	
Actuated g/C Ratio		0.20	0.20		0.16	0.45	0.06	0.22		0.29	0.45	
Clearance Time (s)		4.0	4.0		4.7	3.5	3.5	5.5		3.5	5.5	
Vehicle Extension (s)		3.0	3.0		2.0	2.0	2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		363	312		295	712	112	775		512	1534	
v/s Ratio Prot		c0.15			0.07	c0.16	0.08	c0.30		0.21	c0.37	
v/s Ratio Perm			0.01			0.09						
v/c Ratio		0.77	0.07		0.46	0.54	1.25	1.35		0.74	0.82	
Uniform Delay, d1		51.3	44.0		51.9	27.2	63.8	53.1		43.6	32.9	
Progression Factor		1.00	1.00		1.00	1.00	0.61	0.54		1.00	1.00	
Incremental Delay, d2		9.3	0.1		0.4	0.4	157.3	166.1		4.7	5.0	
Delay (s)		60.6	44.1		52.3	27.6	196.0	194.8		48.3	37.9	
Level of Service		E	D		D	C	F	F		D	D	
Approach Delay (s)		56.0			32.6			194.9			40.3	
Approach LOS		E			C			F			D	

Intersection Summary				
HCM 2000 Control Delay	87.9	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	93.3%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: SR 1 & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	48	243	740	115	274	202	894	571	389	878	35
Future Volume (vph)	57	48	243	740	115	274	202	894	571	389	878	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	0.98	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected		0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1850	1575	1681	1716	1535	1787	3539	1583	3467	3525	
Flt Permitted		0.97	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1850	1575	1681	1716	1535	1787	3539	1583	3467	3525	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	57	48	243	740	115	274	202	894	571	389	878	35
RTOR Reduction (vph)	0	0	161	0	0	195	0	0	367	0	2	0
Lane Group Flow (vph)	0	105	82	422	433	79	202	894	204	389	911	0
Confl. Peds. (#/hr)	10		1	1		10	7					7
Heavy Vehicles (%)	0%	0%	1%	2%	0%	3%	1%	2%	2%	1%	1%	18%
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	3	3		4	4		1	6		5	2	
Permitted Phases			3			4			6			
Actuated Green, G (s)		12.9	12.9	39.3	39.3	39.3	21.2	48.6	48.6	17.5	44.9	
Effective Green, g (s)		12.9	12.9	39.3	39.3	39.3	21.2	48.6	48.6	17.5	44.9	
Actuated g/C Ratio		0.09	0.09	0.29	0.29	0.29	0.16	0.36	0.36	0.13	0.33	
Clearance Time (s)		4.1	4.1	4.6	4.6	4.6	3.5	5.5	5.5	3.5	5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		175	149	485	495	443	278	1264	565	446	1163	
v/s Ratio Prot		c0.06		0.25	c0.25		0.11	c0.25		c0.11	c0.26	
v/s Ratio Perm			0.05			0.05			0.13			
v/c Ratio		0.60	0.55	0.87	0.87	0.18	0.73	0.71	0.36	0.87	0.78	
Uniform Delay, d1		59.1	58.8	45.9	46.0	36.3	54.6	37.6	32.2	58.2	41.2	
Progression Factor		1.00	1.00	0.64	0.64	0.46	1.00	1.00	1.00	0.76	0.60	
Incremental Delay, d2		3.7	2.2	13.7	13.9	0.1	7.8	3.4	1.8	12.6	3.8	
Delay (s)		62.7	61.0	43.0	43.2	16.7	62.4	40.9	34.0	57.0	28.3	
Level of Service		E	E	D	D	B	E	D	C	E	C	
Approach Delay (s)		61.5			36.7			41.2			36.9	
Approach LOS		E			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	40.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.7	
Intersection Capacity Utilization	80.4%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: Main St & SR 92

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	895	127	218	863	368	122	200	197	387	164	55
Future Volume (vph)	62	895	127	218	863	368	122	200	197	387	164	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.94	1.00	1.00	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1736	3505	1561	1787	3574	1495	1787	1881	1550	1752	1741	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1736	3505	1561	1787	3574	1495	1787	1881	1550	1752	1741	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	62	895	127	218	863	368	122	200	197	387	164	55
RTOR Reduction (vph)	0	0	75	0	0	92	0	0	167	0	9	0
Lane Group Flow (vph)	62	895	52	218	863	276	122	200	30	387	210	0
Confl. Peds. (#/hr)	13		1	1		13	14		13	13		14
Confl. Bikes (#/hr)			1									
Heavy Vehicles (%)	4%	3%	1%	1%	1%	2%	1%	1%	1%	3%	1%	14%
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA	Perm	Split	NA	
Protected Phases	1	6		5	2		4	4		3	3	
Permitted Phases			6			2			4			
Actuated Green, G (s)	7.4	45.5	45.5	20.1	58.2	58.2	20.4	20.4	20.4	32.5	32.5	
Effective Green, g (s)	7.4	45.5	45.5	20.1	58.2	58.2	20.4	20.4	20.4	32.5	32.5	
Actuated g/C Ratio	0.05	0.33	0.33	0.15	0.43	0.43	0.15	0.15	0.15	0.24	0.24	
Clearance Time (s)	3.0	5.1	5.1	3.0	5.1	5.1	4.7	4.7	4.7	4.7	4.7	
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.5	
Lane Grp Cap (vph)	94	1172	522	264	1529	639	268	282	232	418	416	
v/s Ratio Prot	0.04	c0.26		c0.12	0.24		0.07	c0.11		c0.22	0.12	
v/s Ratio Perm			0.03			0.18			0.02			
v/c Ratio	0.66	0.76	0.10	0.83	0.56	0.43	0.46	0.71	0.13	0.93	0.50	
Uniform Delay, d1	63.1	40.4	31.1	56.3	29.3	27.3	52.7	55.0	50.1	50.6	44.8	
Progression Factor	1.06	0.64	0.16	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	9.2	3.6	0.3	17.8	1.5	2.1	0.4	6.5	0.1	25.9	0.4	
Delay (s)	76.2	29.5	5.2	74.1	30.9	29.4	53.2	61.5	50.2	76.5	45.1	
Level of Service	E	C	A	E	C	C	D	E	D	E	D	
Approach Delay (s)		29.4			37.0			55.2			65.2	
Approach LOS		C			D			E			E	

Intersection Summary				
HCM 2000 Control Delay	42.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	17.5	
Intersection Capacity Utilization	88.7%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: SR 1 & Poplar St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	27	22	54	22	68	18	936	14	37	1192	69
Future Volume (vph)	134	27	22	54	22	68	18	936	14	37	1192	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			0.99		1.00	1.00		1.00	1.00	
Frt		0.98			0.94		1.00	1.00		1.00	0.99	
Flt Protected		0.96			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1779			1714		1805	1855		1805	1864	
Flt Permitted		0.59			0.86		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1085			1500		1805	1855		1805	1864	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	134	27	22	54	22	68	18	936	14	37	1192	69
RTOR Reduction (vph)	0	4	0	0	28	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	179	0	0	116	0	18	950	0	37	1260	0
Confl. Peds. (#/hr)			11	11			3					3
Heavy Vehicles (%)	0%	5%	0%	2%	3%	0%	0%	2%	15%	0%	1%	0%
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		21.4			21.4		3.7	93.0		9.0	98.3	
Effective Green, g (s)		21.4			21.4		3.7	93.0		9.0	98.3	
Actuated g/C Ratio		0.16			0.16		0.03	0.68		0.07	0.72	
Clearance Time (s)		4.2			4.2		3.5	4.9		3.5	4.9	
Vehicle Extension (s)		2.0			2.0		2.0	2.0		2.0	2.0	
Lane Grp Cap (vph)		170			236		49	1268		119	1347	
v/s Ratio Prot							0.01	0.51		c0.02	c0.68	
v/s Ratio Perm		c0.16			0.08							
v/c Ratio		1.05			0.49		0.37	0.75		0.31	0.94	
Uniform Delay, d1		57.3			52.3		65.0	13.9		60.5	16.1	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		83.4			0.6		1.7	4.1		0.5	13.3	
Delay (s)		140.7			52.9		66.7	18.0		61.1	29.4	
Level of Service		F			D		E	B		E	C	
Approach Delay (s)		140.7			52.9			18.9			30.3	
Approach LOS		F			D			B			C	

Intersection Summary				
HCM 2000 Control Delay	35.1	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.94			
Actuated Cycle Length (s)	136.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	92.7%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
5: Main St & Poplar St

05/01/2020

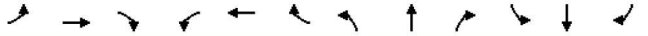
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	49	24	44	196	148	73
Future Volume (Veh/h)	49	24	44	196	148	73
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	49	24	44	196	148	73
Pedestrians	9			8	2	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	0	
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	480	202	230			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	480	202	230			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	97	97			
cM capacity (veh/h)	522	827	1328			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	73	240	221
Volume Left	49	44	0
Volume Right	24	0	73
cSH	594	1328	1700
Volume to Capacity	0.12	0.03	0.13
Queue Length 95th (ft)	10	3	0
Control Delay (s)	11.9	1.7	0.0
Lane LOS	B	A	
Approach Delay (s)	11.9	1.7	0.0
Approach LOS	B		

Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	42.0%	ICU Level of Service		A
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
6: SR 1 & Seymour St

05/01/2020



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	2	5	3	2	38	7	934	5	51	1176	8
Future Volume (Veh/h)	3	2	5	3	2	38	7	934	5	51	1176	8
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	3	2	5	3	2	38	7	934	5	51	1176	8
Pedestrians								1				
Lane Width (ft)								12.0				
Walking Speed (ft/s)								4.0				
Percent Blockage								0				
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)								1267			1190	
pX, platoon unblocked												
vC, conflicting volume	2269	2235	1181	2236	2236	936	1184			939		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2269	2235	1181	2236	2236	936	1184			939		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	87	95	98	89	95	88	99			93		
cM capacity (veh/h)	23	39	231	27	39	321	590			730		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	10	43	7	939	51	1184
Volume Left	3	3	7	0	51	0
Volume Right	5	38	0	5	0	8
cSH	49	152	590	1700	730	1700
Volume to Capacity	0.20	0.28	0.01	0.55	0.07	0.70
Queue Length 95th (ft)	17	27	1	0	6	0
Control Delay (s)	96.6	37.6	11.2	0.0	10.3	0.0
Lane LOS	F	E	B		B	
Approach Delay (s)	96.6	37.6	0.1		0.4	
Approach LOS	F	E				

Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	72.7%	ICU Level of Service		C
Analysis Period (min)	15			

HCM Unsignalized Intersection Capacity Analysis
7: Main St & Seymour St

05/01/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	17	8	29	2	2	4	23	142	0	8	105	12
Future Volume (vph)	17	8	29	2	2	4	23	142	0	8	105	12
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	17	8	29	2	2	4	23	142	0	8	105	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	54	8	165	125
Volume Left (vph)	17	2	23	8
Volume Right (vph)	29	4	0	12
Hadj (s)	-0.23	-0.22	0.06	-0.01
Departure Headway (s)	4.3	4.4	4.2	4.2
Degree Utilization, x	0.06	0.01	0.19	0.15
Capacity (veh/h)	770	753	828	837
Control Delay (s)	7.6	7.4	8.2	7.9
Approach Delay (s)	7.6	7.4	8.2	7.9
Approach LOS	A	A	A	A

Intersection Summary				
Delay			8.0	
Level of Service			A	
Intersection Capacity Utilization			27.4%	ICU Level of Service
Analysis Period (min)			15	A

HCM Signalized Intersection Capacity Analysis
8: SR 1 & Main St

05/01/2020

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	92	46	912	125	38	1154
Future Volume (vph)	92	46	912	125	38	1154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	3539	1583	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	92	46	912	125	38	1154
RTOR Reduction (vph)	0	40	0	51	0	0
Lane Group Flow (vph)	92	6	912	74	38	1154
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	6.6	6.6	29.5	29.5	1.7	35.2
Effective Green, g (s)	6.6	6.6	29.5	29.5	1.7	35.2
Actuated g/C Ratio	0.13	0.13	0.59	0.59	0.03	0.71
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	234	209	2096	937	60	2501
v/s Ratio Prot	c0.05		0.26		0.02	c0.33
v/s Ratio Perm		0.00		0.05		
v/c Ratio	0.39	0.03	0.44	0.08	0.63	0.46
Uniform Delay, d1	19.8	18.8	5.6	4.3	23.7	3.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.1	0.7	0.2	19.8	0.6
Delay (s)	20.9	18.9	6.2	4.5	43.5	3.8
Level of Service	C	B	A	A	D	A
Approach Delay (s)	20.2		6.0			5.1
Approach LOS	C		A			A

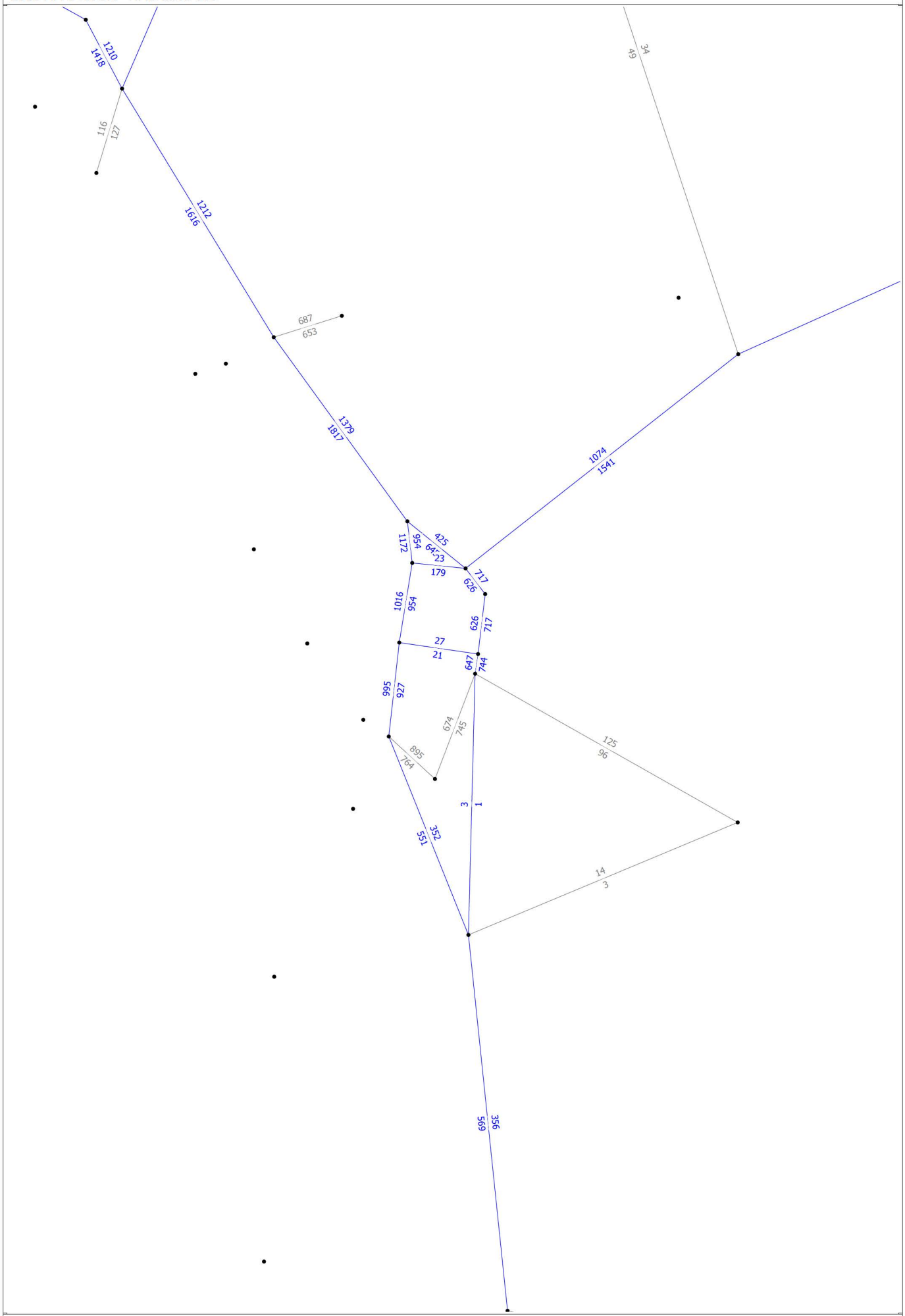
Intersection Summary				
HCM 2000 Control Delay	6.4	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.50			
Actuated Cycle Length (s)	49.8	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	43.7%	ICU Level of Service	A	
Analysis Period (min)	15			

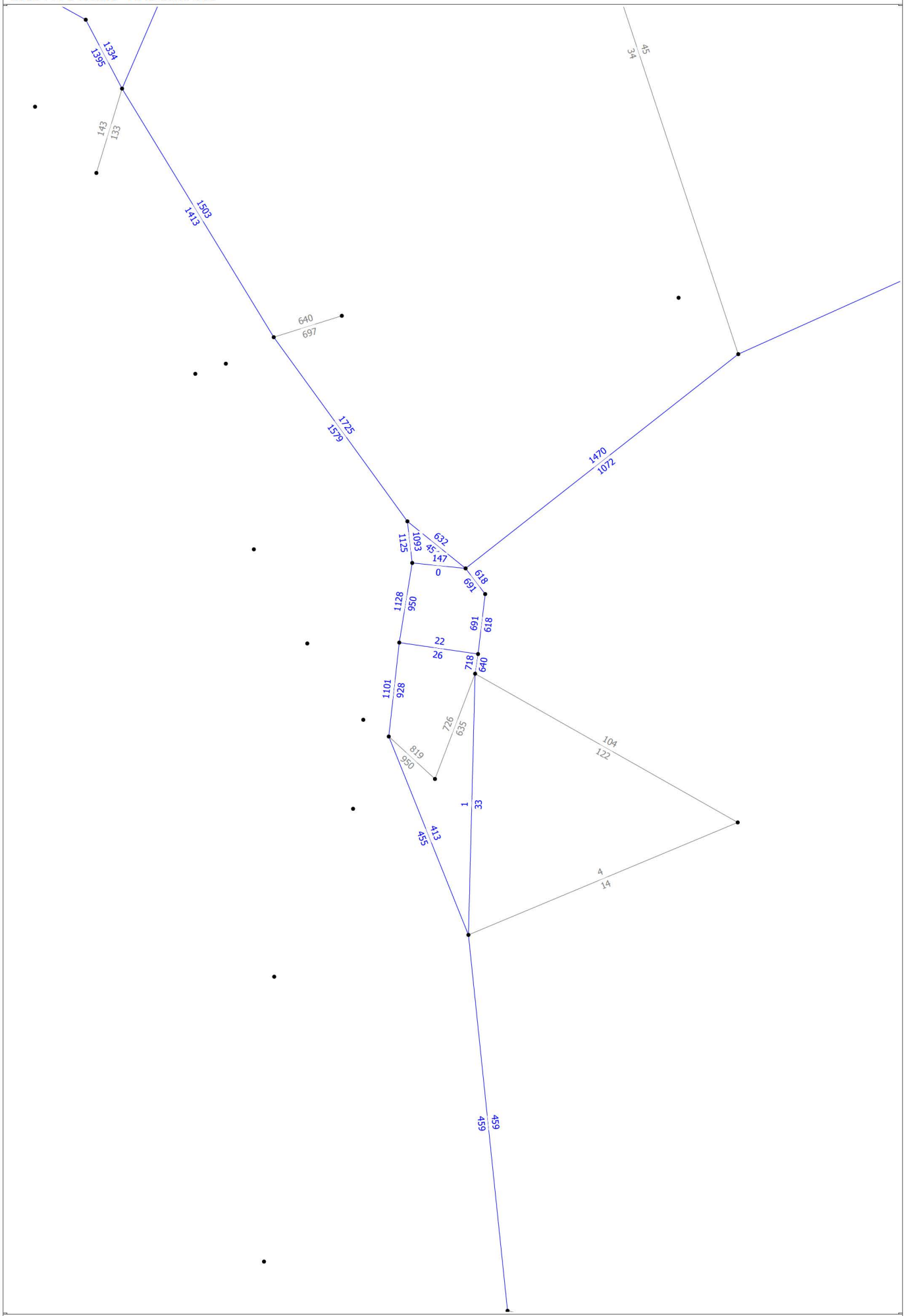
c Critical Lane Group

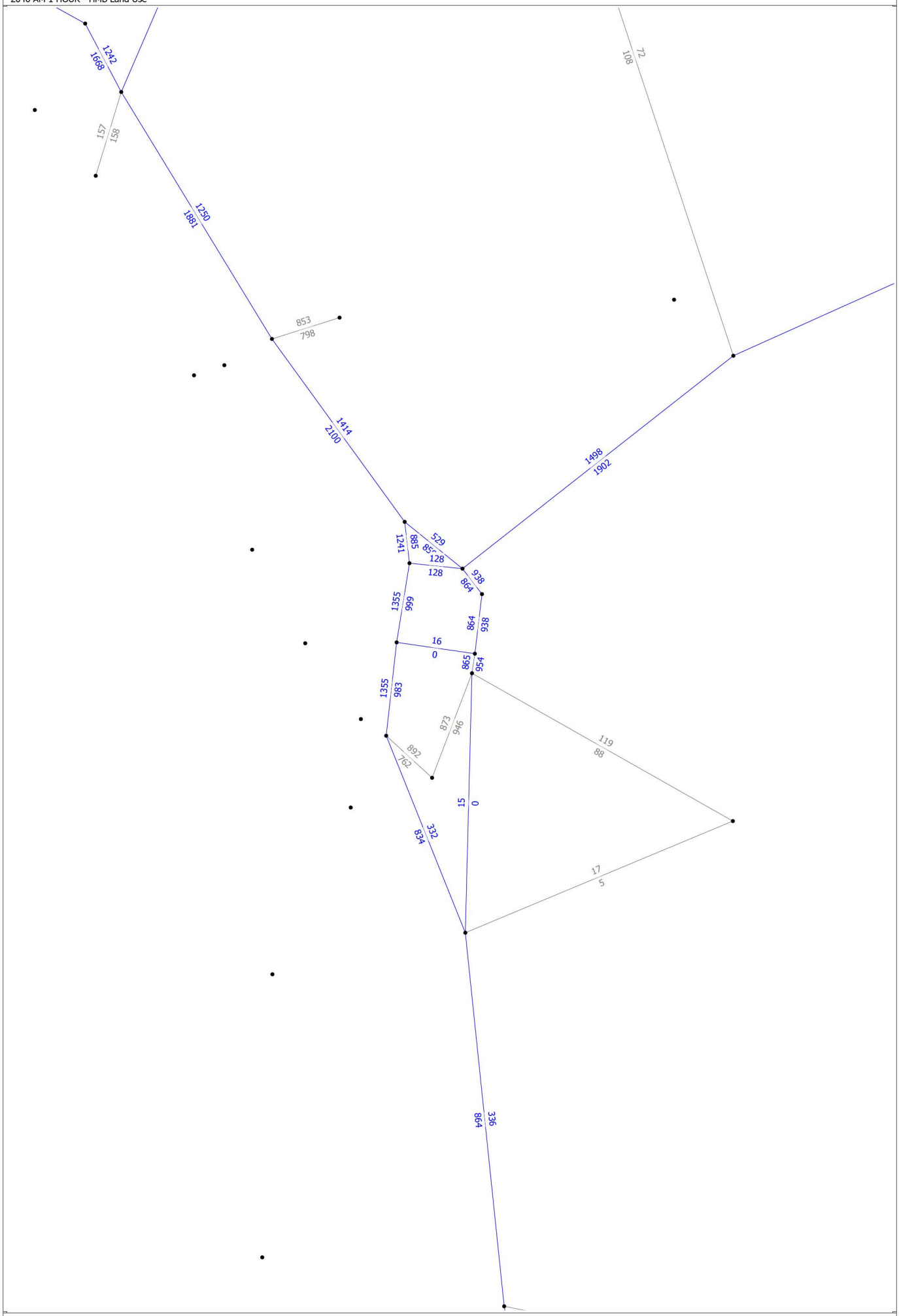
Appendix C

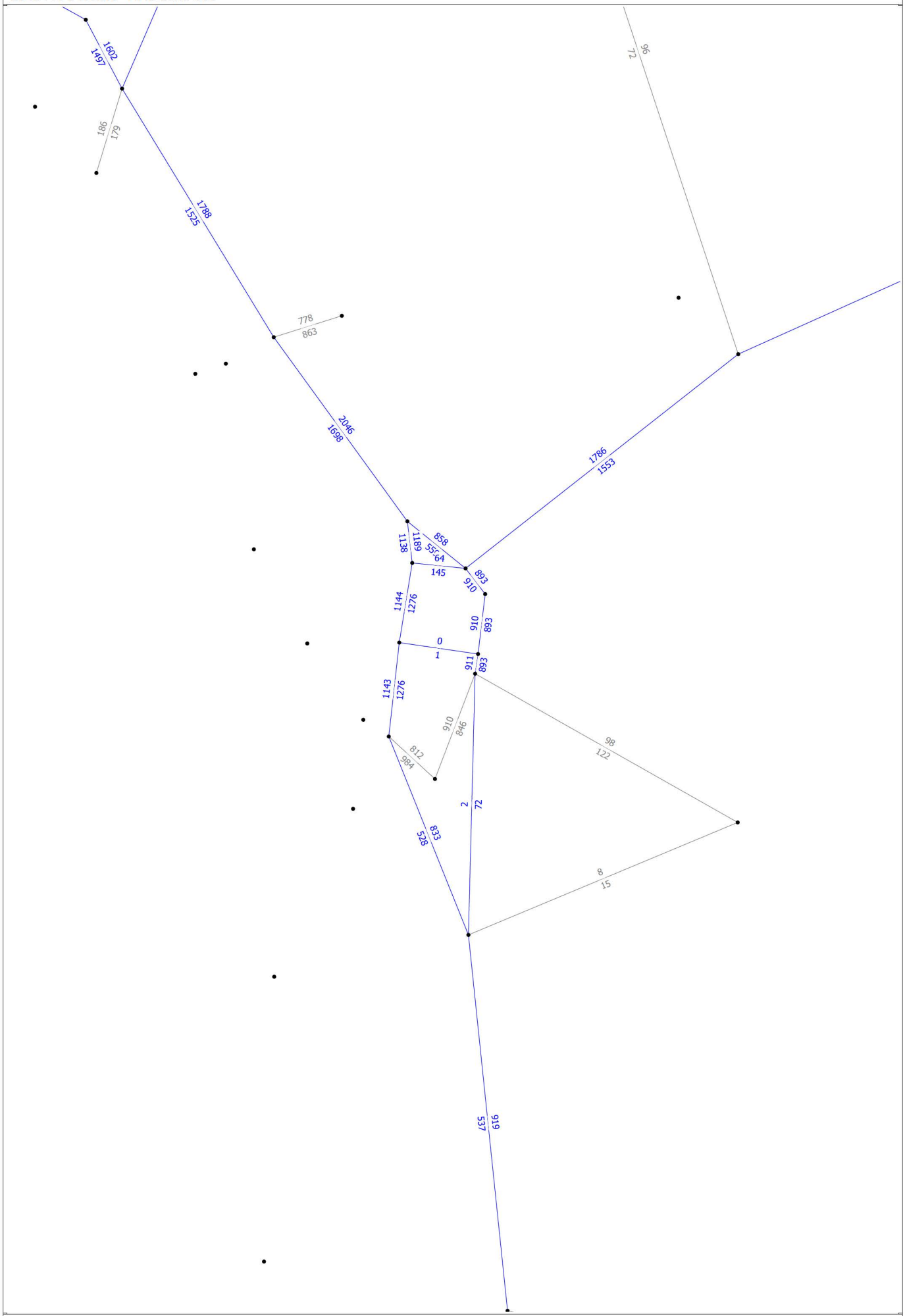
San Mateo County Travel Demand Model Forecasted Link Volume Plots

This page intentionally left blank


1210
1418
116
127
1212
1616
687
653
1379
1817
34
49
1074
1541
425
954
64
172
23
179
717
626
1016
954
626
717
27
21
647
744
995
927
674
745
895
764
125
96
3
1
352
551
14
3
695
356


1334
1395
143
133
1503
1413
640
697
1725
1579
45
34
1470
1072
1125
1103
45
147
632
0
618
691
1128
950
691
618
22
26
718
640
1101
928
726
635
819
950
104
122
1
33
455
413
4
14
459
459


1242
1668
157
158
1250
1861
853
798
1414
2100
108
72
1498
1902
1241
885
85
529
128
128
938
864
1355
999
864
938
16
0
865
954
1355
983
873
946
892
762
119
88
15
0
332
834
17
5
694
336


1602
1497
186
179
1788
1525
778
863
2046
1698
72
96
1786
1553
1138
1189
858
555
64
145
893
910
1144
1276
910
893
0
1
911
893
1143
1276
910
846
812
984
98
122
2
72
833
528
8
15
537
919

Appendix D

Peak Hour Volume Warrant Worksheets

This page intentionally left blank

Warrant 3: Peak-Hour Volumes and Delay

SR 1 & Seymour Street
Half Moon Bay

Project Name: Hyatt Place TIA

Intersection: 6

	Major Street	Minor Street
Street Name	SR 1	Seymour Street
Direction	N-S	E-W
Number of Lanes	1	1
Approach Speed	50	25

Population less than 10,000? No
Date of Count: Tuesday, June 19, 2018
Scenario: Background + Project Weekend

Warrant 3 Met?: Met when either Condition A or B is met — **No**

Condition A: Met when conditions A1, A2, and A3 are met — Not Met

Condition A1 — Not Met

The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one lane approach, or five vehicle-hours for a two-lane approach

Minor Approach Delay: 0.27 vehicle-hours

Condition A2 — Not Met

The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic of 150 vph for two moving lanes

Minor Approach Volume: 40 vph

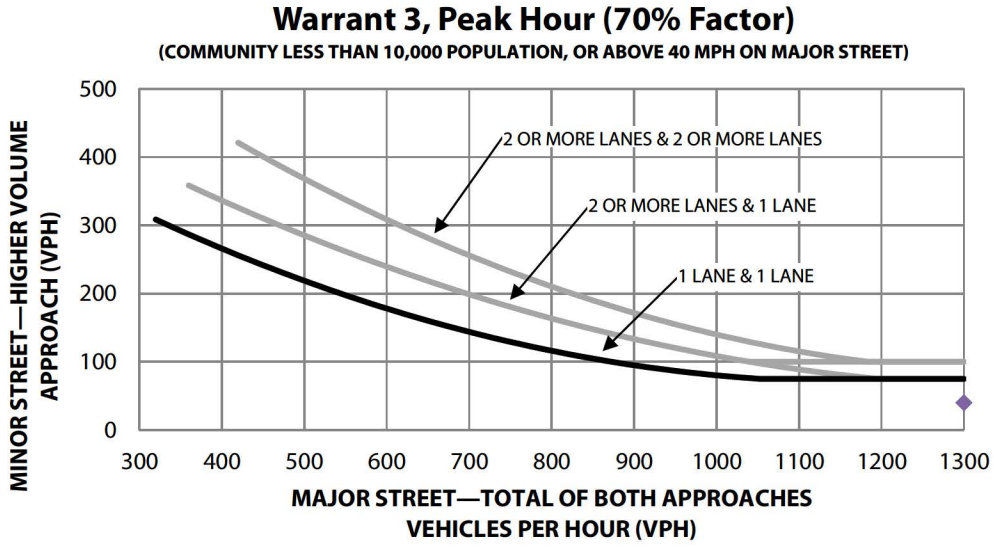
Condition A3 — Met

The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches

Total Entering Volume: 1879 vph

Condition B — Not Met

The plotted point falls above the curve



Warrant 3: Peak-Hour Volumes and Delay

SR 1 & Seymour Street
Half Moon Bay

Project Name: Hyatt Place TIA

Intersection: 6

	Major Street	Minor Street
Street Name	SR 1	Seymour Street
Direction	N-S	E-W
Number of Lanes	1	1
Approach Speed	50	25

Population less than 10,000? No
Date of Count: Tuesday, June 19, 2018
Scenario: 2040 + Project PM

Warrant 3 Met?: Met when either Condition A or B is met — **No**

Condition A: Met when conditions A1, A2, and A3 are met — Not Met

Condition A1 — Not Met

The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one lane approach, or five vehicle-hours for a two-lane approach

Minor Approach Delay: 0.26 vehicle-hours

Condition A2 — Not Met

The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic of 150 vph for two moving lanes

Minor Approach Volume: 46 vph

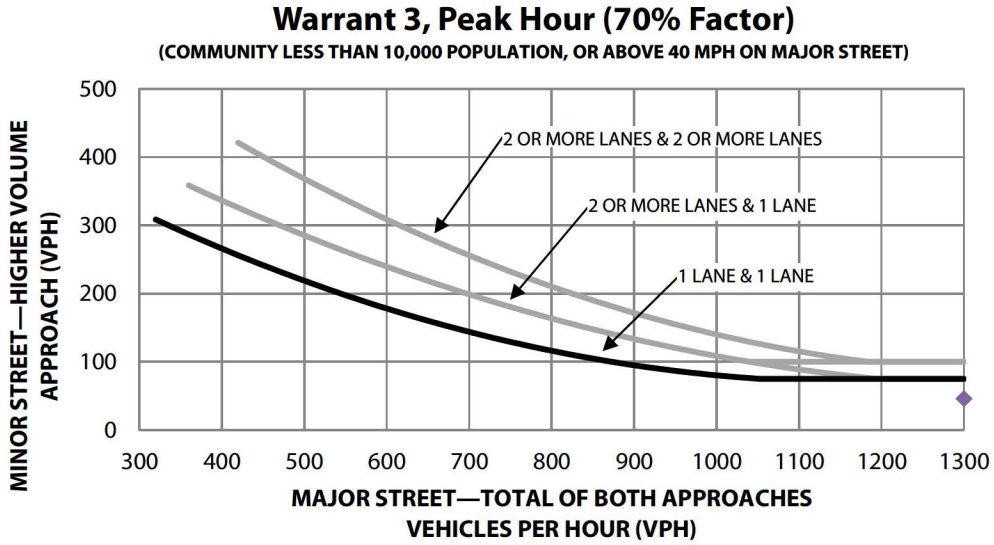
Condition A3 — Met

The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches

Total Entering Volume: 2010 vph

Condition B — Not Met

The plotted point falls above the curve



Warrant 3: Peak-Hour Volumes and Delay

SR 1 & Seymour Street
Half Moon Bay

Project Name: Hyatt Place TIA

Intersection: 6

	Major Street	Minor Street
Street Name	SR 1	Seymour Street
Direction	N-S	E-W
Number of Lanes	1	1
Approach Speed	50	25

Population less than 10,000? No
Date of Count: Tuesday, June 19, 2018
Scenario: 2040 + Project SAT

Warrant 3 Met?: Met when either Condition A or B is met — **No**

Condition A: Met when conditions A1, A2, and A3 are met — Not Met

Condition A1 — Not Met

The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one lane approach, or five vehicle-hours for a two-lane approach

Minor Approach Delay: 0.45 vehicle-hours

Condition A2 — Not Met

The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic of 150 vph for two moving lanes

Minor Approach Volume: 43 vph

Condition A3 — Met

The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches

Total Entering Volume: 2234 vph

Condition B — Not Met

The plotted point falls above the curve