Traffic Impact Study for the Baywood Village Project

Prepared for the City of Petaluma

Submitted by
W-Trans

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Table of Contents

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Executive Summary

The proposed Baywood Village project would develop 264 apartments, which would be located on the east side of the existing southern terminus of Casa Grande Road in the City of Petaluma. The anticipated trip generation of the proposed project is 1,932 new daily trips, of which 121 trips would be generated during the a.m. peak hour and 148 trips would be generated during the p.m. peak hour.

The study area was established by the City and includes eight intersections. Analysis indicates that five of the eight study intersections are operating acceptably under Existing Conditions, while the intersections of Lakeville Street/East Washington Street, Lakeville Street/East D Street, and Lakeville Highway/Baywood Drive are operating unacceptably. With the project, Lakeville Highway/Baywood Drive would operate acceptably due to project traffic utilizing excess east-west through movement capacity. This use of excess capacity lowers the average delay of the overall intersection, as the added trips have a lesser delay than the intersection average. The conclusion could incorrectly be drawn that this project actually improves operations based on this data alone; however, it is more appropriate to conclude that the added trips are expected to make use of excess capacity, so drivers would experience little, if any, change in conditions as a result of this project, though these added trips at lower delay reduce the overall average, resulting in the intersection operation meeting the City standard of LOS D.

With project trips added to the roadway network, the delay is expected to increase at the intersections of Lakeville Street/East Washington Street and Lakeville Street/East D Street, which are already operating unacceptably. As the intersections are already operating at LOS D and E and would not degrade to the next level of service, this does not represent a project impact per the *Petaluma General Plan 2025 Draft Environmental Impact Report* (DEIR).

Under the Existing plus Pipeline scenario, which includes trips from near-term projects that were indicated by City staff for inclusion in the analysis, as well as improved signal timing at Lakeville Street/East Washington Street, Lakeville Street/East D Street, and Lakeville Highway/Baywood Drive, six of the study intersections are projected to continue operating acceptably, excluding Lakeville Street/East Washington Street and Lakeville Street/East D Street, which are expected to operate at a deficient LOS E or F during both peak hours. Similar to the Existing Conditions analysis, project traffic is expected to worsen the delay at each of these intersections while not affecting the overall LOS. Per the DEIR, mitigation such as roadway widening might negatively impact multimodal circulation, especially considering the SMART station adjacent to these two intersections.

Under Cumulative conditions without the project, it is expected that four of the study intersections would operate acceptably during both peak hours, including improved signal timing at five intersections. The intersections of Lakeville Street/East Washington Street and Lakeville Street/East D Street are expected to operate at an unacceptable LOS E or F during both peak hours. Additionally, the intersection of Lakeville Street/Caulfield Lane is expected to operate at LOS E during the p.m. peak hour, and the intersection of Lakeville Highway/McDowell Boulevard South is expected to operate at LOS E during the a.m. peak hour. With the addition of project traffic, these locations are expected to experience an increase in delay while maintaining the same LOS. For Lakeville Street/Caulfield Lane and Lakeville Highway/McDowell Boulevard South, the increase in delay while maintaining LOS E does not represent a project impact per the DEIR. At Lakeville Street/East Washington Street and Lakeville Street/East D Street, per the DEIR, mitigation such as roadway widening might negatively impact multimodal circulation, especially considering the nearby SMART station.

Vehicles would access the project via a driveway on Casa Grande Road. Sight distance at the project driveways would be adequate as proposed.

Facilities for pedestrians and bicycles would be adequate upon the construction of planned facilities per the project site plan, including the addition of 52 bicycle parking spaces and installation of Class II bike lanes along the project's frontages on Casa Grande Road.

Introduction

This report presents an analysis of the potential traffic impacts that would be associated with development of a 264-unit apartment complex to be located on the east side of the existing southern terminus of Casa Grande Road in the City of Petaluma. The traffic study was completed in accordance with the criteria established by the City of Petaluma and is consistent with standard traffic engineering techniques.

Prelude

The purpose of a traffic impact study is to provide City of Petaluma 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 to mitigate these impacts to a level of insignificance as defined by the City of Petaluma's General Plan or other policies such as the DEIR. 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 project as evaluated would include development of 264 apartments in 27 buildings on a currently vacant site. The project site would be accessed via Casa Grande Road, as shown in Figure 1.

pet199-1ai 6/18

Traffic Impact Study for the Baywood Village Project

Figure 1 – Study Area and Lane Configurations

Transportation Setting

Operational Analysis

Study Area and Periods

The study area was selected based on traffic studies for other projects in the area and consists of the following eight intersections:

1. Lakeville Street/East Washington Street
2. Lakeville Street/East D Street
3. Lakeville Street/Caulfield Lane
4. Lakeville Highway/US 101 South Ramps
5. Lakeville Highway/US 101 North Ramps
6. Lakeville Highway/Baywood Drive
7. Lakeville Highway/Casa Grande Road
8. Lakeville Highway/McDowell Boulevard South

Operating conditions during the a.m. and 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 hour occurs between 7:00 and 9:00 a.m. and reflects conditions during the home to work or school commute, while the p.m. peak hour occurs between 4:00 and 6:00 p.m. and typically reflects the highest level of congestion during the homeward bound commute.

Study Intersections

Because of the skewed nature of the street system in Petaluma, the streets are described using Lakeville Highway (SR 116)-Lakeville Street as an east-west street; all other streets are treated as having a north-south orientation regardless of their general direction.

Lakeville Street/East Washington Street is a signalized, four-legged intersection with split phasing on the Lakeville Street approaches (in other words, the two approaches operate separately) and protected left-turn phasing on the East Washington Street approaches. The SMART tracks run parallel to and along the south side of Lakeville Street and pass through the southern East Washington Street leg of the intersection. Railroad signal infrastructure and crossing arms are located across the East Washington Street legs. Marked crosswalks and pedestrian signals are provided on all legs of the intersection.

Lakeville Street/East D Street is a four-legged signalized intersection with protected left-turn phasing on the westbound Lakeville Street approach, permitted left-turn phasing on the eastbound Lakeville Street approach and split phasing of the East D Street approaches as well as a right-turn overlap on the northbound East D Street approach. The SMART tracks run parallel to and along the south side of Lakeville Street and pass through the southern leg of the intersection. Railroad signal infrastructure and crossing arms are located across the intersection's East D Street legs. Marked crosswalks and pedestrian signals are provided for all but the eastern Lakeville Street leg of the intersection.

Lakeville Street/Caulfield Lane is a four-legged, signalized intersection. The Lakeville Street approaches have protected left-turn phasing and the Caulfield Lane approaches are split phased. Marked crosswalks and pedestrian phasing are provided across all but the eastern Lakeville Street leg of the intersection.

Lakeville Highway (SR 116)/US 101 South Ramps is a four-legged, signalized intersection with the north leg formed by the US 101 Southbound on- and off-ramps and the south leg serving a parking lot driveway. Protected

left-turn phasing is provided on the Lakeville Highway approaches, while the ramp and driveway approaches are split-phased. Crosswalks are provided across the northern and western legs of the intersection.

Lakeville Highway (SR 116)/US 101 North Ramps is a three-legged, signalized intersection with protected left-turn phasing on the eastbound Lakeville Highway approach and a right-turn overlap phase on the southbound US 101 Off-Ramp approach. A marked crosswalk is provided across the western leg of the intersection.

Lakeville Highway (SR 116)/Baywood Drive is a signalized, four-legged intersection with protected left turns on all four approaches. Marked crosswalks and pedestrian phasing are provided across all but the western leg of the intersection.

Lakeville Highway (SR 116)/Casa Grande Road is a signalized, four-legged intersection with protected left-turn phasing on the Lakeville Highway approaches and permitted left turns on Casa Grande Road, which intersects Lakeville Highway at a skewed angle. Marked crosswalks and pedestrian phasing are provided across the eastern and southern legs of the intersection.

Lakeville Highway (SR 116)/McDowell Boulevard South is a four-legged, signalized intersection with protected left-turn phasing on all approaches. Marked crosswalks and pedestrian signals are provided on all legs of the intersection.

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

Collision History

The collision histories for the study intersections were reviewed to determine any trends or patterns that may indicate a safety issue. Collision rates were calculated based on records available from the California Highway Patrol as published in their Statewide Integrated Traffic Records System (SWITRS) reports. The most current five-year period available is January 1, 2013 through December 31, 2017.

As presented in Table 1, the calculated collision rates for the study intersections were compared to average collision rates for similar facilities statewide, as indicated in *2014 Collision Data on California State Highways*, California Department of Transportation (Caltrans). Seven of the eight intersections have rates that are higher than the statewide averages for similar facilities. The collision rate calculations are provided in Appendix A.

Table 1 – Collision Rates at the Study Intersections

Study Intersection	Number of Collisions (2015-2017)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)
1. Lakeville St/E Washington St	68	**1.46**	0.27
2. Lakeville St/E D St	40	**1.02**	0.27
3. Lakeville St/Caulfield Ln	25	**0.56**	0.27
4. Lakeville Hwy/US 101 S Ramps	12	0.23	0.27
5. Lakeville Hwy/US 101 N Ramps	26	**0.39**	0.21
6. Lakeville Hwy/Baywood Dr	32	**0.53**	0.27
7. Lakeville Hwy/Casa Grande Rd	27	**0.50**	0.27
8. Lakeville Hwy/McDowell Blvd S	27	**0.49**	0.27

Note: c/mve = collisions per million vehicles entering; **Bold** text = higher collision rate than statewide average

While Lakeville Street/East Washington Street and Lakeville Street/East D Street had above-average calculated collision rates, the City made several changes at each intersection as part of the recently-inaugurated SMART project. These changes include removing the channelized right turn from southbound East Washington Street onto Lakeville Street, adding a channelized right turn from northbound East D Street onto Lakeville Street, and refreshing pavement, striping, and signal hardware. This has the potential to reduce the rate of collisions. Out of the 108 reported collisions at both intersections during the study period, 57 (approximately half) were the result of speeding or improper turning.

Throughout the Lakeville corridor, rear-end collisions caused by speeding were a systematic issue, representing approximately 35 percent of the total collisions reported. At some locations, such as the intersection of Lakeville Highway/US 101 Northbound Ramps, rear-end crashes due to speeding accounted for 69 percent of the total reported collisions. Increased enforcement on Lakeville Highway may help to reduce unsafe speeding, or an update to the existing signal coordination during the off-peak periods of the day may also help address the incidence of collisions.

Of note, the highest number of collisions across the study area occurred between 1:00 p.m. and 4:00 p.m., representing 66 of the 257 total crashes, or approximately one-quarter of the total. These collisions occurred during the midday period when the Lakeville Highway intersections are running the midday traffic signal timing and coordination schemes.

While the overall crash rate was higher than the state average at seven of the intersections, only two intersections had higher rates of injury: Lakeville Highway/Casa Grande Road and Lakeville Highway/McDowell Boulevard South. Additionally, there were no fatal crashes reported at the study intersections during the analysis period.

Alternative Modes

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and amenities such as lighting, benches, etc. In general, a network of sidewalks, crosswalks, pedestrian signals, and curb ramps provide access for pedestrians near the proposed project site; however, sidewalk gaps, obstacles, and barriers can be found along some of the roadways connecting to the project site. Existing gaps and obstacles along the connecting roadways impact convenient and continuous access for pedestrians and present safety concerns in those locations where appropriate pedestrian infrastructure would address potential conflict points.

- **Lakeville Highway** – There are no sidewalks along the south side of Lakeville Highway from approximately 250 feet east of Marina Avenue to Casa Grande Road, while continuous sidewalk is provided east of Casa Grande Road which provides pedestrian access to the transit stop just east of Lakeville Highway/Casa Grande Road. The north side of Lakeville Highway in the project vicinity generally includes only a narrow dirt pathway, except for an approximately 300-foot section of sidewalk connecting to a transit stop just east of the Lakeville Highway/Casa Grande Road intersection. Lighting is provided by overhead street lights.

- **Casa Grande Road** – Continuous sidewalks exist along the east side of Casa Grande Road, but there are no sidewalks along the project frontage. Approximately 385 feet of sidewalk is provided along the west side of Casa Grande Road south of Lakeville Highway, with no pedestrian facilities to the south. Lighting is provided by overhead street lights.

Bicycle Facilities

The *Highway Design Manual*, Caltrans, 2017, 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, Class II bike lanes exist on Casa Grande Road between Technology Lane and Ely Boulevard. Bicyclists ride in the roadway and/or on sidewalks along all other streets within the project study area. Table 2 summarizes the existing and planned bicycle facilities in the project vicinity, as contained in the *City of Petaluma Proposed and Existing Bicycle and Pedestrian Facilities Map* dated February 2014 and prepared by Sonoma County Transportation Authority (SCTA).

Table 2 – Bicycle Facility Summary

Status Facility	Class	Length (miles)	Begin Point	End Point
Existing				
Petaluma River Trail	I	3.11	Marina Ave	Shollenberger Park
Adobe Creek	I	1.30	Ely Blvd	Shollenberger Park
Casa Grande Rd	II	1.00	Technology Ln	Ely Blvd
S McDowell Blvd	II	2.30	Lakeville Hwy	Maria Dr
Technology Ln	II	0.20	Casa Grande Rd	End of Road
Planned				
NWP Trail	I	1.60	D St	Adobe Creek
Lakeville Hwy	II	5.00	D St	City Limits
Casa Grande Rd	II	0.11	Technology Ln	Rocky Memorial Dog Park

Source: *City of Petaluma Proposed and Existing Bicycle and Pedestrian Facilities Map,* SCTA, 2014

Transit Facilities

Petaluma Transit provides fixed route bus service in the City of Petaluma. Petaluma Transit Route 24 provides loop service to destinations throughout the City with stops near the project site at Lakeville Highway/Casa Grande Road. Route 24 operates Monday through Friday with approximately one-hour headways between 6:15 a.m. and 7:09 p.m.

Petaluma Transit Route 3 provides clockwise loop service to the communities in Petaluma north and east of US 101, with a stop near the project site at South McDowell Boulevard/Casa Grande Road. Route 3 operates Monday through Friday with approximately one-hour headways between 6:30 a.m. and 7:55 p.m.

Petaluma Transit Route 33 provides counter-clockwise loop service complimentary to Route 3, with a stop near the project site at South McDowell Boulevard/Casa Grande Road. Route 33 operates seven days a week, with approximately one-hour headways between 7:00 a.m. and 8:25 p.m. on weekdays, 8:00 a.m. to 8:25 p.m. on Saturdays, and 9:00 a.m. to 5:25 p.m. on Sundays.

Sonoma County Transit provides regional service between Petaluma and surrounding communities. Routes 40 and 53 travel between the City of Petaluma and City of Sonoma, with stops on Lakeville Highway at Casa Grande

Road. Routes 40 and 53 operate Monday through Friday during morning and evening peak hours with approximately 30- to 90-minute headways between 6:30 a.m. and 6:55 p.m.

Golden Gate Transit provides regional service between San Francisco and the North Bay, including Petaluma. Route 76 travels between East Petaluma and San Francisco and has stops at South McDowell Boulevard/Casa Grande Road and Lakeville Highway/Marina Avenue. Route 76 operates Monday through Friday during morning and evening peak hours with approximately 30- to 60-minute headways between 4:55 a.m. and 7:19 p.m.

Two or three bicycles can be carried on most Petaluma Transit, Sonoma County Transit, or Golden Gate Transit buses. Bike rack space is on a first come, first served basis. Additional bicycles are allowed on Petaluma Transit buses at the discretion of the driver.

Petaluma Paratransit is available for those who are unable to independently use the transit system due to a physical or mental disability. Paratransit is designed to serve the needs of individuals with disabilities within Petaluma and the greater Petaluma 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.

The study intersections were analyzed using the signalized methodology published in the *Highway Capacity Manual* (HCM), Transportation Research Board, 2010. 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 signalized 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. The ranges of delay associated with the various levels of service are indicated in Table 3.

Table 3 – Signalized Intersection Level of Service Criteria	
LOS A	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
LOS B	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
LOS C	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
LOS D	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
LOS E	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop, and drivers consider the delay excessive.
LOS F	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, 2010

Traffic Operation Standards

The *City of Petaluma: General Plan 2025* has an adopted Level of Service (LOS) standard for streets that indicates the minimum acceptable operation is LOS D, with the following standard of significance for motor vehicle circulation:

> ***Policy 5-P-10:*** *Maintain an intersection level of service (LOS) standard for motor vehicle circulation that ensures efficient traffic flow and supports multi-modal mobility goals. LOS should be maintained at Level D or better for motor vehicles due to traffic from any development project.*

With the current General Plan, the City is shifting toward a multimodal emphasis and LOS standard. "A multimodal analysis that, in addition to motor vehicles, takes into consideration the overall mobility and conditions for non-auto road users (e.g., bicycles and pedestrians) is highly encouraged." The Community Character Element of the General Plan also contains circulation-related objectives and policies. This element directs that pedestrian and bicycle circulation be integrated into street designs and improvements. It also states that the amount of paving and the apparent width of streets should be reduced where possible.

Per the General Plan, the project would have a significant impact if it causes the average delay at an intersection already operating or expected to operate at LOS D or E to deteriorate to the next lower level of service. Additionally, the project would have a significant impact if it adds additional vehicle trips to an intersection already operating or expected to operate at LOS F.

Caltrans

Although located within Petaluma city limits, Caltrans has jurisdiction over the study intersections of Lakeville Highway (SR 116) with the US 101 Ramps, Baywood Drive, Casa Grande Road, and South McDowell Boulevard. Caltrans indicates that they endeavor to maintain operation at the transition from LOS C to LOS D. Where intersections are integral to a local jurisdictions transportation system, Caltrans often accepts the operational standard applied by the local agency, in this case, the City of Petaluma.

Existing Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing traffic volumes during the a.m. and p.m. peak periods. This condition does not include project-generated traffic volumes. Volume data was collected on March 9, 2017 and May 16, 2018, when local schools were in session.

Intersection Levels of Service

Under existing conditions, the intersection of Lakeville Street/East D Street operates unacceptably during both a.m. and p.m. peak hours, while the intersections of Lakeville Street/East Washington Street and Lakeville Highway/ Baywood Drive operate unacceptably during the p.m. peak hour. The existing traffic volumes are shown in Figure 2. A summary of the intersection level of service calculations is contained in Table 4, and copies of the Level of Service calculations are provided in Appendix B.

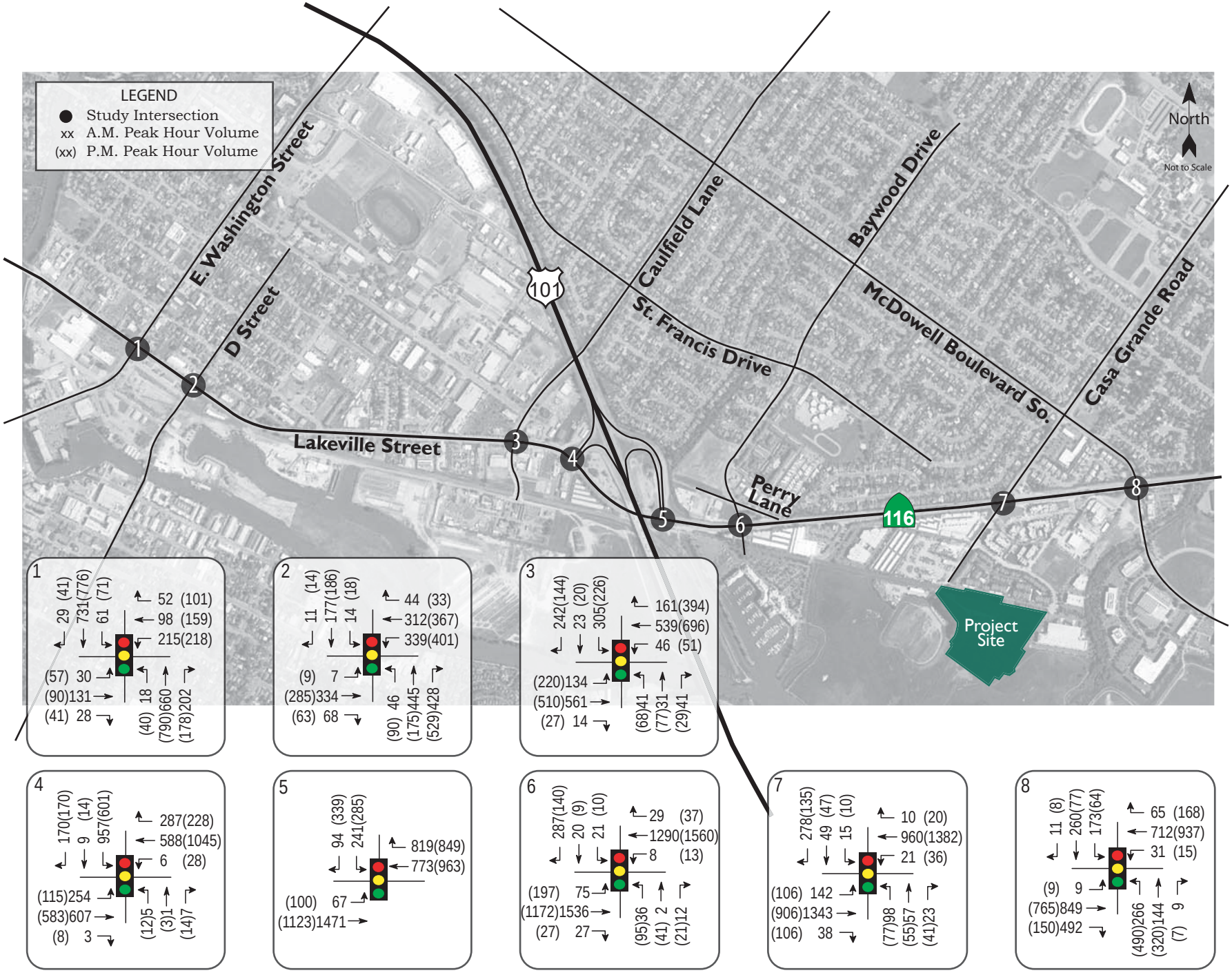
Table 4 – Existing Peak Hour Intersection Levels of Service

Study Intersection	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. Lakeville St/E Washington St	50.6	D	**55.3**	**E**
2. Lakeville St/E D St	**75.2**	**E**	**75.0**	**E**
3. Lakeville St/Caulfield Ln	24.0	C	31.0	D
4. Lakeville Hwy/US 101 S Ramps	48.0	D	47.6	D
5. Lakeville Hwy/US 101 N Ramps	9.6	A	14.7	B
6. Lakeville Hwy/Baywood Dr	49.9	D	**55.1**	**E**
7. Lakeville Hwy/Casa Grande Rd	10.6	B	11.1	B
8. Lakeville Hwy/McDowell Blvd S	37.8	D	50.9	D

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; **Bold** text = deficient operation

The DEIR included cumulative analysis of major intersections in Petaluma. On pages 3.2-34 and 3.2-35 the DEIR acknowledged that buildout of the General Plan would result in unacceptable operations at the intersections of Lakeville Street/East D Street and Lakeville Street/Caulfield Lane. The DEIR found these impacts to be significant and unavoidable, citing that the addition of new lanes and/or expanded capacity would conflict with the Plan's policies relating to improving multi-modal circulation.

The General Plan also prescribes eventual construction of a bridge over the Petaluma River, connecting Caulfield Lane to Petaluma Boulevard South. This is expected to divert traffic away from the Washington Street corridor, improving operations at Lakeville Street/East Washington Street.



pet199-1ai 6/18

Traffic Impact Study for the Baywood Village Project

Figure 2 – Existing Traffic Volumes

Pipeline Conditions

Pipeline operating conditions were assessed to reflect the addition of traffic associated with known projects that may be constructed and/or become operational in the study area in the next two to three years. In addition, the Pipeline scenario includes some projects that are operational, but were not completed before the traffic volumes were collected. The following projects were identified to be included in this scenario:

- *Adobe Road Winery* – Winery, hospitality room, and event space on C Street in Downtown Petaluma
- *Riverfront Courtyard Marriot* – 122-room hotel at 500 Hopper Street
- *Cagwin & Dorward* – 7,500 square feet of light industrial, 3,229 square feet of warehousing, and 12,000 square feet of offices at Technology Lane and Telecom Lane
- *Spring Hill School* – 120-student private school at 705 North Webster Street
- *Labcon Warehouse Addition* – 40,000 square feet of warehousing at 3200 Lakeville Highway
- *Silk Mill* – 76-room hotel at 750 Jefferson Street
- *Petaluma Poultry Expansion* – 24-hour production facility at the southwest corner of Lakeville Highway and McDowell Boulevard South
- *Petaluman Hotel* – 54-room boutique hotel at 2 Petaluma Boulevard South
- *Safeway Fuel Center* – Gas station with 16 fueling stations and convenience market at 335 South McDowell Boulevard
- *Bay West Hopper Street Mixed Use* –145 residential units at 500 Hopper Street
- *Riverfront 2010* – 273 residential units, 120-room hotel, 60,000 square feet of office, and 30,000 square feet of retail/service space at 500 Hopper Street
- *North River Apartments* – 184-unit apartment complex at 368 Petaluma Boulevard North
- *Haystack Landing* – 14,516 square feet of commercial space and 178 apartment units between Copeland Street and Weller Street
- *Deer Creek Village* – 345,000 square feet of commercial on North McDowell Boulevard between Lynch Creek Way and Rainier Avenue
- *Brody Ranch Subdivision* – 59 single-family homes, one duplex, and 138 condominiums at 360 Corona Road
- *Northbank at Riverfront (Phases I+II)* – 91 single-family homes at 500 Hopper Street
- *Marina Apartments* – 80-unit residential apartment building at the southwest corner of Lakeville Highway and Baywood Drive
- *Burdell Building Condos* – Conversion of the Burdell Building attic into 9 condominiums, with an additional 15 condominiums in the Building's parking lot
- *Keller Court Commons* – 8 single-family homes on West Street at Keller Street
- *Riverbend Crossing PUD and Subdivision* – 117 single-family homes at the end of Cedar Grove Parkway and on the west corner of Madison Street and Edith Street, along with a new bridge over the Petaluma River
- *Altura Apartments* – 150 apartment units at the northwest corner of Baywood Drive and Perry Lane
- *Addison Ranch Apartments* – 100 multi-family units in an existing apartment complex at 200 Greenbriar Circle
- *Davidon Homes* – 66 single-family homes at Windsor Drive and D Street
- *Sid Commons* – 278 apartment units at the end of Graylawn Avenue at the Petaluma River
- *Sunnyslope II* – 18 single-family homes on Sunnyslope Road
- *Quarry Heights (Lomas)* – 272 single-family homes on Petaluma Boulevard South

The estimated traffic associated with these projects was added to the volumes analyzed in the Existing Conditions scenario to determine Pipeline volumes. The *Bay West Hopper Street Mixed Use* project also includes a commercial retail component, but it was excluded as the size of this land use was not determined. Under these conditions, the intersections of Lakeville Street/East Washington Street and Lakeville Street/East D Street are expected to deteriorate one service level during both peak hours. The remaining six intersections are expected to maintain acceptable operations at LOS D or better.

The Pipeline operational analysis assumes that the phase lengths, but not the cycle lengths, would be modified to accommodate anticipated Pipeline traffic volumes at the intersections of Lakeville Street/East Washington Street,

Lakeville Street/East D Street, and Lakeville Highway/Baywood Drive. Pipeline operating conditions at the study locations are summarized in Table 5, and Pipeline volumes are shown in Figure 3.

Table 5 – Pipeline Peak Hour Intersection Levels of Service

Study Intersection	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. Lakeville St/E Washington St	**64.5**	**E**	**92.3**	**F**
2. Lakeville St/E D St	**80.9**	**F**	**124.1**	**F**
3. Lakeville St/Caulfield Ln	32.9	D	45.7	D
4. Lakeville Hwy/US 101 S Ramps	45.0	D	49.1	D
5. Lakeville Hwy/US 101 N Ramps	12.2	B	27.9	C
6. Lakeville Hwy/Baywood Dr	42.0	D	51.6	D
7. Lakeville Hwy/Casa Grande Rd	10.4	B	10.9	B
8. Lakeville Hwy/McDowell Blvd S	37.7	D	50.3	D

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; **Bold** text = deficient operation

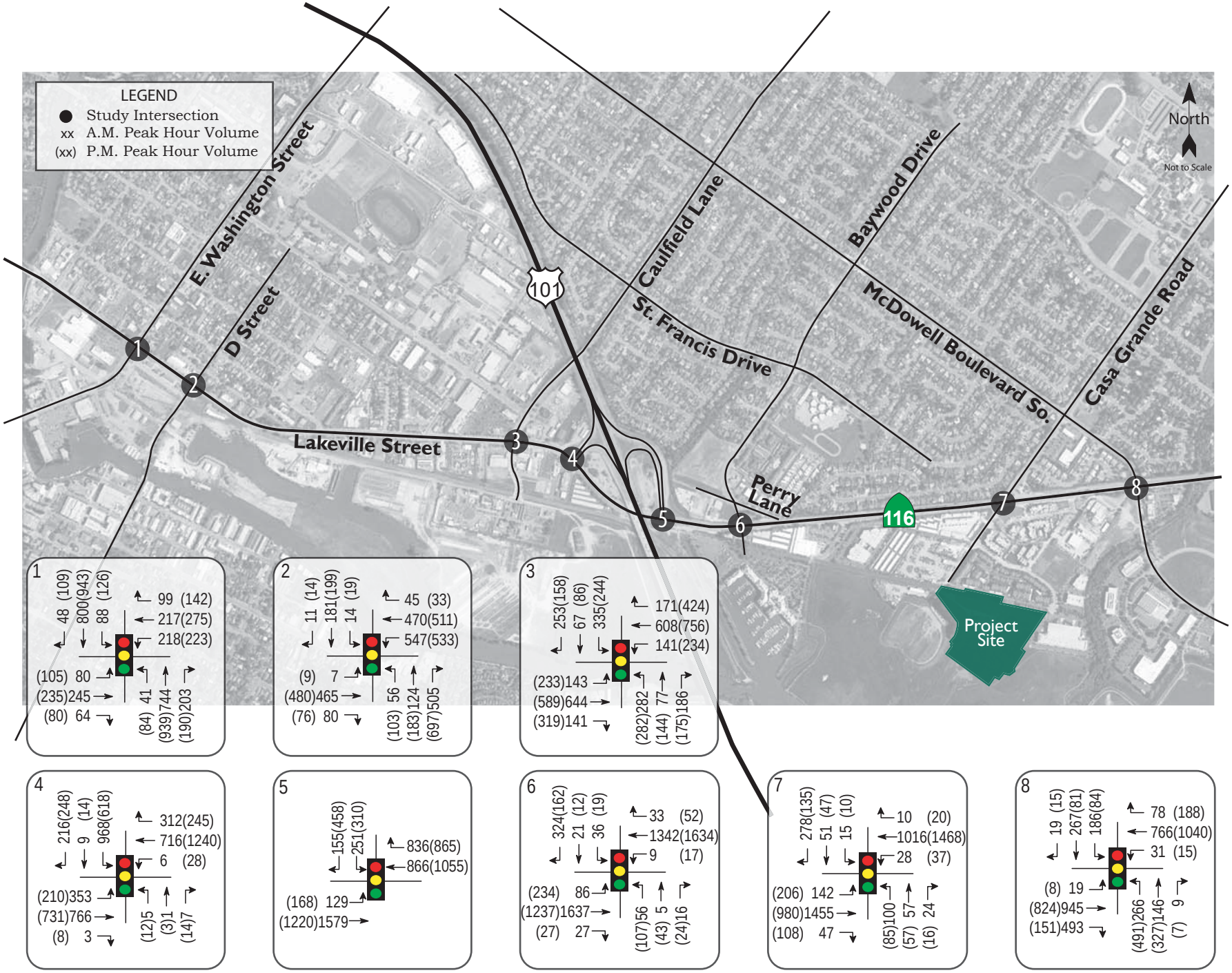
It should be noted that with the addition of Pipeline project-related traffic volumes, the average delay at Lakeville Highway/Baywood Drive, Lakeville Highway/Casa Grande Road, and Lakeville Highway/McDowell Boulevard South decreases during one or both peak hours. While this is counter-intuitive, this condition 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 Pipeline projects add traffic predominantly to the east-west through movements along Lakeville Highway, which have average delays that are lower than the average for the intersections as a whole, resulting in a slight reduction in the overall average delay at each. The conclusion could incorrectly be drawn that the Pipeline projects improve operations based on this data alone; however, it is more appropriate to conclude that the added trips are expected to make use of excess capacity, so drivers would experience little, if any, change in conditions because of these projects.

Future Conditions

The Future Conditions scenario presents a review of the correlation between the project and the General Plan. The City of Petaluma has developed a Traffic Model for use in evaluating the potential traffic impacts of buildout of the land uses described in the General Plan together with new or improved streets. The General Plan was developed based on a horizon year of 2025; however, due to changes in economic conditions since the General Plan was completed, it is expected that buildout of the General Plan land uses would occur after 2025.

Future volumes for the intersections of East Washington Street/Lakeville Street, East D Street/Lakeville Street, Lakeville Street/Caulfield Lane, Lakeville Highway/US 101 Northbound Ramps, and Lakeville Highway/US 101 Southbound Ramps were obtained from the *Riverfront Mixed-Use Project EIR*. This report combined cumulative traffic forecasts from the General Plan EIR with land use adjustments prescribed by City staff to generate more accurate future traffic volumes.

As directed by the City and as consistent with previous traffic studies completed for the area, a 1.5 percent per year increase, or growth factor of 1.178, was applied to the existing volumes at South McDowell Street/Lakeville Highway to achieve 2025 volumes.



pet199-1ai 6/18

Traffic Impact Study for the Baywood Village Project

Figure 3 – Pipeline Traffic Volumes

Peak hour volumes reflecting buildout of the General Plan were obtained from the City of Petaluma's gravity demand model for the intersection of Lakeville Highway/Baywood Drive, Lakeville Highway/Casa Grande Road and translated to turning movement volumes using the "Furness" method and factoring, depending on how the model was configured at each intersection. The Furness method is an iterative process that employs existing turn movement data, existing link volumes and future link volumes to project likely turning future movement volumes at intersections.

The Future operational analysis assumes that the phase lengths, but not the cycle lengths, would be modified to accommodate anticipated Future traffic volumes at the intersections of Lakeville Street/East Washington Street, Lakeville Street/East D Street, Lakeville Highway/Baywood Drive, and Lakeville Highway/McDowell Boulevard South. In addition, the traffic signal cycle length and phasing for Lakeville Street/Caulfield Lane were optimized.

Under the anticipated future volumes, the intersections of Lakeville Street/East Washington Street, and Lakeville Street/East D Street, would operate unacceptably during both a.m. and p.m. peak hours, while the intersection of Lakeville Street/Caulfield Lane would operate unacceptably during the p.m. peak hour, and the intersection of Lakeville Highway/McDowell Boulevard South would operate unacceptably during the a.m. peak hour. Future volumes are shown in Figure 4 and operating conditions are summarized in Table 6.

Table 6 – Future Peak Hour Intersection Levels of Service

Study Intersection	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. Lakeville St/E Washington St	**59.0**	**E**	**86.2**	**F**
2. Lakeville St/E D St	**89.5**	**F**	**106.2**	**F**
3. Lakeville St/Caulfield Ln	49.3	D	**78.4**	**E**
4. Lakeville Hwy/US 101 S Ramps	42.5	D	49.1	D
5. Lakeville Hwy/US 101 N Ramps	13.6	B	25.1	C
6. Lakeville Hwy/Baywood Dr	51.5	D	51.3	D
7. Lakeville Hwy/Casa Grande Rd	17.5	B	15.7	B
8. Lakeville Hwy/McDowell Blvd S	**63.9**	**E**	53.9	D

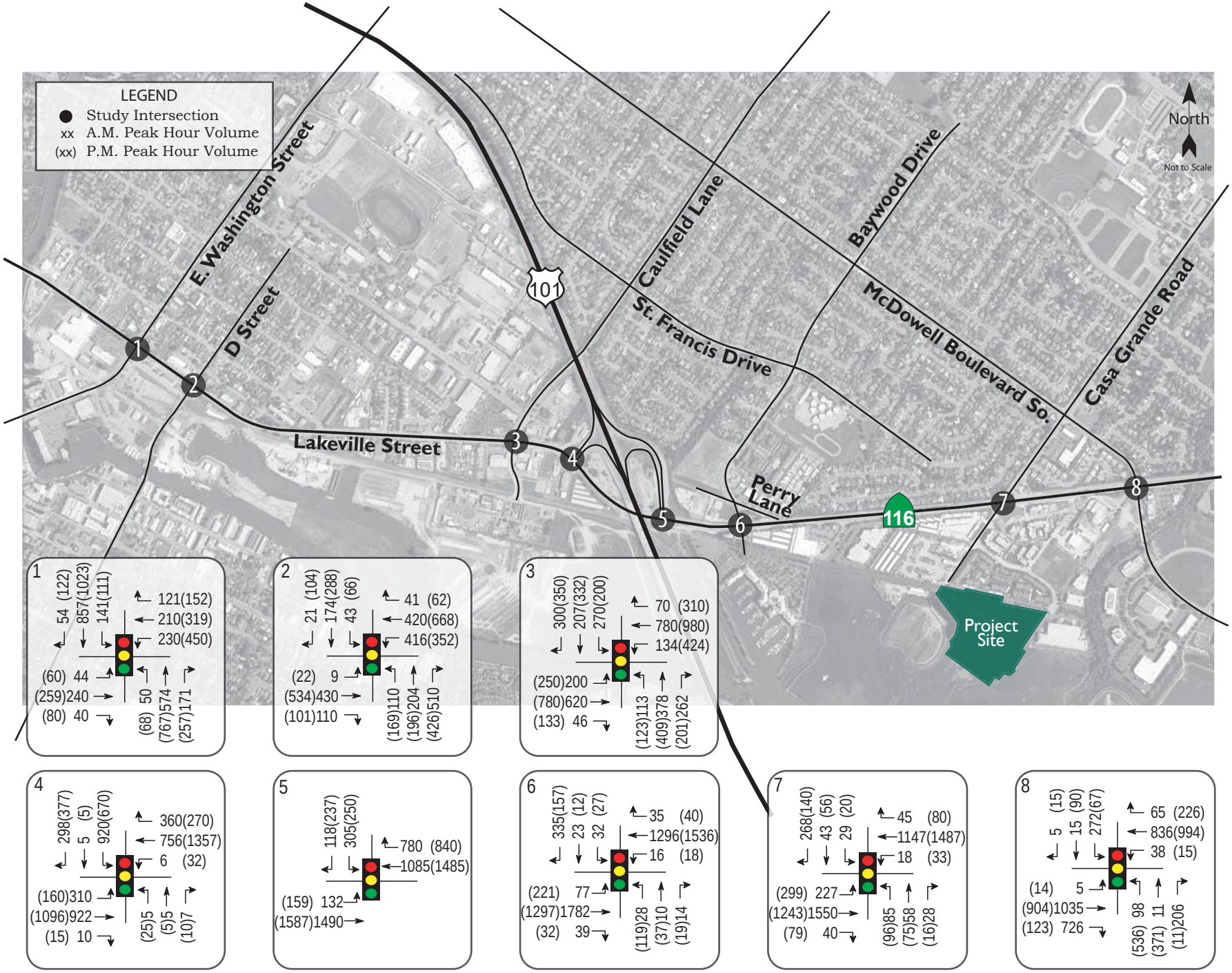
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; **Bold** text = deficient operation

Lakeville Street/East Washington Street was identified in the City's General Plan as operating acceptably under future conditions. However, recent safety-related changes to the signal phasing have reduced efficiency, resulting in projected LOS F operation in the future during the p.m. peak period.

The intersections of Lakeville Street/East D Street and Lakeville Street/Caulfield Lane were studied in the City's General Plan. It was determined in the General Plan that no feasible improvements would achieve acceptable operation without adversely affecting multimodal circulation, therefore, unacceptable operation at these intersections has been deemed significant and unavoidable in the City's General Plan, and no improvements such as roadway widening are suggested.

Project Description

The project as evaluated would include 264 apartments. The project site is currently vacant and would be accessed via Casa Grande Road. The project site plan is shown in Figure 5.



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Traffic Impact Study for the Baywood Village Project

Figure 4 – Future Traffic Volumes

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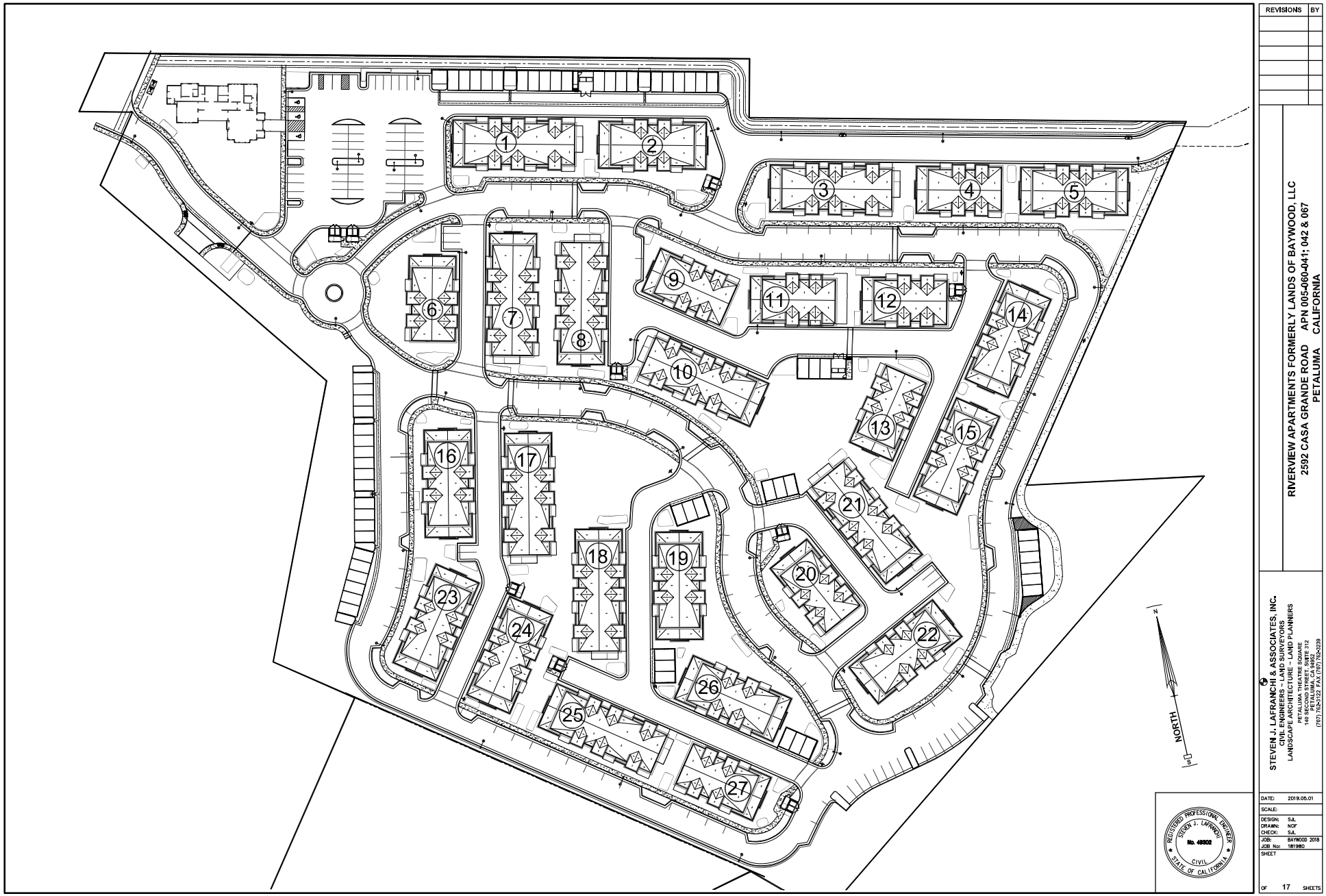


Source: Steven J. Lafranchi & Associates, Inc. 5/2019

pet199-1ai 6/18

Traffic Impact Study for the Baywood Village Project

Figure 5 – Site Plan

Trip Generation

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 "Multifamily Housing (Low-Rise)" (ITE LU 220). Because the site is currently unoccupied, no deductions were made for any existing land use.

The expected trip generation potential for the proposed project is indicated in Table 7. Project traffic volumes are shown in Figure 6. The proposed project is expected to generate an average of 1,932 trips per day, including 121 trips during the a.m. peak hour and 148 during the p.m. peak hour.

Table 7 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Apartments	264 du	7.32	1,932	0.46	121	28	93	0.56	148	93	55

Note: du = dwelling unit

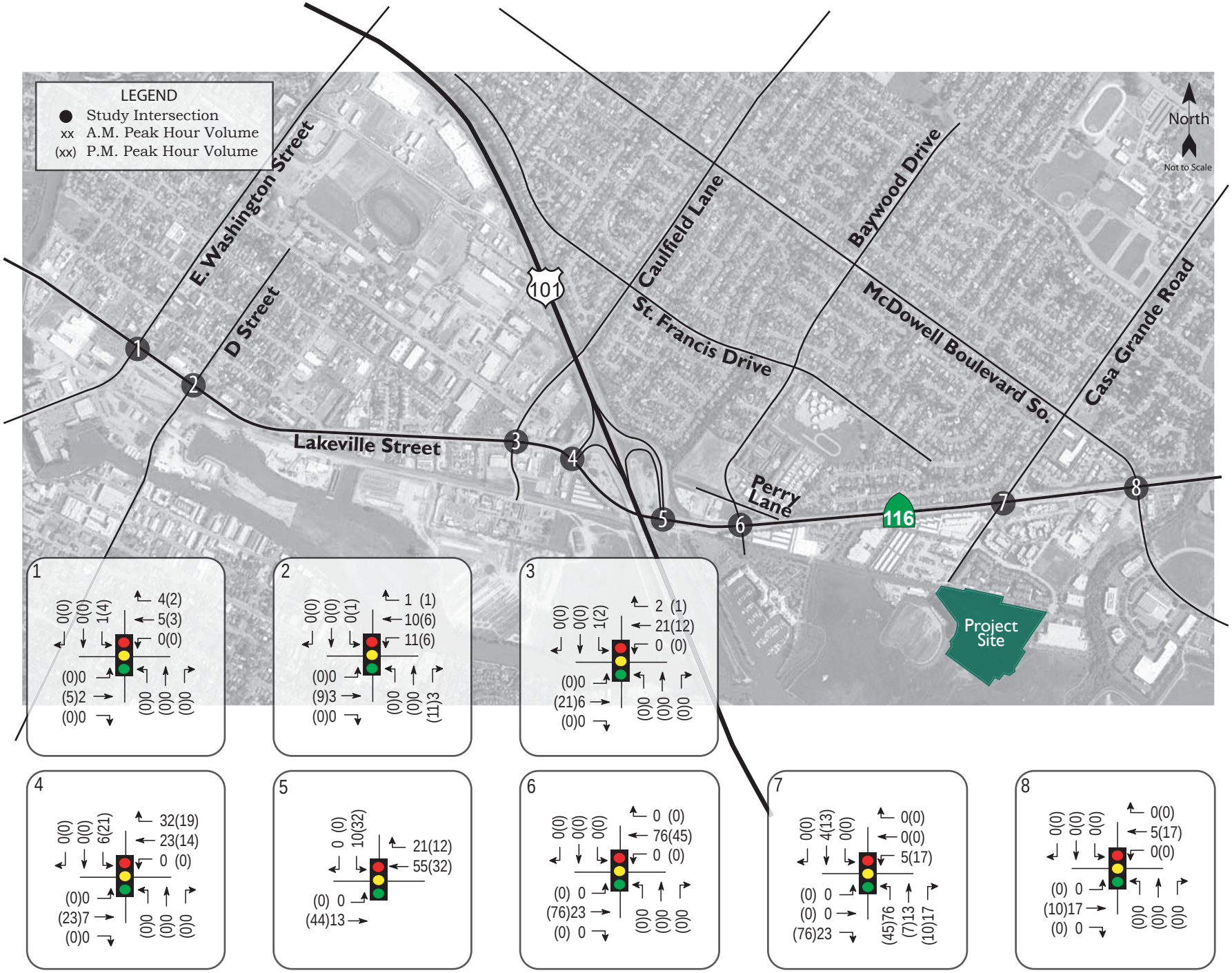
It should be noted that the operational analysis was completed assuming a larger project with 299 dwelling units. These 299 dwelling units were expected to generate 2,189 daily trips, including 138 a.m. peak hour trips and 167 p.m. peak hour trips. The assignment of the project traffic volumes for the higher unit count are shown in Figure 6. Since the proposed project would result in fewer trips, the results determined through the analysis of the higher unit count are conservative for the project as now proposed.

Trip Distribution

The patterns used to allocate new project trips to the street network were based on the adjacent roadway network, likely origin/destination points and current traffic patterns. These assumptions are consistent with assumptions applied to other recent traffic impact studies for projects in the area. The applied distribution assumptions and resulting trips for the project as now proposed are shown in Table 8, though it is again noted that the analysis was based on a higher number of trips so the calculations do not match the data provided in the table.

Table 8 – Trip Distribution Assumptions

Route	Percent	Daily Trips	AM Trips	PM Trips
US 101 (south)	30%	580	37	44
US 101 (north)	20%	386	24	30
Lakeville Hwy (east of Casa Grande Rd)	16%	309	19	24
Casa Grande Rd (north of Lakeville Hwy)	12%	232	15	18
E D St (south of Lakeville St)	10%	193	12	15
Lakeville St (west of E Washington St)	5%	97	6	7
E Washington St (north of Lakeville St)	4%	77	5	6
Caulfield Ln (north of Lakeville St)	2%	39	2	3
E D St (north of Lakeville St)	1%	19	1	1
TOTAL	**100%**	**1,932**	**121**	**148**



pet199-1ai 6/18

Traffic Impact Study for the Baywood Village Project

Figure 6 – Project Traffic Volumes

Vehicle Miles Traveled

Vehicle miles traveled as a result of the project were calculated by multiplying the estimated number of daily trips by the average trip distance for the Traffic Analysis Zone (TAZ) in which the project is located. Average trip distances are published by SCTA in the County Model. Based on an average trip length of 5.51 miles, the 1,932 daily trips would translate to a calculated daily VMT for the project of 10,645 miles. As standards of significance regarding VMT have not been adopted, this information is provided for informational purposes only.

Intersection Operation

Existing plus Project Conditions

Upon the addition of project-related traffic to the existing volumes, the study intersections are expected to operate similarly to Existing Conditions. At Lakeville Street/East Washington Street and Lakeville Street/East D Street, already unacceptable operations are expected to maintain their LOS grade. Like the Pipeline Conditions, the operations at Lakeville Highway/Baywood Drive are expected to slightly improve due to added east-west through traffic utilizing excess capacity from the coordinated system along Lakeville Highway. These results are summarized in Table 9.

Table 9 – Existing and Existing plus Project Peak Hour Intersection Levels of Service

Study Intersection	Existing Conditions				Existing plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Lakeville St/E Washington St	50.6	D	**55.3**	**E**	51.0	D	**55.7**	**E**
2. Lakeville St/E D St	**75.2**	**E**	**75.0**	**E**	**75.9**	**E**	**78.6**	**E**
3. Lakeville St/Caulfield Ln	24.0	C	31.0	D	24.1	C	31.1	D
4. Lakeville Hwy/US 101 S Ramps	48.0	D	47.6	D	48.7	D	48.1	D
5. Lakeville Hwy/US 101 N Ramps	9.6	A	14.7	B	9.8	A	14.9	B
6. Lakeville Hwy/Baywood Dr	49.9	D	**55.1**	**E**	53.0	D	49.6	D
7. Lakeville Hwy/Casa Grande Rd	10.6	B	11.1	B	12.0	B	12.3	B
8. Lakeville Hwy/McDowell Blvd S	37.8	D	50.9	D	37.6	D	50.9	D

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; **Bold** text = deficient operation

Average Delay That Does Not Match Expectations

The perception a motorist has of intersection operation as represented by the Level of Service can sometimes be at odds with the calculated values. At signalized intersections drivers on a minor street often encounter longer delays than motorists traveling through on the main street.

Another factor that results in a difference between perception and calculated values is that the calculations are based upon a full hour. Motorists can encounter lower service levels and higher delays during the peak of the commute period at the beginning and ending of the typical work day while others can experience lighter traffic flow a little earlier or later within the same hour. This is especially true near employment centers and schools where surges in traffic often occur for short periods of time. It is therefore common for calculated service levels to be different from the perception some drivers have of how the intersection is operating.

Finding – The study intersections are expected to continue operating at their current levels of service upon the addition of project-generated traffic, except for a slight decrease in overall delay at Lakeville Highway/ Baywood Drive. Delay is expected to increase at the intersections of Lakeville Street/East Washington Street and Lakeville Street/East D Street, which are already operating unacceptably. As the intersections are already operating at LOS D and E and would not degrade to the next level of service, this represents a less-than-significant project impact per the DEIR.

Pipeline plus Project Conditions

With project-related traffic added to Pipeline volumes, and with the Pipeline Conditions signal phase modifications, the study intersections are expected to operate similarly to Pipeline Conditions, with no changes in service level. These results are summarized in Table 10.

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

Study Intersection	Pipeline Conditions				Pipeline plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Lakeville St/E Washington St	**64.5**	**E**	**92.3**	**F**	**66.3**	**E**	**94.0**	**F**
2. Lakeville St/E D St	**80.9**	**F**	**124.1**	**F**	**84.3**	**F**	**128.5**	**F**
3. Lakeville St/Caulfield Ln	32.9	D	45.7	D	33.0	C	46.3	D
4. Lakeville Hwy/US 101 S Ramps	45.0	D	49.1	D	45.5	D	49.4	D
5. Lakeville Hwy/US 101 N Ramps	12.2	B	27.9	C	12.3	B	30.8	C
6. Lakeville Hwy/Baywood Dr	42.0	D	51.6	D	44.1	D	48.3	D
7. Lakeville Hwy/Casa Grande Rd	10.4	B	10.9	B	11.8	B	12.0	B
8. Lakeville Hwy/McDowell Blvd S	37.7	D	50.3	D	37.8	D	50.4	D

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; **Bold** text = deficient operation

Finding – The study intersections are expected to continue operating at the same levels of service upon the addition of project-generated traffic to Pipeline volumes. The project adds vehicle trips (and thus delay) to Lakeville Street/ East Washington Street and Lakeville Street/East D Street, which are already operating at LOS F, resulting in a project impact. However, mitigation such as roadway widening might negatively impact multimodal circulation, especially considering the SMART station adjacent to these two intersections as well as right-of-way constraints due to the existing SMART tracks. This would run contrary to policy stated in the DEIR. The project's impact is therefore considered less-than-significant.

Future plus Project Conditions

Upon the addition of project-generated traffic to the anticipated future volumes, and with optimized signal timing, the study intersections are expected to operate at the same levels of service as under Future Conditions. The Future plus Project operating conditions are summarized in Table 11.

Table 11 – Future and Future plus Project Peak Hour Intersection Levels of Service								
Study Intersection	**Future Conditions**				**Future plus Project**			
	AM Peak		**PM Peak**		**AM Peak**		**PM Peak**	
	Delay	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**	**Delay**	**LOS**
1. Lakeville St/E Washington St	**59.0**	**E**	**86.2**	**F**	**59.8**	**E**	**87.3**	**F**
2. Lakeville St/E D St	**89.5**	**F**	**106.2**	**F**	**90.9**	**F**	**108.6**	**F**
3. Lakeville St/Caulfield Ln	49.3	D	**78.4**	**E**	50.3	D	**79.7**	**E**
4. Lakeville Hwy/US 101 S Ramps	42.5	D	49.1	D	43.0	D	49.4	D
5. Lakeville Hwy/US 101 N Ramps	13.6	B	25.1	C	13.7	B	25.7	C
6. Lakeville Hwy/Baywood Dr	51.5	D	51.3	D	49.7	D	52.4	D
7. Lakeville Hwy/Casa Grande Rd	17.5	B	15.7	B	18.5	B	16.9	B
8. Lakeville Hwy/McDowell Blvd S	**63.9**	**E**	53.9	D	**65.6**	**E**	53.9	D

Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; **Bold** text = deficient operation

Finding – The study intersections would operate at the same levels of service with project traffic added to Future volumes as without it. The delay is expected to increase at the intersections of Lakeville Street/Caulfield Lane and Lakeville Highway/McDowell Boulevard South, which are already operating unacceptably. As the intersections are already operating at LOS D and E and would not degrade to the next level of service, this represents a less-than-significant project impact per the DEIR.

The project adds vehicle trips (and thus delay) to Lakeville Street/East Washington Street and Lakeville Street/East D Street, which are already operating at LOS F (a project impact). However, mitigation such as roadway widening might negatively impact multimodal circulation, especially considering the SMART station adjacent to these two intersections. This would run contrary to policy stated in the DEIR, making the impact less-than-significant.

Alternative Modes

Pedestrian Facilities

Given the proximity of residences and retail areas to the north, east, and west of the site, it is reasonable to assume that some project residents would want to walk, bicycle, and/or use transit for trips to and from Baywood Village.

No sidewalks exist along the project frontage on the east side of Casa Grande Road. The site plan indicates sidewalks would be installed along Casa Grande Road to the north and south of the project access along the project frontage.

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

Bicycle Facilities

The project site is adjacent to the Petaluma Creek Trail. The preliminary site plan shows a Class I multi-use path along the northern and eastern borders of this project, connecting to Casa Grande Road, Technology Lane, and the Petaluma Creek Trail. There are no bicycle facilities on Casa Grande Road from Technology Lane to the project frontage, or in the westbound direction on Technology Lane from the project frontage to Telecom Lane. There are plans to extend the Class II bike lanes on Casa Grande Road from the existing terminus at Technology Lane, past the project frontage to the Rocky Memorial Dog Park.

The Petaluma Zoning Code (Standard 11.090) requires that bicycle parking be provided at a rate of 10 percent of automobile parking spaces required. For multifamily dwellings, one space must be provided for each bedroom. As the proposed project includes 517 bedrooms among the 264 units, 517 parking spaces would be required. Therefore, a minimum of 52 bicycle parking spaces should be provided. The Petaluma Zoning Code further specifies that 60 percent of the provided bicycle parking spaces, or 31 spaces, should be enclosed or otherwise have restricted access. The remaining 40 percent, or 21 spaces, should be covered bike racks.

Finding – Bicycle facilities are planned on Casa Grande Road to connect to the existing bicycle network on the surrounding roadway network. Existing bicycle facilities serving the project site on Casa Grande Road are inadequate. The connection through the site for public use to access existing trails located south and east of the project site as shown on the plans would provide adequate trail access.

Recommendation – The applicant should install the planned Class II bike lanes on Casa Grande Road along the project frontage along with the trail connection through the site. A minimum of 52 bicycle parking spaces, including 31 enclosed spaces and covered racks that can accommodate 21 bikes, should be provided.

Transit

Existing transit routes are adequate to accommodate project-generated transit trips. Existing stops are within acceptable walking distance of the site.

Finding – Transit facilities serving the project site are adequate.

Access and Circulation

Site Access

The project site is accessed via a driveway located on the east side of Casa Grande Road approximately 1,100 feet south of Lakeville Highway.

Sight Distance

At the project driveway a substantially clear line of sight should be maintained between the driver of a vehicle waiting to cross or enter the street and the driver of a vehicle approaching on that street. Adequate time must be provided for the waiting vehicle to either cross, turn left, or turn right, without requiring the through traffic to radically alter their speed. Sight distance along Casa Grande Road at the project driveway location was evaluated based on sight distance criteria contained in the *Highway Design Manual* published by Caltrans. The recommended sight distances for driveways are based on stopping sight distance, which use the approach travel speed as the basis for determining the recommended sight distance.

Sight distance at the proposed entrance was field measured. Although sight distance requirements are not technically applicable to urban driveways, the stopping sight distance criterion for private street intersections was applied for evaluation purposes. Based on a design speed of 35 mph, the minimum stopping sight distance needed is 250 feet, and a review of the field conditions showed that the sight distance from the project driveway location is more than adequate. Adequate sight lines are also required for drivers following a vehicle entering the site via either a left or right turn, and visibility along Casa Grande Avenue is also more than the 250 feet recommended.

To maintain adequate sight lines for vehicles leaving the site, it is recommended that landscaping be planned such that tree canopies are at least seven feet above the ground; other landscaping should be limited to low-lying vegetation no greater than three feet in height. In addition, signs and monuments planned along the project's frontage should be placed in a manner that does not obstruct sight distance at the project driveway.

Finding – Adequate sight distance is available if trees and other landscaping are planted and trimmed to maintain clear sight lines.

Recommendation – Landscaping should be maintained such that foliage stays above seven feet and below three feet from the ground. Signs or monuments to be installed along the project frontage should be placed so that sight distance is not obstructed at the project driveway.

Conclusions and Recommendations

Conclusions

- Seven out of eight study intersections had collision rates that are higher than the statewide average for similar facilities. The City has recently completed improvements at East Washington Street/Lakeville Highway which are expected to reduce the incidence of collisions. Speed enforcement and signal coordination retiming could address trends along Lakeville Highway.

- Currently, five study intersections operate acceptably during the a.m. and p.m. peak hours. The intersection of Lakeville Street/East D Street operates unacceptably during the a.m. and p.m. peak hours, while the intersections of Lakeville Street/East Washington Street and Lakeville Highway/Baywood Drive operate unacceptably during the p.m. peak hour.

- Under Pipeline Conditions, the intersections of Lakeville Street/East Washington Street and Lakeville Street/ East D Street are expected to operate unacceptably, while the intersection of Lakeville Highway/Baywood Drive is expected to improve to acceptable levels compared to Existing Conditions. This is due to the additional Pipeline traffic utilizing excess east-west through movement capacity. This analysis includes assumed signal phasing changes at Lakeville Street/East Washington Street, Lakeville Street/East D Street, and Lakeville Highway/Baywood Drive.

- Under Future Conditions, the intersections of Lakeville Street/East Washington Street, and Lakeville Street/East D Street, would operate unacceptably during both a.m. and p.m. peak hours, while the intersection of Lakeville Street/Caulfield Lane would operate unacceptably during the p.m. peak hour, and the intersection of Lakeville Highway/McDowell Boulevard South would operate unacceptably during the a.m. peak hour. This analysis includes assumed signal phasing changes at Lakeville Street/ East Washington Street, Lakeville Street/East D Street, Lakeville Street/Caulfield Lane, Lakeville Highway/Baywood Drive, and Lakeville Highway/McDowell Boulevard South.

- The proposed project is expected to generate 1,932 new daily trips, of which 121 trips would be generated during the a.m. peak hour and 148 trips would be generated during the p.m. peak hour.

- With the addition of project-generated traffic, vehicle trips (and thus delay) are added to Lakeville Street/ East Washington Street and Lakeville Street/East D Street, which are already operating at LOS F under all development scenarios. However, mitigation such as roadway widening might negatively impact multimodal circulation, especially considering the SMART station adjacent to these two intersections. This would run contrary to policy stated in the DEIR.

- With the addition of project-generated traffic under the Future Conditions scenario, the delay is expected to increase at the intersections of Lakeville Street/Caulfield Lane and Lakeville Highway/ McDowell Boulevard South, which are already operating unacceptably. As the intersections are already operating at LOS D and E and would not degrade to the next level of service, this represents a less-than-significant project impact per the DEIR.

- With the addition of project-generated traffic under the Existing Conditions scenario, an improvement in LOS at Lakeville Highway/Baywood Drive is expected due to the project traffic utilizing excess east-west through movement capacity.

- With the implementation of the recommended improvements, pedestrian, bicycle and transit facilities would adequately serve the project site.

Recommendations

- A minimum of 52 bicycle parking spaces, including 31 enclosed spaces and covered racks for 21 bikes, should be provided to meet City requirements.
- Class II bike lanes should be installed on Casa Grande Road along the project frontage along with the trail connection to be provided through the site.
- Landscaping and signs or monuments should be planted and maintained such that sight distance is not obstructed at the project driveway.

Study Participants and References

Study Participants

Principal in Charge	Dalene J. Whitlock, PE, PTOE
Associate Engineer	Kevin Carstens, PE
Graphics	Hannah Yung-Boxdell
Editing/Formatting	Alex Scrobonia
Quality Control	Dalene J. Whitlock, PE, PTOE

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Communications

Aggarwal, Gian and Bates, Curt. Phone conversation Re: future volumes. October 16, 2014.

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Appendix A

Collision Rate Calculations

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Intersection Collision Rate Calculations

Baywood Village TIS 2018 Update

Intersection # 1: Lakeville Street & E Washington Street
Date of Count: Wednesday, May 16, 2018

Number of Collisions: 68
Number of Injuries: 27
Number of Fatalities: 0
ADT: 25500
Start Date: January 1, 2013
End Date: December 31, 2017
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Signals
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions} \times 1 \text{ Million}}{\text{ADT} \times 365 \text{ Days per Year} \times \text{Number of Years}}$$

$$\text{collision rate} = \frac{68 \times 1{,}000{,}000}{25{,}500 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**1.46 c/mve**	**0.0%**	**39.7%**
Statewide Average*	**0.27 c/mve**	**0.4%**	**41.9%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection # 2: Lakeville Street & E D Street
Date of Count: Wednesday, May 16, 2018

Number of Collisions: 40
Number of Injuries: 15
Number of Fatalities: 0
ADT: 21500
Start Date: January 1, 2013
End Date: December 31, 2017
Number of Years: 5

Intersection Type: Multi-Legged
Control Type: Signals
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions} \times 1 \text{ Million}}{\text{ADT} \times 365 \text{ Days per Year} \times \text{Number of Years}}$$

$$\text{collision rate} = \frac{40 \times 1{,}000{,}000}{21{,}500 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**1.02 c/mve**	**0.0%**	**37.5%**
Statewide Average*	**0.27 c/mve**	**0.4%**	**41.9%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection Collision Rate Calculaions

Baywood Village TIS 2018 Update

Intersection # 3: Lakeville Street & Caulfield Lane
Date of Count: Wednesday, May 16, 2018

Number of Collisions: 25
Number of Injuries: 7
Number of Fatalities: 0
ADT: 24500
Start Date: January 1, 2013
End Date: December 31, 2017
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Signals
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{25 \times 1{,}000{,}000}{24{,}500 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.56 c/mve**	**0.0%**	**28.0%**
Statewide Average*	**0.27 c/mve**	**0.4%**	**41.9%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection # 4: Lakeville Highway (SR 116) & US 101 SB Ramps
Date of Count: Thursday, March 9, 2017

Number of Collisions: 12
Number of Injuries: 4
Number of Fatalities: 0
ADT: 28200
Start Date: January 1, 2013
End Date: December 31, 2017
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Signals
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{12 \times 1{,}000{,}000}{28{,}200 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.23 c/mve**	**0.0%**	**33.3%**
Statewide Average*	**0.27 c/mve**	**0.4%**	**41.9%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection Collision Rate Calculaions

Baywood Village TIS 2018 Update

Intersection # 5: Lakeville Highway (SR 116) & US 101 NB Ramps
Date of Count: Thursday, March 9, 2017

Number of Collisions: 26
Number of Injuries: 6
Number of Fatalities: 0
ADT: 36600
Start Date: January 1, 2013
End Date: December 31, 2017
Number of Years: 5

Intersection Type: Tee
Control Type: Signals
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{26 \times 1{,}000{,}000}{36{,}600 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.39 c/mve**	**0.0%**	**23.1%**
Statewide Average*	**0.21 c/mve**	**0.3%**	**42.4%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection # 6: Lakeville Highway (SR 116) & Baywood Drive
Date of Count: Thursday, March 9, 2017

Number of Collisions: 32
Number of Injuries: 13
Number of Fatalities: 0
ADT: 33200
Start Date: January 1, 2013
End Date: December 31, 2017
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Signals
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{32 \times 1{,}000{,}000}{33{,}200 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.53 c/mve**	**0.0%**	**40.6%**
Statewide Average*	**0.27 c/mve**	**0.4%**	**41.9%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection Collision Rate Calculaions

Baywood Village TIS 2018 Update

Intersection # 7: Lakeville Highway (SR 116) & Casa Grande Road

Date of Count: Thursday, March 9, 2017

Number of Collisions: 27
Number of Injuries: 12
Number of Fatalities: 0
ADT: 29800
Start Date: January 1, 2013
End Date: December 31, 2017
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Signals
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{27 \times 1{,}000{,}000}{29{,}800 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.50 c/mve**	**0.0%**	**44.4%**
Statewide Average*	**0.27 c/mve**	**0.4%**	**41.9%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Intersection # 8: Lakeville Highway (SR 116) & McDowell Boulevard S

Date of Count: Thursday, March 9, 2017

Number of Collisions: 27
Number of Injuries: 16
Number of Fatalities: 0
ADT: 30000
Start Date: January 1, 2013
End Date: December 31, 2017
Number of Years: 5

Intersection Type: Four-Legged
Control Type: Signals
Area: Urban

$$\text{collision rate} = \frac{\text{Number of Collisions x 1 Million}}{\text{ADT x 365 Days per Year x Number of Years}}$$

$$\text{collision rate} = \frac{27 \times 1{,}000{,}000}{30{,}000 \times 365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	**0.49 c/mve**	**0.0%**	**59.3%**
Statewide Average*	**0.27 c/mve**	**0.4%**	**41.9%**

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2013 Collision Data on California State Highways, Caltrans

Appendix B

Intersection Level of Service Calculations

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HCM 2010 Signalized Intersection Summary
1: Washington St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	131	28	215	98	52	18	660	202	61	731	29
Future Volume (veh/h)	30	131	28	215	98	52	18	660	202	61	731	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	1	14	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1790	1900	1759	1794	1900	1863	1759	1900	1863	1763	1900
Adj Flow Rate, veh/h	32	141	30	231	105	51	19	710	213	66	786	28
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	8	8	8	8	8	8	2	8	8	2	8	8
Cap, veh/h	41	181	39	273	210	72	437	1148	344	128	908	32
Arrive On Green	0.15	0.15	0.15	0.05	0.05	0.05	0.26	0.46	0.46	0.07	0.28	0.28
Sat Flow, veh/h	272	1198	255	1675	1139	553	1774	2527	758	1774	3298	117
Grp Volume(v), veh/h	203	0	0	231	0	156	19	470	453	66	399	415
Grp Sat Flow(s),veh/h/ln	1724	0	0	1675	0	1693	1774	1671	1614	1774	1675	1740
Q Serve(g_s), s	14.2	0.0	0.0	17.1	0.0	11.3	1.0	26.2	26.2	4.5	28.3	28.4
Cycle Q Clear(g_c), s	14.2	0.0	0.0	17.1	0.0	11.3	1.0	26.2	26.2	4.5	28.3	28.4
Prop In Lane	0.16		0.15	1.00		0.33	1.00		0.47	1.00		0.07
Lane Grp Cap(c), veh/h	261	0	0	273	0	303	437	760	733	128	461	479
V/C Ratio(X)	0.78	0.00	0.00	0.85	0.00	0.51	0.04	0.62	0.62	0.52	0.87	0.87
Avail Cap(c_a), veh/h	410	0	0	389	0	393	452	774	747	156	461	479
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.95	0.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.0	0.0	0.0	57.8	0.0	55.6	35.9	25.9	25.9	55.9	43.1	43.1
Incr Delay (d2), s/veh	1.9	0.0	0.0	7.9	0.0	0.5	0.0	3.8	3.9	1.2	19.1	18.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.6	0.0	31.6	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	0.0	8.7	0.0	10.0	0.5	13.1	12.7	2.2	15.5	16.1
LnGrp Delay(d),s/veh	52.9	0.0	0.0	66.3	0.0	87.7	35.9	29.7	29.8	57.1	62.3	61.7
LnGrp LOS	D			E		F	D	C	C	E	E	E
Approach Vol, veh/h		203			387			942			880	
Approach Delay, s/veh		52.9			74.9			29.9			61.6	
Approach LOS		D			E			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	62.7		24.2	36.7	39.0		25.1
Change Period (Y+Rc), s	4.0	* 4.8		* 5.3	4.8	* 4.6		5.0
Max Green Setting (Gmax), s	11.0	* 36		* 30	13.0	* 34		29.0
Max Q Clear Time (g_c+I1), s	6.5	28.2		16.2	3.0	30.4		19.1
Green Ext Time (p_c), s	0.0	2.9		0.6	0.0	1.4		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	50.6
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
2: E D St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	334	68	399	312	44	46	112	428	14	177	11
Future Volume (veh/h)	7	334	68	399	312	44	46	112	428	14	177	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	6	3	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1700	1863	1863	1696	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	8	371	75	443	347	39	51	124	476	16	197	8
Adj No. of Lanes	0	1	1	1	1	1	0	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	12	12	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	29	315	340	657	1062	990	59	143	759	265	264	11
Arrive On Green	0.22	0.22	0.22	0.37	0.63	0.63	0.11	0.11	0.11	0.15	0.15	0.15
Sat Flow, veh/h	13	1675	1562	1774	1696	1581	535	1301	1583	1774	1773	72
Grp Volume(v), veh/h	379	0	75	443	347	39	175	0	476	16	0	205
Grp Sat Flow(s),veh/h/ln	1688	0	1562	1774	1696	1581	1836	0	1583	1774	0	1845
Q Serve(g_s), s	10.1	0.0	4.9	26.2	12.0	1.2	11.7	0.0	0.0	1.0	0.0	13.3
Cycle Q Clear(g_c), s	27.2	0.0	4.9	26.2	12.0	1.2	11.7	0.0	0.0	1.0	0.0	13.3
Prop In Lane	0.02		1.00	1.00		1.00	0.29		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	262	0	340	657	1062	990	201	0	759	265	0	275
V/C Ratio(X)	1.44	0.00	0.22	0.67	0.33	0.04	0.87	0.00	0.63	0.06	0.00	0.75
Avail Cap(c_a), veh/h	397	0	340	657	1062	990	201	0	759	393	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.00	0.66	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.0	0.0	40.2	33.8	11.2	9.0	54.8	0.0	24.2	45.7	0.0	50.9
Incr Delay (d2), s/veh	214.0	0.0	1.0	1.9	0.7	0.1	31.7	0.0	1.9	0.1	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	1.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.6	0.0	2.2	14.6	6.3	0.5	7.7	0.0	12.6	0.5	0.0	7.0
LnGrp Delay(d),s/veh	260.0	0.0	41.2	37.5	12.0	9.0	86.5	0.0	26.1	45.7	0.0	53.9
LnGrp LOS	F		D	D	B	A	F		C	D		D
Approach Vol, veh/h		454			829			651			221	
Approach Delay, s/veh		223.8			25.5			42.3			53.3	
Approach LOS		F			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		19.0	51.1	32.0		22.9		83.1
Change Period (Y+Rc), s		* 5.3	* 4.8	* 4.8		4.3		* 4.8
Max Green Setting (Gmax), s		* 14	* 38	* 27		27.7		* 69
Max Q Clear Time (g_c+I1), s		13.7	28.2	29.2		15.3		14.0
Green Ext Time (p_c), s		0.0	0.3	0.0		0.8		1.5

Intersection Summary	
HCM 2010 Ctrl Delay	75.2
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
3: Caulfield Ln & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	561	14	46	539	161	41	31	41	305	23	242
Future Volume (veh/h)	134	561	14	46	539	161	41	31	41	305	23	242
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1700	1900	1863	1696	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	140	584	15	48	561	135	43	32	24	335	0	207
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	2	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	12	12	2	12	2	2	2	2	2	2	2
Cap, veh/h	256	1035	27	168	876	429	256	292	197	609	0	495
Arrive On Green	0.14	0.32	0.32	0.09	0.27	0.27	0.14	0.14	0.14	0.17	0.00	0.17
Sat Flow, veh/h	1774	3218	83	1774	3223	1578	1774	2025	1366	3548	0	1556
Grp Volume(v), veh/h	140	293	306	48	561	135	43	28	28	335	0	207
Grp Sat Flow(s),veh/h/ln	1774	1615	1686	1774	1612	1578	1774	1770	1622	1774	0	1556
Q Serve(g_s), s	5.2	10.8	10.8	1.8	11.0	4.9	1.5	1.0	1.1	6.2	0.0	7.5
Cycle Q Clear(g_c), s	5.2	10.8	10.8	1.8	11.0	4.9	1.5	1.0	1.1	6.2	0.0	7.5
Prop In Lane	1.00		0.05	1.00		1.00	1.00		0.84	1.00		1.00
Lane Grp Cap(c), veh/h	256	519	542	168	876	429	256	255	234	609	0	495
V/C Ratio(X)	0.55	0.56	0.56	0.29	0.64	0.31	0.17	0.11	0.12	0.55	0.00	0.42
Avail Cap(c_a), veh/h	273	902	942	273	1787	875	377	376	344	738	0	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.5	20.1	20.1	30.2	23.0	20.8	26.9	26.6	26.7	27.1	0.0	19.3
Incr Delay (d2), s/veh	0.9	1.4	1.3	0.3	1.1	0.6	0.2	0.1	0.2	0.6	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	5.0	5.2	0.9	5.0	2.2	0.8	0.5	0.5	3.1	0.0	3.3
LnGrp Delay(d),s/veh	29.4	21.5	21.4	30.5	24.1	21.3	27.1	26.8	26.9	27.7	0.0	19.8
LnGrp LOS	C	C	C	C	C	C	C	C	C	C		B
Approach Vol, veh/h		739			744			99			542	
Approach Delay, s/veh		23.0			24.0			26.9			24.7	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.8	28.3		17.4	14.3	24.8		15.1
Change Period (Y+Rc), s	4.0	* 5.3		* 5.1	4.0	5.3		4.8
Max Green Setting (Gmax), s	11.0	* 40		* 15	11.0	39.7		15.2
Max Q Clear Time (g_c+I1), s	3.8	12.8		9.5	7.2	13.0		3.5
Green Ext Time (p_c), s	0.0	5.4		0.8	0.1	6.1		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	24.0
HCM 2010 LOS	C

Notes

HCM 2010 Signalized Intersection Summary
4: In-n-Out Driveway/US 101 SB Ramps & Lakeville St/Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	254	607	3	6	588	287	5	1	7	957	9	170
Future Volume (veh/h)	254	607	3	6	588	287	5	1	7	957	9	170
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1793	1900	1863	1792	1792	1900	1863	1900	1792	1794	1792
Adj Flow Rate, veh/h	267	639	3	6	619	0	5	1	0	1013	0	0
Adj No. of Lanes	2	2	0	1	2	1	0	1	0	2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	2	6	6	2	2	2	6	2	6
Cap, veh/h	697	1778	8	27	1027	460	22	4	0	1038	0	784
Arrive On Green	0.21	0.51	0.51	0.00	0.10	0.00	0.02	0.02	0.00	0.30	0.00	0.00
Sat Flow, veh/h	3312	3477	16	1774	3406	1524	1490	298	0	3414	0	1524
Grp Volume(v), veh/h	267	313	329	6	619	0	6	0	0	1013	0	0
Grp Sat Flow(s),veh/h/ln	1656	1703	1790	1774	1703	1524	1788	0	0	1707	0	1524
Q Serve(g_s), s	8.7	13.7	13.8	0.4	21.8	0.0	0.4	0.0	0.0	36.7	0.0	0.0
Cycle Q Clear(g_c), s	8.7	13.7	13.8	0.4	21.8	0.0	0.4	0.0	0.0	36.7	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.83		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	697	871	916	27	1027	460	27	0	0	1038	0	784
V/C Ratio(X)	0.38	0.36	0.36	0.22	0.60	0.00	0.22	0.00	0.00	0.98	0.00	0.00
Avail Cap(c_a), veh/h	697	871	916	142	1027	460	143	0	0	1038	0	784
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	0.94	0.94	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.4	18.3	18.3	61.5	49.1	0.0	60.8	0.0	0.0	43.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	1.0	1.0	3.9	2.5	0.0	4.1	0.0	0.0	22.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	6.7	7.0	0.2	10.6	0.0	0.2	0.0	0.0	20.5	0.0	0.0
LnGrp Delay(d),s/veh	42.7	19.3	19.2	65.4	51.6	0.0	64.9	0.0	0.0	65.3	0.0	0.0
LnGrp LOS	D	B	B	E	D		E			E		
Approach Vol, veh/h		909			625			6			1013	
Approach Delay, s/veh		26.1			51.7			64.9			65.3	
Approach LOS		C			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	69.9		42.9	32.3	43.7		6.1
Change Period (Y+Rc), s	* 4.2	6.0		4.9	6.0	* 6		4.2
Max Green Setting (Gmax), s	* 10	47.7		38.0	20.0	* 38		10.0
Max Q Clear Time (g_c+I1), s	2.4	15.8		38.7	10.7	23.8		2.4
Green Ext Time (p_c), s	0.0	8.0		0.0	0.6	5.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	48.0
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Lakeville Hwy & US 101 NB Ramps

06/28/2018

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	67	1471	773	819	241	94
Future Volume (veh/h)	67	1471	773	819	241	94
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1827	1863	1863	1827	1827
Adj Flow Rate, veh/h	74	1634	859	0	268	0
Adj No. of Lanes	1	2	2	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	4	2	2	4	4
Cap, veh/h	103	2805	2517	1126	351	253
Arrive On Green	0.12	1.00	0.71	0.00	0.10	0.00
Sat Flow, veh/h	1740	3563	3632	1583	3375	1553
Grp Volume(v), veh/h	74	1634	859	0	268	0
Grp Sat Flow(s),veh/h/ln	1740	1736	1770	1583	1688	1553
Q Serve(g_s), s	5.1	0.0	11.6	0.0	9.7	0.0
Cycle Q Clear(g_c), s	5.1	0.0	11.6	0.0	9.7	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	103	2805	2517	1126	351	253
V/C Ratio(X)	0.72	0.58	0.34	0.00	0.76	0.00
Avail Cap(c_a), veh/h	153	2805	2517	1126	837	477
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.72	0.72	0.65	0.00	1.00	0.00
Uniform Delay (d), s/veh	54.1	0.0	6.9	0.0	54.5	0.0
Incr Delay (d2), s/veh	6.6	0.6	0.2	0.0	3.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.2	5.7	0.0	4.7	0.0
LnGrp Delay(d),s/veh	60.7	0.6	7.1	0.0	58.0	0.0
LnGrp LOS	E	A	A		E	
Approach Vol, veh/h		1708	859		268	
Approach Delay, s/veh		3.2	7.1		58.0	
Approach LOS		A	A		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		107.0		18.0	12.1	94.9		
Change Period (Y+Rc), s		6.0		5.0	* 4.7	6.0		
Max Green Setting (Gmax), s		83.0		31.0	* 11	67.3		
Max Q Clear Time (g_c+I1), s		2.0		11.7	7.1	13.6		
Green Ext Time (p_c), s		47.0		0.8	0.0	14.5		

Intersection Summary	
HCM 2010 Ctrl Delay	9.6
HCM 2010 LOS	A

Notes

HCM 2010 Signalized Intersection Summary
6: Baywood Dr & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	1536	27	8	1290	29	36	2	12	21	20	287
Future Volume (veh/h)	75	1536	27	8	1290	29	36	2	12	21	20	287
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1777	1900	1863	1778	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	81	1652	27	9	1387	29	39	2	0	23	22	179
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	133	1540	25	374	2020	42	116	277	0	70	229	314
Arrive On Green	0.15	0.91	0.91	0.07	0.20	0.20	0.07	0.15	0.00	0.04	0.12	0.12
Sat Flow, veh/h	1774	3400	55	1774	3383	71	1774	1863	0	1774	1863	1583
Grp Volume(v), veh/h	81	819	860	9	692	724	39	2	0	23	22	179
Grp Sat Flow(s),veh/h/ln	1774	1688	1767	1774	1689	1765	1774	1863	0	1774	1863	1583
Q Serve(g_s), s	5.3	56.6	56.6	0.6	47.5	47.6	2.6	0.1	0.0	1.6	1.3	12.8
Cycle Q Clear(g_c), s	5.3	56.6	56.6	0.6	47.5	47.6	2.6	0.1	0.0	1.6	1.3	12.8
Prop In Lane	1.00		0.03	1.00		0.04	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	764	800	374	1009	1054	116	277	0	70	229	314
V/C Ratio(X)	0.61	1.07	1.07	0.02	0.69	0.69	0.34	0.01	0.00	0.33	0.10	0.57
Avail Cap(c_a), veh/h	213	764	800	374	1009	1054	156	492	0	142	477	524
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	0.84	0.84	0.84	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	5.9	5.9	46.2	39.3	39.3	55.8	45.3	0.0	58.4	48.6	45.3
Incr Delay (d2), s/veh	3.4	49.6	50.2	0.0	3.2	3.1	3.6	0.0	0.0	5.7	0.2	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	32.8	34.5	0.3	23.2	24.2	1.4	0.1	0.0	0.9	0.7	5.7
LnGrp Delay(d),s/veh	54.8	55.5	56.1	46.2	42.5	42.4	59.4	45.3	0.0	64.1	48.8	46.9
LnGrp LOS	D	F	F	D	D	D	E	D		E	D	D
Approach Vol, veh/h		1760			1425			41			224	
Approach Delay, s/veh		55.8			42.5			58.8			48.9	
Approach LOS		E			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.7	61.9	11.9	19.6	13.6	80.0	8.7	22.8
Change Period (Y+Rc), s	5.3	* 5.3	3.7	* 4.2	* 4.2	5.3	3.7	* 4.2
Max Green Setting (Gmax), s	8.0	* 57	11.0	* 32	* 15	49.6	10.0	* 33
Max Q Clear Time (g_c+I1), s	2.6	58.6	4.6	14.8	7.3	49.6	3.6	2.1
Green Ext Time (p_c), s	0.0	0.0	0.1	0.6	0.1	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.9
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
7: Casa Grande Rd & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1343	38	21	960	10	98	57	23	15	49	278
Future Volume (veh/h)	142	1343	38	21	960	10	98	57	23	15	49	278
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1778	1900	1863	1776	1863	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	149	1414	37	22	1011	0	103	60	8	16	52	5
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	7	7	2	7	2	2	2	2	2	2	2
Cap, veh/h	173	1779	46	389	2203	1034	187	210	28	69	195	205
Arrive On Green	0.20	1.00	1.00	0.44	1.00	0.00	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1774	3364	88	1774	3374	1583	1333	1609	214	258	1499	1572
Grp Volume(v), veh/h	149	709	742	22	1011	0	103	0	68	68	0	5
Grp Sat Flow(s),veh/h/ln	1774	1689	1762	1774	1687	1583	1333	0	1823	1757	0	1572
Q Serve(g_s), s	10.2	0.0	0.0	0.9	0.0	0.0	9.4	0.0	4.2	0.0	0.0	0.3
Cycle Q Clear(g_c), s	10.2	0.0	0.0	0.9	0.0	0.0	13.6	0.0	4.2	4.1	0.0	0.3
Prop In Lane	1.00		0.05	1.00		1.00	1.00		0.12	0.24		1.00
Lane Grp Cap(c), veh/h	173	893	932	389	2203	1034	187	0	238	265	0	205
V/C Ratio(X)	0.86	0.79	0.80	0.06	0.46	0.00	0.55	0.00	0.29	0.26	0.00	0.02
Avail Cap(c_a), veh/h	199	893	932	389	2203	1034	344	0	452	464	0	390
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	0.0	27.6	0.0	0.0	55.2	0.0	49.1	49.1	0.0	47.4
Incr Delay (d2), s/veh	16.9	4.6	4.4	0.0	0.7	0.0	0.9	0.0	0.2	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	1.1	1.1	0.4	0.2	0.0	3.5	0.0	2.1	2.1	0.0	0.2
LnGrp Delay(d),s/veh	66.4	4.6	4.4	27.7	0.7	0.0	56.1	0.0	49.3	49.3	0.0	47.4
LnGrp LOS	E	A	A	C	A		E		D	D		D
Approach Vol, veh/h		1600			1033			171			73	
Approach Delay, s/veh		10.2			1.3			53.4			49.1	
Approach LOS		B			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.9	71.6		20.5	17.4	87.1		20.5
Change Period (Y+Rc), s	5.5	* 5.5		* 4.2	* 5.2	5.5		* 4.2
Max Green Setting (Gmax), s	13.0	* 66		* 31	* 14	65.1		* 31
Max Q Clear Time (g_c+I1), s	2.9	2.0		6.1	12.2	2.0		15.6
Green Ext Time (p_c), s	0.0	7.0		0.2	0.0	4.9		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	849	492	31	712	65	266	144	9	173	260	11
Future Volume (veh/h)	9	849	492	31	712	65	266	144	9	173	260	11
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	15	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1807	1900	1863	1783	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	9	875	403	32	734	59	274	148	4	178	268	8
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	512	1258	513	105	896	72	301	542	15	206	366	11
Arrive On Green	0.58	1.00	1.00	0.06	0.28	0.28	0.17	0.15	0.15	0.12	0.10	0.10
Sat Flow, veh/h	1774	2291	1047	1774	3176	255	1774	3521	95	1774	3509	104
Grp Volume(v), veh/h	9	654	624	32	391	402	274	74	78	178	135	141
Grp Sat Flow(s),veh/h/ln	1774	1716	1621	1774	1694	1738	1774	1770	1846	1774	1770	1844
Q Serve(g_s), s	0.3	0.0	0.0	2.2	27.0	27.0	19.0	4.6	4.7	12.3	9.2	9.3
Cycle Q Clear(g_c), s	0.3	0.0	0.0	2.2	27.0	27.0	19.0	4.6	4.7	12.3	9.2	9.3
Prop In Lane	1.00		0.65	1.00		0.15	1.00		0.05	1.00		0.06
Lane Grp Cap(c), veh/h	512	903	860	105	478	490	301	272	284	206	185	192
V/C Ratio(X)	0.02	0.72	0.73	0.31	0.82	0.82	0.91	0.27	0.27	0.86	0.73	0.73
Avail Cap(c_a), veh/h	512	903	853	156	568	582	341	467	487	284	411	428
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	0.0	56.4	41.9	41.9	51.0	46.7	46.7	54.3	54.3	54.3
Incr Delay (d2), s/veh	0.0	5.0	5.3	1.6	14.4	14.2	25.8	0.5	0.5	17.9	5.4	5.3
Initial Q Delay(d3),s/veh	0.0	1.8	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.7	1.7	1.1	14.5	14.9	11.4	2.3	2.4	7.1	4.8	5.0
LnGrp Delay(d),s/veh	18.9	6.8	7.3	58.0	56.3	56.1	76.7	47.2	47.2	72.2	59.7	59.6
LnGrp LOS	B	A	A	E	E	E	E	D	D	E	E	E
Approach Vol, veh/h		1287			825			426			454	
Approach Delay, s/veh		7.1			56.3			66.2			64.6	
Approach LOS		A			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	71.3	25.4	17.2	41.6	40.8	19.2	23.4
Change Period (Y+Rc), s	3.7	5.5	* 4.2	* 4.2	5.5	* 5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	11.0	42.9	* 24	* 29	12.0	* 42	* 20	* 33
Max Q Clear Time (g_c+I1), s	4.2	2.0	21.0	11.3	2.3	29.0	14.3	6.7
Green Ext Time (p_c), s	0.0	21.9	0.2	1.3	0.0	6.3	0.2	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	37.8
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
1: Washington St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	90	41	218	159	101	40	790	178	71	776	41
Future Volume (veh/h)	57	90	41	218	159	101	40	790	178	71	776	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	12	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1812	1900	1759	1798	1900	1863	1759	1900	1863	1764	1900
Adj Flow Rate, veh/h	59	93	41	225	164	100	41	814	175	73	800	39
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	8	8	8	8	8	8	2	8	8	2	8	8
Cap, veh/h	78	123	54	330	260	79	386	1160	249	131	901	44
Arrive On Green	0.15	0.15	0.15	0.06	0.06	0.06	0.23	0.44	0.44	0.07	0.28	0.28
Sat Flow, veh/h	523	824	363	1675	1039	634	1774	2727	586	1774	3248	158
Grp Volume(v), veh/h	193	0	0	225	0	264	41	499	490	73	413	426
Grp Sat Flow(s),veh/h/ln	1711	0	0	1675	0	1673	1774	1671	1641	1774	1676	1730
Q Serve(g_s), s	13.4	0.0	0.0	16.4	0.0	19.4	2.3	29.6	29.6	4.9	29.3	29.3
Cycle Q Clear(g_c), s	13.4	0.0	0.0	16.4	0.0	19.4	2.3	29.6	29.6	4.9	29.3	29.3
Prop In Lane	0.31		0.21	1.00		0.38	1.00		0.36	1.00		0.09
Lane Grp Cap(c), veh/h	255	0	0	330	0	339	386	711	698	131	465	480
V/C Ratio(X)	0.76	0.00	0.00	0.68	0.00	0.78	0.11	0.70	0.70	0.56	0.89	0.89
Avail Cap(c_a), veh/h	424	0	0	365	0	364	409	733	720	157	465	480
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.91	0.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.6	0.0	0.0	54.2	0.0	57.0	38.9	29.2	29.2	55.4	42.9	43.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	3.1	0.0	7.8	0.0	5.7	5.8	1.4	21.5	21.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	40.8	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	0.0	7.9	0.0	15.3	1.1	15.0	14.8	2.5	16.3	16.8
LnGrp Delay(d),s/veh	52.4	0.0	0.0	57.2	0.0	105.6	38.9	34.9	35.0	56.8	64.4	63.9
LnGrp LOS	D			E		F	D	C	C	E	E	E
Approach Vol, veh/h		193			489			1030			912	
Approach Delay, s/veh		52.4			83.4			35.1			63.6	
Approach LOS		D			F			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.2	59.2		23.8	33.4	39.0		27.8
Change Period (Y+Rc), s	4.0	* 4.8		* 5.3	4.8	* 4.6		5.0
Max Green Setting (Gmax), s	11.0	* 36		* 31	13.0	* 34		27.0
Max Q Clear Time (g_c+I1), s	6.9	31.6		15.4	4.3	31.3		21.4
Green Ext Time (p_c), s	0.0	2.1		0.6	0.0	1.2		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	55.3
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
2: E D St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	285	63	401	367	33	90	175	529	18	186	14
Future Volume (veh/h)	9	285	63	401	367	33	90	175	529	18	186	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	8	3	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.99	1.00		1.00	1.00		0.92
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1701	1863	1863	1696	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	10	303	67	427	390	29	96	186	563	19	198	14
Adj No. of Lanes	0	1	1	1	1	1	0	1	1	1	1	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
Percent Heavy Veh, %	12	12	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	30	218	278	595	938	870	107	207	803	282	272	19
Arrive On Green	0.18	0.18	0.18	0.34	0.55	0.55	0.17	0.17	0.17	0.16	0.16	0.16
Sat Flow, veh/h	13	1382	1552	1774	1696	1573	624	1208	1583	1774	1709	121
Grp Volume(v), veh/h	313	0	67	427	390	29	282	0	563	19	0	212
Grp Sat Flow(s),veh/h/ln	1396	0	1552	1774	1696	1573	1832	0	1583	1774	0	1830
Q Serve(g_s), s	5.7	0.0	4.6	26.1	16.5	1.0	18.7	0.0	0.0	1.1	0.0	13.7
Cycle Q Clear(g_c), s	22.2	0.0	4.6	26.1	16.5	1.0	18.7	0.0	0.0	1.1	0.0	13.7
Prop In Lane	0.03		1.00	1.00		1.00	0.34		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	205	0	278	595	938	870	314	0	803	282	0	291
V/C Ratio(X)	1.53	0.00	0.24	0.72	0.42	0.03	0.90	0.00	0.70	0.07	0.00	0.73
Avail Cap(c_a), veh/h	280	0	278	595	938	870	321	0	808	396	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.67	0.00	0.67	0.81	0.81	0.81	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.5	0.0	43.7	37.0	16.3	12.6	50.3	0.0	23.4	44.3	0.0	49.6
Incr Delay (d2), s/veh	254.7	0.0	1.4	2.9	1.1	0.1	26.5	0.0	3.0	0.1	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	4.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.5	0.0	2.1	15.5	8.5	0.5	11.8	0.0	15.2	0.6	0.0	7.1
LnGrp Delay(d),s/veh	303.2	0.0	45.0	44.6	17.6	12.7	76.8	0.0	26.4	44.4	0.0	52.7
LnGrp LOS	F		D	D	B	B	E		C	D		D
Approach Vol, veh/h		380			846			845			231	
Approach Delay, s/veh		257.7			31.0			43.2			52.0	
Approach LOS		F			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		26.6	46.4	27.0		24.0		73.4
Change Period (Y+Rc), s		* 5.3	* 4.8	* 4.8		4.3		* 4.8
Max Green Setting (Gmax), s		* 22	* 34	* 22		27.7		* 60
Max Q Clear Time (g_c+I1), s		20.7	28.1	24.2		15.7		18.5
Green Ext Time (p_c), s		0.6	0.3	0.0		0.8		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	75.0
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
3: Caulfield Ln & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	510	27	51	696	394	68	77	29	226	20	144
Future Volume (veh/h)	220	510	27	51	696	394	68	77	29	226	20	144
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1704	1900	1863	1696	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	232	537	25	54	733	390	72	81	17	253	0	108
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	12	12	2	12	2	2	2	2	2	2	2
Cap, veh/h	236	1209	56	168	1113	546	252	416	85	523	0	441
Arrive On Green	0.13	0.38	0.38	0.09	0.35	0.35	0.14	0.14	0.14	0.15	0.00	0.15
Sat Flow, veh/h	1774	3150	146	1774	3223	1581	1774	2929	598	3548	0	1564
Grp Volume(v), veh/h	232	276	286	54	733	390	72	48	50	253	0	108
Grp Sat Flow(s),veh/h/ln	1774	1619	1678	1774	1612	1581	1774	1770	1757	1774	0	1564
Q Serve(g_s), s	10.8	10.5	10.5	2.4	15.9	17.7	3.0	2.0	2.1	5.4	0.0	4.4
Cycle Q Clear(g_c), s	10.8	10.5	10.5	2.4	15.9	17.7	3.0	2.0	2.1	5.4	0.0	4.4
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	236	621	644	168	1113	546	252	252	250	523	0	441
V/C Ratio(X)	0.98	0.44	0.44	0.32	0.66	0.71	0.29	0.19	0.20	0.48	0.00	0.24
Avail Cap(c_a), veh/h	236	783	811	236	1547	758	326	325	323	639	0	492
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.8	18.9	18.9	35.0	22.9	23.5	31.7	31.3	31.3	32.4	0.0	23.0
Incr Delay (d2), s/veh	53.6	0.7	0.7	0.4	1.0	2.6	0.5	0.3	0.3	0.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	4.8	5.0	1.2	7.2	8.1	1.5	1.0	1.0	2.7	0.0	1.9
LnGrp Delay(d),s/veh	89.4	19.6	19.6	35.4	23.9	26.2	32.2	31.6	31.6	32.9	0.0	23.2
LnGrp LOS	F	B	B	D	C	C	C	C	C	C		C
Approach Vol, veh/h		794			1177			170			361	
Approach Delay, s/veh		40.0			25.2			31.8			30.0	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.8	37.1		17.3	15.0	33.9		16.6
Change Period (Y+Rc), s	4.0	* 5.3		* 5.1	4.0	5.3		4.8
Max Green Setting (Gmax), s	11.0	* 40		* 15	11.0	39.7		15.2
Max Q Clear Time (g_c+I1), s	4.4	12.5		7.4	12.8	19.7		5.0
Green Ext Time (p_c), s	0.0	5.1		0.6	0.0	8.8		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	31.0
HCM 2010 LOS	C

Notes

HCM 2010 Signalized Intersection Summary
4: In-n-Out Driveway/US 101 SB Ramps & Lakeville St/Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	583	8	28	1045	228	12	3	14	601	14	170
Future Volume (veh/h)	115	583	8	28	1045	228	12	3	14	601	14	170
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1793	1900	1863	1792	1792	1900	1863	1900	1792	1796	1792
Adj Flow Rate, veh/h	122	620	8	30	1112	0	13	3	0	650	0	0
Adj No. of Lanes	2	2	0	1	2	1	0	1	0	2	0	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	2	6	6	2	2	2	6	2	6
Cap, veh/h	174	1206	16	432	1885	843	48	11	0	761	0	420
Arrive On Green	0.05	0.35	0.35	0.08	0.18	0.00	0.03	0.03	0.00	0.22	0.00	0.00
Sat Flow, veh/h	3312	3445	44	1774	3406	1524	1454	336	0	3414	0	1524
Grp Volume(v), veh/h	122	307	321	30	1112	0	16	0	0	650	0	0
Grp Sat Flow(s),veh/h/ln	1656	1704	1786	1774	1703	1524	1790	0	0	1707	0	1524
Q Serve(g_s), s	5.1	20.0	20.0	2.2	41.9	0.0	1.2	0.0	0.0	25.6	0.0	0.0
Cycle Q Clear(g_c), s	5.1	20.0	20.0	2.2	41.9	0.0	1.2	0.0	0.0	25.6	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.81		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	174	596	625	432	1885	843	59	0	0	761	0	420
V/C Ratio(X)	0.70	0.51	0.51	0.07	0.59	0.00	0.27	0.00	0.00	0.85	0.00	0.00
Avail Cap(c_a), veh/h	568	596	625	432	1885	843	166	0	0	1097	0	570
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	0.85	0.85	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	65.2	36.1	36.1	49.7	42.7	0.0	66.0	0.0	0.0	52.2	0.0	0.0
Incr Delay (d2), s/veh	4.6	2.9	2.7	0.1	1.2	0.0	2.4	0.0	0.0	5.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	9.8	10.3	1.1	20.1	0.0	0.6	0.0	0.0	12.7	0.0	0.0
LnGrp Delay(d),s/veh	69.8	38.9	38.8	49.8	43.8	0.0	68.4	0.0	0.0	57.8	0.0	0.0
LnGrp LOS	E	D	D	D	D		E			E		
Approach Vol, veh/h		750			1142			16			650	
Approach Delay, s/veh		43.9			44.0			68.4			57.8	
Approach LOS		D			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	40.1	55.0		36.1	11.6	83.5		8.8
Change Period (Y+Rc), s	6.0	* 6		4.9	* 4.2	6.0		4.2
Max Green Setting (Gmax), s	13.7	* 49		45.0	* 24	38.7		13.0
Max Q Clear Time (g_c+I1), s	4.2	22.0		27.6	7.1	43.9		3.2
Green Ext Time (p_c), s	0.0	7.4		3.6	0.3	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	47.6
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Lakeville Hwy & US 101 NB Ramps

06/28/2018

Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	100	1123	963	849	285	339		
Future Volume (veh/h)	100	1123	963	849	285	339		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1827	1827	1863	1863	1827	1827		
Adj Flow Rate, veh/h	101	1134	973	3	288	212		
Adj No. of Lanes	1	2	2	1	2	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	4	4	2	2	4	4		
Cap, veh/h	122	2687	2373	1062	497	337		
Arrive On Green	0.09	1.00	0.89	0.89	0.15	0.15		
Sat Flow, veh/h	1740	3563	3632	1583	3375	1553		
Grp Volume(v), veh/h	101	1134	973	3	288	212		
Grp Sat Flow(s),veh/h/ln	1740	1736	1770	1583	1688	1553		
Q Serve(g_s), s	8.0	0.0	6.6	0.0	11.1	17.3		
Cycle Q Clear(g_c), s	8.0	0.0	6.6	0.0	11.1	17.3		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	122	2687	2373	1062	497	337		
V/C Ratio(X)	0.83	0.42	0.41	0.00	0.58	0.63		
Avail Cap(c_a), veh/h	137	2687	2373	1062	699	430		
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.00	1.00		
Upstream Filter(I)	0.86	0.86	0.42	0.42	1.00	1.00		
Uniform Delay (d), s/veh	62.7	0.0	2.8	2.5	55.7	49.7		
Incr Delay (d2), s/veh	26.9	0.4	0.2	0.0	1.1	1.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.8	0.2	3.2	0.0	5.3	14.8		
LnGrp Delay(d),s/veh	89.5	0.4	3.1	2.5	56.7	51.6		
LnGrp LOS	F	A	A	A	E	D		
Approach Vol, veh/h		1235	976		500			
Approach Delay, s/veh		7.7	3.1		54.5			
Approach LOS		A	A		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		114.4		25.6	14.5	99.9		
Change Period (Y+Rc), s		6.0		5.0	* 4.7	6.0		
Max Green Setting (Gmax), s		100.0		29.0	* 11	84.3		
Max Q Clear Time (g_c+I1), s		2.0		19.3	10.0	8.6		
Green Ext Time (p_c), s		25.4		1.3	0.0	18.7		

Intersection Summary	
HCM 2010 Ctrl Delay	14.7
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
6: Baywood Dr & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	1172	27	13	1560	37	95	41	21	10	9	140
Future Volume (veh/h)	197	1172	27	13	1560	37	95	41	21	10	9	140
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1778	1900	1863	1778	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	203	1208	26	13	1608	36	98	42	4	10	9	5
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	230	1777	38	340	2013	45	136	143	14	109	137	321
Arrive On Green	0.04	0.17	0.17	0.06	0.20	0.20	0.08	0.09	0.09	0.06	0.07	0.07
Sat Flow, veh/h	1774	3381	73	1774	3378	75	1774	1673	159	1774	1863	1583
Grp Volume(v), veh/h	203	603	631	13	803	841	98	0	46	10	9	5
Grp Sat Flow(s),veh/h/ln	1774	1689	1765	1774	1689	1764	1774	0	1833	1774	1863	1583
Q Serve(g_s), s	15.9	46.9	46.9	1.0	63.4	63.7	7.6	0.0	3.3	0.7	0.6	0.4
Cycle Q Clear(g_c), s	15.9	46.9	46.9	1.0	63.4	63.7	7.6	0.0	3.3	0.7	0.6	0.4
Prop In Lane	1.00		0.04	1.00		0.04	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	230	888	928	340	1007	1052	136	0	157	109	137	321
V/C Ratio(X)	0.88	0.68	0.68	0.04	0.80	0.80	0.72	0.00	0.29	0.09	0.07	0.02
Avail Cap(c_a), veh/h	274	888	928	340	1007	1052	266	0	419	114	266	431
HCM Platoon Ratio	0.33	0.33	0.33	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	0.72	0.72	0.72	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.0	46.8	46.8	53.4	48.2	48.3	63.1	0.0	60.1	62.0	60.4	44.6
Incr Delay (d2), s/veh	22.1	3.7	3.5	0.0	4.8	4.7	14.1	0.0	1.0	0.8	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	22.9	23.9	0.5	31.0	32.6	4.2	0.0	1.7	0.4	0.3	0.2
LnGrp Delay(d),s/veh	88.1	50.5	50.4	53.5	53.0	53.0	77.2	0.0	61.1	62.8	60.6	44.6
LnGrp LOS	F	D	D	D	D	D	E		E	E	E	D
Approach Vol, veh/h		1437			1657			144			24	
Approach Delay, s/veh		55.7			53.0			72.1			58.2	
Approach LOS		E			D			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.2	78.9	14.5	14.5	22.3	88.8	12.8	16.2				
Change Period (Y+Rc), s	5.3	* 5.3	3.7	* 4.2	* 4.2	5.3	* 4.2	* 4.2				
Max Green Setting (Gmax), s	8.0	* 74	21.0	* 20	* 22	60.0	* 9	* 32				
Max Q Clear Time (g_c+I1), s	3.0	48.9	9.6	2.6	17.9	65.7	2.7	5.3				
Green Ext Time (p_c), s	0.0	15.4	0.4	0.0	0.2	0.0	0.0	0.2				

Intersection Summary	
HCM 2010 Ctrl Delay	55.1
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
7: Casa Grande Rd & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	906	106	36	1382	20	77	55	10	10	47	135
Future Volume (veh/h)	206	906	106	36	1382	20	77	55	10	10	47	135
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.98	0.99		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1863	1784	1900	1863	1776	1863	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	212	934	91	37	1425	0	79	57	4	10	48	0
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	0	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	7	7	2	7	2	2	2	2	2	2	2
Cap, veh/h	232	1942	189	343	2317	1087	161	130	9	43	123	120
Arrive On Green	0.26	1.00	1.00	0.39	1.00	0.00	0.08	0.08	0.08	0.08	0.08	0.00
Sat Flow, veh/h	1774	3122	304	1774	3374	1583	1336	1719	121	165	1630	1583
Grp Volume(v), veh/h	212	507	518	37	1425	0	79	0	61	58	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1730	1774	1687	1583	1336	0	1839	1795	0	1583
Q Serve(g_s), s	16.2	0.0	0.0	1.9	0.0	0.0	3.0	0.0	4.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.2	0.0	0.0	1.9	0.0	0.0	7.2	0.0	4.4	4.2	0.0	0.0
Prop In Lane	1.00		0.18	1.00		1.00	1.00		0.07	0.17		1.00
Lane Grp Cap(c), veh/h	232	1055	1077	343	2317	1087	161	0	139	166	0	120
V/C Ratio(X)	0.91	0.48	0.48	0.11	0.61	0.00	0.49	0.00	0.44	0.35	0.00	0.00
Avail Cap(c_a), veh/h	291	1055	1077	343	2317	1087	308	0	342	357	0	294
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.83	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	50.9	0.0	0.0	35.2	0.0	0.0	63.0	0.0	61.9	61.7	0.0	0.0
Incr Delay (d2), s/veh	21.5	1.3	1.3	0.1	1.2	0.0	0.9	0.0	0.8	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	0.4	0.4	0.9	0.4	0.0	3.0	0.0	2.3	2.2	0.0	0.0
LnGrp Delay(d),s/veh	72.4	1.3	1.3	35.2	1.2	0.0	63.8	0.0	62.7	62.2	0.0	0.0
LnGrp LOS	E	A	A	D	A		E		E	E		
Approach Vol, veh/h		1237			1462			140			58	
Approach Delay, s/veh		13.5			2.1			63.3			62.2	
Approach LOS		B			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.6	92.6		14.8	23.5	101.7		14.8
Change Period (Y+Rc), s	5.5	* 5.5		* 4.2	* 5.2	5.5		* 4.2
Max Green Setting (Gmax), s	12.0	* 87		* 26	* 23	76.1		* 26
Max Q Clear Time (g_c+I1), s	3.9	2.0		6.2	18.2	2.0		9.2
Green Ext Time (p_c), s	0.0	4.1		0.1	0.1	8.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	11.1
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	765	150	15	937	168	490	320	7	64	77	8
Future Volume (veh/h)	9	765	150	15	937	168	490	320	7	64	77	8
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	18	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1863	1789	1900	1863	1788	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	9	781	136	15	956	155	500	327	5	65	79	1
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	41	860	150	397	1495	242	483	923	13	140	244	3
Arrive On Green	0.05	0.59	0.59	0.23	0.52	0.52	0.26	0.25	0.25	0.08	0.07	0.07
Sat Flow, veh/h	1774	2895	504	1774	2929	475	1774	3568	54	1774	3579	45
Grp Volume(v), veh/h	9	459	458	15	554	557	500	162	170	65	39	41
Grp Sat Flow(s),veh/h/ln	1774	1700	1699	1774	1699	1704	1774	1770	1853	1774	1770	1855
Q Serve(g_s), s	0.7	33.3	33.3	0.9	32.6	32.7	37.0	10.6	10.6	4.9	2.9	2.9
Cycle Q Clear(g_c), s	0.7	33.3	33.3	0.9	32.6	32.7	37.0	10.6	10.6	4.9	2.9	2.9
Prop In Lane	1.00		0.30	1.00		0.28	1.00		0.03	1.00		0.02
Lane Grp Cap(c), veh/h	41	505	505	397	867	870	483	457	478	140	121	127
V/C Ratio(X)	0.22	0.91	0.91	0.04	0.64	0.64	1.04	0.35	0.36	0.46	0.32	0.32
Avail Cap(c_a), veh/h	139	557	557	411	881	884	469	632	662	190	367	384
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.5	26.7	26.8	42.6	25.0	25.0	50.5	43.5	43.5	61.7	62.1	62.1
Incr Delay (d2), s/veh	2.6	22.8	22.8	0.0	3.6	3.6	50.3	0.5	0.4	2.4	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	18.5	18.5	0.5	16.4	16.4	24.8	7.3	7.5	2.5	1.5	1.6
LnGrp Delay(d),s/veh	68.2	49.5	49.6	42.6	28.6	28.6	100.8	48.3	47.9	64.0	63.7	63.6
LnGrp LOS	E	D	D	D	C	C	F	D	D	E	E	E
Approach Vol, veh/h		926			1126			832			145	
Approach Delay, s/veh		49.7			28.8			79.8			63.8	
Approach LOS		D			C			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	38.0	47.1	41.2	13.8	6.9	78.1	15.7	39.2
Change Period (Y+Rc), s	5.5	* 5.5	* 4.2	* 4.2	3.7	5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	11.0	* 46	* 37	* 29	11.0	45.9	* 15	* 50
Max Q Clear Time (g_c+I1), s	2.9	35.3	39.0	4.9	2.7	34.7	6.9	12.6
Green Ext Time (p_c), s	0.0	6.3	0.0	0.3	0.0	7.7	0.1	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.9
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
1: Washington St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	245	64	218	217	99	41	744	203	88	800	48
Future Volume (veh/h)	80	245	64	218	217	99	41	744	203	88	800	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	1	14	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1796	1900	1759	1790	1900	1863	1759	1900	1863	1765	1900
Adj Flow Rate, veh/h	80	245	64	218	217	94	41	744	199	88	800	45
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	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
Percent Heavy Veh, %	8	8	8	8	8	8	2	8	8	2	8	8
Cap, veh/h	84	258	67	343	285	58	138	872	233	110	1017	57
Arrive On Green	0.24	0.24	0.24	0.07	0.07	0.07	0.09	0.34	0.34	0.06	0.32	0.32
Sat Flow, veh/h	354	1086	284	1675	1184	513	1774	2598	695	1774	3226	181
Grp Volume(v), veh/h	389	0	0	218	0	311	41	479	464	88	416	429
Grp Sat Flow(s),veh/h/ln	1724	0	0	1675	0	1697	1774	1671	1622	1774	1677	1730
Q Serve(g_s), s	27.8	0.0	0.0	15.9	0.0	22.7	2.7	32.9	32.9	6.1	28.2	28.2
Cycle Q Clear(g_c), s	27.8	0.0	0.0	15.9	0.0	22.7	2.7	32.9	32.9	6.1	28.2	28.2
Prop In Lane	0.21		0.16	1.00		0.30	1.00		0.43	1.00		0.10
Lane Grp Cap(c), veh/h	410	0	0	343	0	383	138	561	544	110	528	545
V/C Ratio(X)	0.95	0.00	0.00	0.64	0.00	0.81	0.30	0.85	0.85	0.80	0.79	0.79
Avail Cap(c_a), veh/h	410	0	0	389	0	394	152	575	558	114	528	545
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.90	0.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	0.0	0.0	53.9	0.0	57.4	54.5	38.7	38.7	57.9	39.0	39.0
Incr Delay (d2), s/veh	31.5	0.0	0.0	1.6	0.0	10.1	0.4	15.2	15.6	29.2	11.2	10.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.2	0.0	51.5	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.8	0.0	0.0	7.7	0.0	19.2	1.4	17.7	17.2	3.9	14.7	15.1
LnGrp Delay(d),s/veh	78.4	0.0	0.0	55.6	0.0	119.1	54.9	53.8	54.2	87.1	50.2	49.9
LnGrp LOS	E			E		F	D	D	D	F	D	D
Approach Vol, veh/h		389			529			984			933	
Approach Delay, s/veh		78.4			92.9			54.1			53.6	
Approach LOS		E			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.7	47.8		35.0	15.5	44.0		30.5
Change Period (Y+Rc), s	4.0	* 4.8		* 5.3	4.8	* 4.6		5.0
Max Green Setting (Gmax), s	8.0	* 39		* 30	8.0	* 39		29.0
Max Q Clear Time (g_c+I1), s	8.1	34.9		29.8	4.7	30.2		24.7
Green Ext Time (p_c), s	0.0	1.9		0.0	0.0	2.6		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	64.5
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
2: E D St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	465	80	547	470	45	56	124	505	14	181	11
Future Volume (veh/h)	7	465	80	547	470	45	56	124	505	14	181	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	6	3	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1699	1863	1863	1696	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	7	465	79	547	470	36	56	124	505	14	181	7
Adj No. of Lanes	0	1	1	1	1	1	0	1	1	1	1	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
Percent Heavy Veh, %	12	12	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	29	370	441	569	1087	1013	58	128	669	252	253	10
Arrive On Green	0.28	0.28	0.28	0.32	0.64	0.64	0.10	0.10	0.10	0.14	0.14	0.14
Sat Flow, veh/h	8	1682	1566	1774	1696	1581	571	1264	1583	1774	1777	69
Grp Volume(v), veh/h	472	0	79	547	470	36	180	0	505	14	0	188
Grp Sat Flow(s),veh/h/ln	1690	0	1566	1774	1696	1581	1834	0	1583	1774	0	1845
Q Serve(g_s), s	11.2	0.0	4.8	37.8	17.2	1.0	12.2	0.0	0.0	0.9	0.0	12.2
Cycle Q Clear(g_c), s	34.8	0.0	4.8	37.8	17.2	1.0	12.2	0.0	0.0	0.9	0.0	12.2
Prop In Lane	0.01		1.00	1.00		1.00	0.31		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	349	0	441	569	1087	1013	186	0	669	252	0	263
V/C Ratio(X)	1.35	0.00	0.18	0.96	0.43	0.04	0.97	0.00	0.75	0.06	0.00	0.72
Avail Cap(c_a), veh/h	505	0	441	569	1087	1013	186	0	669	407	0	424
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.28	0.00	0.28	0.73	0.73	0.73	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.2	0.0	34.0	42.4	11.4	8.2	55.9	0.0	30.6	46.3	0.0	51.2
Incr Delay (d2), s/veh	163.3	0.0	0.3	22.8	0.9	0.0	56.0	0.0	5.2	0.1	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	20.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.9	0.0	2.1	26.4	8.8	0.5	9.1	0.0	15.7	0.4	0.0	6.4
LnGrp Delay(d),s/veh	205.5	0.0	34.2	85.5	12.4	8.3	112.0	0.0	35.8	46.4	0.0	53.9
LnGrp LOS	F		C	F	B	A	F		D	D		D
Approach Vol, veh/h		551			1053			685			202	
Approach Delay, s/veh		180.9			50.2			55.8			53.4	
Approach LOS		F			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		18.0	44.9	40.0		22.1		84.9
Change Period (Y+Rc), s		* 5.3	* 4.8	* 4.8		4.3		* 4.8
Max Green Setting (Gmax), s		* 13	* 30	* 35		28.7		* 69
Max Q Clear Time (g_c+I1), s		14.2	39.8	36.8		14.2		19.2
Green Ext Time (p_c), s		0.0	0.0	0.0		0.7		2.1

Intersection Summary	
HCM 2010 Ctrl Delay	80.9
HCM 2010 LOS	F

Notes

HCM 2010 Signalized Intersection Summary
3: Caulfield Ln & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	644	141	141	608	171	282	77	186	335	67	253
Future Volume (veh/h)	143	644	141	141	608	171	282	77	186	335	67	253
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1724	1900	1863	1696	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	143	644	141	141	608	139	282	77	168	383	0	210
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	2	0	1
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
Percent Heavy Veh, %	2	12	12	2	12	2	2	2	2	2	2	2
Cap, veh/h	223	855	187	223	1030	505	318	317	284	526	0	429
Arrive On Green	0.13	0.32	0.32	0.13	0.32	0.32	0.18	0.18	0.18	0.15	0.00	0.15
Sat Flow, veh/h	1774	2674	585	1774	3223	1579	1774	1770	1583	3548	0	1551
Grp Volume(v), veh/h	143	394	391	141	608	139	282	77	168	383	0	210
Grp Sat Flow(s),veh/h/ln	1774	1638	1621	1774	1612	1579	1774	1770	1583	1774	0	1551
Q Serve(g_s), s	6.5	18.2	18.3	6.4	13.4	5.5	13.1	3.2	8.2	8.7	0.0	9.6
Cycle Q Clear(g_c), s	6.5	18.2	18.3	6.4	13.4	5.5	13.1	3.2	8.2	8.7	0.0	9.6
Prop In Lane	1.00		0.36	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	524	518	223	1030	505	318	317	284	526	0	429
V/C Ratio(X)	0.64	0.75	0.75	0.63	0.59	0.28	0.89	0.24	0.59	0.73	0.00	0.49
Avail Cap(c_a), veh/h	231	776	768	231	1515	742	319	318	285	626	0	473
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.1	25.7	25.7	35.1	24.1	21.4	33.8	29.7	31.8	34.3	0.0	25.7
Incr Delay (d2), s/veh	4.2	3.2	3.3	3.9	0.8	0.4	24.3	0.3	2.8	3.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	8.7	8.6	3.4	6.0	2.5	8.6	1.6	3.8	4.5	0.0	4.2
LnGrp Delay(d),s/veh	39.3	29.0	29.1	38.9	24.9	21.9	58.1	30.0	34.7	37.5	0.0	26.4
LnGrp LOS	D	C	C	D	C	C	E	C	C	D		C
Approach Vol, veh/h		928			888			527			593	
Approach Delay, s/veh		30.6			26.6			46.5			33.5	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	32.3		17.6	14.6	32.3		19.9
Change Period (Y+Rc), s	4.0	* 5.3		* 5.1	4.0	5.3		4.8
Max Green Setting (Gmax), s	11.0	* 40		* 15	11.0	39.7		15.2
Max Q Clear Time (g_c+I1), s	8.4	20.3		11.6	8.5	15.4		15.1
Green Ext Time (p_c), s	0.0	6.7		0.6	0.0	6.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	32.9
HCM 2010 LOS	C

Notes

HCM 2010 Signalized Intersection Summary
4: In-n-Out Driveway/US 101 SB Ramps & Lakeville St/Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	766	3	6	716	312	5	1	7	968	9	216
Future Volume (veh/h)	353	766	3	6	716	312	5	1	7	968	9	216
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1793	1900	1863	1792	1792	1900	1863	1900	1792	1794	1792
Adj Flow Rate, veh/h	353	766	3	6	716	25	5	1	0	974	0	46
Adj No. of Lanes	2	2	0	1	2	1	0	1	0	2	0	1
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
Percent Heavy Veh, %	6	6	6	2	6	6	2	2	2	6	2	6
Cap, veh/h	708	1792	7	27	1027	458	22	4	0	1026	0	784
Arrive On Green	0.21	0.51	0.51	0.00	0.10	0.10	0.02	0.02	0.00	0.30	0.00	0.30
Sat Flow, veh/h	3312	3480	14	1774	3406	1519	1490	298	0	3414	0	1524
Grp Volume(v), veh/h	353	375	394	6	716	25	6	0	0	974	0	46
Grp Sat Flow(s),veh/h/ln	1656	1703	1790	1774	1703	1519	1788	0	0	1707	0	1524
Q Serve(g_s), s	11.7	17.1	17.1	0.4	25.4	1.9	0.4	0.0	0.0	34.9	0.0	0.0
Cycle Q Clear(g_c), s	11.7	17.1	17.1	0.4	25.4	1.9	0.4	0.0	0.0	34.9	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.83		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	708	877	922	27	1027	458	27	0	0	1026	0	784
V/C Ratio(X)	0.50	0.43	0.43	0.22	0.70	0.05	0.22	0.00	0.00	0.95	0.00	0.06
Avail Cap(c_a), veh/h	708	877	922	142	1027	458	143	0	0	1038	0	789
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.60	0.93	0.93	0.93	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.2	18.9	18.9	61.5	50.8	40.1	60.8	0.0	0.0	42.8	0.0	15.2
Incr Delay (d2), s/veh	0.3	0.9	0.9	3.9	3.7	0.2	4.1	0.0	0.0	17.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	8.2	8.7	0.2	12.5	0.8	0.2	0.0	0.0	18.9	0.0	0.8
LnGrp Delay(d),s/veh	43.6	19.8	19.7	65.4	54.4	40.4	64.9	0.0	0.0	59.9	0.0	15.2
LnGrp LOS	D	B	B	E	D	D	E			E		B
Approach Vol, veh/h		1122			747			6			1020	
Approach Delay, s/veh		27.2			54.0			64.9			57.8	
Approach LOS		C			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	70.4		42.5	32.7	43.7		6.1
Change Period (Y+Rc), s	* 4.2	6.0		4.9	6.0	* 6		4.2
Max Green Setting (Gmax), s	* 10	47.7		38.0	20.0	* 38		10.0
Max Q Clear Time (g_c+I1), s	2.4	19.1		36.9	13.7	27.4		2.4
Green Ext Time (p_c), s	0.0	9.6		0.7	0.7	5.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	45.0
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Lakeville Hwy & US 101 NB Ramps

06/28/2018

Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	129	1579	866	836	251	155		
Future Volume (veh/h)	129	1579	866	836	251	155		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1827	1827	1863	1863	1827	1827		
Adj Flow Rate, veh/h	129	1579	866	17	251	61		
Adj No. of Lanes	1	2	2	1	2	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	4	4	2	2	4	4		
Cap, veh/h	151	2805	2419	1082	351	296		
Arrive On Green	0.17	1.00	0.68	0.68	0.10	0.10		
Sat Flow, veh/h	1740	3563	3632	1583	3375	1553		
Grp Volume(v), veh/h	129	1579	866	17	251	61		
Grp Sat Flow(s),veh/h/ln	1740	1736	1770	1583	1688	1553		
Q Serve(g_s), s	9.0	0.0	12.8	0.4	9.0	4.1		
Cycle Q Clear(g_c), s	9.0	0.0	12.8	0.4	9.0	4.1		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	151	2805	2419	1082	351	296		
V/C Ratio(X)	0.85	0.56	0.36	0.02	0.72	0.21		
Avail Cap(c_a), veh/h	153	2805	2419	1082	837	520		
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.73	0.73	0.61	0.61	1.00	1.00		
Uniform Delay (d), s/veh	50.9	0.0	8.3	6.3	54.2	42.6		
Incr Delay (d2), s/veh	26.9	0.6	0.3	0.0	2.7	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.5	0.2	6.3	0.2	4.4	3.8		
LnGrp Delay(d),s/veh	77.8	0.6	8.5	6.3	56.9	42.9		
LnGrp LOS	E	A	A	A	E	D		
Approach Vol, veh/h		1708	883		312			
Approach Delay, s/veh		6.4	8.5		54.2			
Approach LOS		A	A		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		107.0		18.0	15.6	91.4		
Change Period (Y+Rc), s		6.0		5.0	* 4.7	6.0		
Max Green Setting (Gmax), s		83.0		31.0	* 11	67.3		
Max Q Clear Time (g_c+I1), s		2.0		11.0	11.0	14.8		
Green Ext Time (p_c), s		44.4		1.0	0.0	14.8		
Intersection Summary								
HCM 2010 Ctrl Delay			12.2					
HCM 2010 LOS			B					
Notes								

HCM 2010 Signalized Intersection Summary
6: Baywood Dr & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	1637	27	9	1342	33	56	5	16	36	21	324
Future Volume (veh/h)	86	1637	27	9	1342	33	56	5	16	36	21	324
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1777	1900	1863	1778	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	86	1637	25	9	1342	31	56	5	4	36	21	203
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	135	1653	25	273	1932	45	134	155	124	91	255	337
Arrive On Green	0.10	0.65	0.65	0.10	0.38	0.38	0.08	0.16	0.16	0.05	0.14	0.14
Sat Flow, veh/h	1774	3404	52	1774	3375	78	1774	960	768	1774	1863	1583
Grp Volume(v), veh/h	86	811	851	9	671	702	56	0	9	36	21	203
Grp Sat Flow(s),veh/h/ln	1774	1688	1768	1774	1689	1764	1774	0	1727	1774	1863	1583
Q Serve(g_s), s	5.8	58.9	59.3	0.6	41.7	41.8	3.8	0.0	0.5	2.5	1.2	14.5
Cycle Q Clear(g_c), s	5.8	58.9	59.3	0.6	41.7	41.8	3.8	0.0	0.5	2.5	1.2	14.5
Prop In Lane	1.00		0.03	1.00		0.04	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	135	820	858	273	967	1010	134	0	278	91	255	337
V/C Ratio(X)	0.64	0.99	0.99	0.03	0.69	0.70	0.42	0.00	0.03	0.40	0.08	0.60
Avail Cap(c_a), veh/h	213	820	858	273	967	1010	156	0	456	142	477	526
HCM Platoon Ratio	1.33	1.33	1.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	0.85	0.85	0.85	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	21.8	21.9	47.7	29.3	29.4	55.2	0.0	44.2	57.4	47.1	44.4
Incr Delay (d2), s/veh	3.9	25.4	25.3	0.0	3.5	3.4	4.4	0.0	0.0	5.8	0.1	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	32.7	34.3	0.3	20.4	21.3	2.0	0.0	0.3	1.4	0.6	6.5
LnGrp Delay(d),s/veh	58.5	47.2	47.2	47.7	32.8	32.7	59.6	0.0	44.3	63.2	47.2	46.1
LnGrp LOS	E	D	D	D	C	C	E		D	E	D	D
Approach Vol, veh/h		1748			1382			65			260	
Approach Delay, s/veh		47.7			32.9			57.5			48.6	
Approach LOS		D			C			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.5	66.0	13.1	21.3	13.7	76.8	10.1	24.3				
Change Period (Y+Rc), s	5.3	* 5.3	3.7	* 4.2	* 4.2	5.3	3.7	* 4.2				
Max Green Setting (Gmax), s	3.9	* 61	11.0	* 32	* 15	49.6	10.0	* 33				
Max Q Clear Time (g_c+I1), s	2.6	61.3	5.8	16.5	7.8	43.8	4.5	2.5				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.7	0.1	4.9	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			42.0									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary
7: Casa Grande Rd & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1455	47	28	1016	10	100	57	24	15	51	278
Future Volume (veh/h)	142	1455	47	28	1016	10	100	57	24	15	51	278
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1778	1900	1863	1776	1863	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	142	1455	44	28	1016	0	100	57	9	15	51	4
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	0	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	2	2	2	2	2	2	2
Cap, veh/h	166	1771	53	395	2226	1045	185	200	32	66	193	200
Arrive On Green	0.19	1.00	1.00	0.44	1.00	0.00	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1774	3349	101	1774	3374	1583	1336	1569	248	243	1520	1572
Grp Volume(v), veh/h	142	733	766	28	1016	0	100	0	66	66	0	4
Grp Sat Flow(s),veh/h/ln	1774	1689	1760	1774	1687	1583	1336	0	1817	1763	0	1572
Q Serve(g_s), s	9.7	0.0	0.0	1.1	0.0	0.0	9.2	0.0	4.1	0.0	0.0	0.3
Cycle Q Clear(g_c), s	9.7	0.0	0.0	1.1	0.0	0.0	13.2	0.0	4.1	4.0	0.0	0.3
Prop In Lane	1.00		0.06	1.00		1.00	1.00		0.14	0.23		1.00
Lane Grp Cap(c), veh/h	166	893	931	395	2226	1045	185	0	231	260	0	200
V/C Ratio(X)	0.85	0.82	0.82	0.07	0.46	0.00	0.54	0.00	0.29	0.25	0.00	0.02
Avail Cap(c_a), veh/h	199	893	931	395	2226	1045	346	0	451	466	0	390
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.58	0.58	0.58	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.0	0.0	0.0	27.3	0.0	0.0	55.3	0.0	49.4	49.4	0.0	47.7
Incr Delay (d2), s/veh	14.3	5.0	4.9	0.0	0.7	0.0	0.9	0.0	0.2	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	1.2	1.3	0.6	0.2	0.0	3.4	0.0	2.1	2.1	0.0	0.1
LnGrp Delay(d),s/veh	64.2	5.0	4.9	27.3	0.7	0.0	56.2	0.0	49.7	49.6	0.0	47.8
LnGrp LOS	E	A	A	C	A		E		D	D		D
Approach Vol, veh/h		1641			1044			166			70	
Approach Delay, s/veh		10.1			1.4			53.6			49.4	
Approach LOS		B			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	33.3	71.6		20.1	16.9	88.0		20.1
Change Period (Y+Rc), s	5.5	* 5.5		* 4.2	* 5.2	5.5		* 4.2
Max Green Setting (Gmax), s	13.0	* 66		* 31	* 14	65.1		* 31
Max Q Clear Time (g_c+I1), s	3.1	2.0		6.0	11.7	2.0		15.2
Green Ext Time (p_c), s	0.0	7.5		0.2	0.0	4.9		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	945	493	31	766	78	266	146	9	186	267	19
Future Volume (veh/h)	19	945	493	31	766	78	266	146	9	186	267	19
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	15	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1805	1900	1863	1783	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	945	392	31	766	70	266	146	4	186	267	16
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	496	1306	477	103	919	84	294	522	14	214	363	22
Arrive On Green	0.56	1.00	1.00	0.06	0.29	0.29	0.17	0.15	0.15	0.12	0.11	0.11
Sat Flow, veh/h	1774	2372	974	1774	3140	287	1774	3519	96	1774	3393	202
Grp Volume(v), veh/h	19	680	657	31	413	423	266	73	77	186	139	144
Grp Sat Flow(s),veh/h/ln	1774	1714	1632	1774	1694	1733	1774	1770	1846	1774	1770	1826
Q Serve(g_s), s	0.6	0.0	0.0	2.1	28.5	28.5	18.4	4.6	4.6	12.9	9.5	9.6
Cycle Q Clear(g_c), s	0.6	0.0	0.0	2.1	28.5	28.5	18.4	4.6	4.6	12.9	9.5	9.6
Prop In Lane	1.00		0.60	1.00		0.17	1.00		0.05	1.00		0.11
Lane Grp Cap(c), veh/h	496	906	869	103	496	507	294	262	274	214	189	195
V/C Ratio(X)	0.04	0.75	0.76	0.30	0.83	0.83	0.90	0.28	0.28	0.87	0.73	0.74
Avail Cap(c_a), veh/h	496	906	862	156	568	581	355	467	487	284	411	424
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	0.0	56.4	41.4	41.4	51.2	47.3	47.3	54.0	54.1	54.1
Incr Delay (d2), s/veh	0.0	5.7	6.1	1.6	15.1	14.9	23.0	0.6	0.6	19.4	5.4	5.4
Initial Q Delay(d3),s/veh	0.0	2.0	2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.9	2.0	1.1	15.4	15.7	10.9	2.3	2.4	7.5	4.9	5.1
LnGrp Delay(d),s/veh	20.0	7.7	8.3	58.1	56.5	56.2	74.1	47.9	47.9	73.4	59.4	59.5
LnGrp LOS	C	A	A	E	E	E	E	D	D	E	E	E
Approach Vol, veh/h		1356			867			416			469	
Approach Delay, s/veh		8.1			56.4			64.7			65.0	
Approach LOS		A			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	71.6	24.9	17.6	40.4	42.1	19.8	22.7
Change Period (Y+Rc), s	3.7	5.5	* 4.2	* 4.2	5.5	* 5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	11.0	42.9	* 25	* 29	12.0	* 42	* 20	* 33
Max Q Clear Time (g_c+I1), s	4.1	2.0	20.4	11.6	2.6	30.5	14.9	6.6
Green Ext Time (p_c), s	0.0	23.2	0.3	1.4	0.0	6.0	0.2	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	37.7
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
1: Washington St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	235	80	223	275	142	84	939	190	126	943	109
Future Volume (veh/h)	105	235	80	223	275	142	84	939	190	126	943	109
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	12	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1803	1900	1759	1793	1900	1863	1759	1900	1863	1769	1900
Adj Flow Rate, veh/h	105	235	79	223	275	138	84	939	181	126	943	106
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	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
Percent Heavy Veh, %	8	8	8	8	8	8	2	8	8	2	8	8
Cap, veh/h	107	239	80	365	358	27	251	1068	206	114	916	103
Arrive On Green	0.25	0.25	0.25	0.07	0.07	0.07	0.14	0.38	0.38	0.06	0.30	0.30
Sat Flow, veh/h	431	964	324	1675	1121	563	1774	2784	536	1774	3037	341
Grp Volume(v), veh/h	419	0	0	223	0	413	84	563	557	126	522	527
Grp Sat Flow(s),veh/h/ln	1719	0	0	1675	0	1684	1774	1671	1649	1774	1681	1698
Q Serve(g_s), s	30.1	0.0	0.0	16.0	0.0	27.0	5.3	38.9	38.9	8.0	37.4	37.4
Cycle Q Clear(g_c), s	30.1	0.0	0.0	16.0	0.0	27.0	5.3	38.9	38.9	8.0	37.4	37.4
Prop In Lane	0.25		0.19	1.00		0.33	1.00		0.33	1.00		0.20
Lane Grp Cap(c), veh/h	426	0	0	365	0	385	251	641	633	114	507	512
V/C Ratio(X)	0.98	0.00	0.00	0.61	0.00	1.07	0.33	0.88	0.88	1.10	1.03	1.03
Avail Cap(c_a), veh/h	426	0	0	365	0	367	251	641	633	114	507	512
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.84	0.00	0.84	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.4	0.0	0.0	52.5	0.0	57.5	47.9	35.5	35.6	58.0	43.3	43.3
Incr Delay (d2), s/veh	39.3	0.0	0.0	1.8	0.0	62.8	0.3	15.8	16.1	113.8	47.7	47.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	98.1	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.0	0.0	0.0	7.6	0.0	32.0	2.6	20.6	20.5	7.5	24.0	24.3
LnGrp Delay(d),s/veh	85.7	0.0	0.0	54.3	0.0	218.5	48.2	51.3	51.6	171.8	91.0	90.9
LnGrp LOS	F			D		F	D	D	D	F	F	F
Approach Vol, veh/h		419			636			1204			1175	
Approach Delay, s/veh		85.7			160.9			51.2			99.6	
Approach LOS		F			F			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	52.6		36.0	22.6	42.0		32.0
Change Period (Y+Rc), s	4.0	* 4.8		* 5.3	4.8	* 4.6		5.0
Max Green Setting (Gmax), s	8.0	* 39		* 31	10.0	* 37		27.0
Max Q Clear Time (g_c+I1), s	10.0	40.9		32.1	7.3	39.4		29.0
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	92.3
HCM 2010 LOS	F

Notes

HCM 2010 Signalized Intersection Summary
2: E D St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	480	76	533	511	33	103	183	697	19	199	14
Future Volume (veh/h)	9	480	76	533	511	33	103	183	697	19	199	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	8	3	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.92
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1699	1863	1863	1696	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	9	480	76	533	511	27	103	183	697	19	199	13
Adj No. of Lanes	0	1	1	1	1	1	0	1	1	1	1	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
Percent Heavy Veh, %	12	12	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	30	286	393	502	973	903	99	177	687	283	274	18
Arrive On Green	0.25	0.25	0.25	0.28	0.57	0.57	0.15	0.15	0.15	0.16	0.16	0.16
Sat Flow, veh/h	8	1492	1561	1774	1696	1574	659	1171	1583	1774	1720	112
Grp Volume(v), veh/h	489	0	76	533	511	27	286	0	697	19	0	212
Grp Sat Flow(s),veh/h/ln	1500	0	1561	1774	1696	1574	1830	0	1583	1774	0	1832
Q Serve(g_s), s	8.4	0.0	4.7	35.1	22.8	0.9	18.7	0.0	18.7	1.1	0.0	13.6
Cycle Q Clear(g_c), s	31.2	0.0	4.7	35.1	22.8	0.9	18.7	0.0	18.7	1.1	0.0	13.6
Prop In Lane	0.02		1.00	1.00		1.00	0.36		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	294	0	393	502	973	903	276	0	687	283	0	292
V/C Ratio(X)	1.66	0.00	0.19	1.06	0.53	0.03	1.04	0.00	1.01	0.07	0.00	0.73
Avail Cap(c_a), veh/h	407	0	393	502	973	903	276	0	687	439	0	454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	0.67	0.67	0.67	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.6	0.0	36.5	44.4	16.4	11.5	52.7	0.0	35.1	44.3	0.0	49.5
Incr Delay (d2), s/veh	299.1	0.0	0.1	50.2	1.4	0.0	64.0	0.0	38.0	0.1	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	52.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	33.6	0.0	2.1	32.2	11.6	0.4	14.3	0.0	15.1	0.6	0.0	7.1
LnGrp Delay(d),s/veh	341.7	0.0	36.6	146.9	17.9	11.5	116.6	0.0	73.0	44.3	0.0	52.1
LnGrp LOS	F		D	F	B	B	F		F	D		D
Approach Vol, veh/h		565			1071			983			231	
Approach Delay, s/veh		300.7			81.9			85.7			51.4	
Approach LOS		F			F			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		24.0	39.9	36.0		24.1		75.9
Change Period (Y+Rc), s		* 5.3	* 4.8	* 4.8		4.3		* 4.8
Max Green Setting (Gmax), s		* 19	* 25	* 31		30.7		* 60
Max Q Clear Time (g_c+I1), s		20.7	37.1	33.2		15.6		24.8
Green Ext Time (p_c), s		0.0	0.0	0.0		0.9		2.3

Intersection Summary	
HCM 2010 Ctrl Delay	124.1
HCM 2010 LOS	F

Notes

HCM 2010 Signalized Intersection Summary
3: Caulfield Ln & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	589	319	234	756	424	282	144	175	244	86	158
Future Volume (veh/h)	233	589	319	234	756	424	282	144	175	244	86	158
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1751	1900	1863	1696	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	233	589	316	234	756	400	282	144	162	165	197	116
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	1	1
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
Percent Heavy Veh, %	2	12	12	2	12	2	2	2	2	2	2	2
Cap, veh/h	219	741	397	219	1141	560	302	302	270	243	255	409
Arrive On Green	0.12	0.35	0.35	0.12	0.35	0.35	0.17	0.17	0.17	0.14	0.14	0.14
Sat Flow, veh/h	1774	2093	1122	1774	3223	1581	1774	1770	1583	1774	1863	1563
Grp Volume(v), veh/h	233	468	437	234	756	400	282	144	162	165	197	116
Grp Sat Flow(s),veh/h/ln	1774	1664	1551	1774	1612	1581	1774	1770	1583	1774	1863	1563
Q Serve(g_s), s	11.0	22.6	22.6	11.0	17.7	19.5	14.0	6.6	8.4	7.9	9.1	5.3
Cycle Q Clear(g_c), s	11.0	22.6	22.6	11.0	17.7	19.5	14.0	6.6	8.4	7.9	9.1	5.3
Prop In Lane	1.00		0.72	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	589	549	219	1141	560	302	302	270	243	255	409
V/C Ratio(X)	1.06	0.79	0.80	1.07	0.66	0.71	0.93	0.48	0.60	0.68	0.77	0.28
Avail Cap(c_a), veh/h	219	746	696	219	1435	704	302	302	270	296	311	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.1	25.9	25.9	39.1	24.3	24.9	36.5	33.4	34.2	36.6	37.1	26.4
Incr Delay (d2), s/veh	79.0	5.4	5.8	80.4	1.1	3.2	34.3	0.9	3.2	3.9	8.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	11.2	10.5	10.2	8.0	8.9	9.7	3.3	3.9	4.1	5.3	2.3
LnGrp Delay(d),s/veh	118.1	31.3	31.7	119.5	25.4	28.1	70.8	34.3	37.4	40.5	45.6	26.6
LnGrp LOS	F	C	C	F	C	C	E	C	D	D	D	C
Approach Vol, veh/h		1138			1390			588			478	
Approach Delay, s/veh		49.2			42.0			52.7			39.3	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.0	36.9		17.3	15.0	36.9		20.0
Change Period (Y+Rc), s	4.0	* 5.3		* 5.1	4.0	5.3		4.8
Max Green Setting (Gmax), s	11.0	* 40		* 15	11.0	39.7		15.2
Max Q Clear Time (g_c+I1), s	13.0	24.6		11.1	13.0	21.5		16.0
Green Ext Time (p_c), s	0.0	7.0		0.6	0.0	8.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	45.7
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
4: In-n-Out Driveway/US 101 SB Ramps & Lakeville St/Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	731	8	28	1240	245	12	3	14	618	14	248
Future Volume (veh/h)	210	731	8	28	1240	245	12	3	14	618	14	248
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1793	1900	1863	1792	1792	1900	1863	1900	1792	1795	1792
Adj Flow Rate, veh/h	210	731	7	28	1240	17	12	3	0	628	0	78
Adj No. of Lanes	2	2	0	1	2	1	0	1	0	2	0	1
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
Percent Heavy Veh, %	6	6	6	2	6	6	2	2	2	6	2	6
Cap, veh/h	266	1210	12	442	1810	807	45	11	0	747	0	456
Arrive On Green	0.08	0.35	0.35	0.08	0.18	0.18	0.03	0.03	0.00	0.22	0.00	0.22
Sat Flow, veh/h	3312	3458	33	1774	3406	1519	1433	358	0	3414	0	1524
Grp Volume(v), veh/h	210	360	378	28	1240	17	15	0	0	628	0	78
Grp Sat Flow(s),veh/h/ln	1656	1704	1787	1774	1703	1519	1791	0	0	1707	0	1524
Q Serve(g_s), s	8.7	24.4	24.4	2.0	47.8	1.3	1.1	0.0	0.0	24.7	0.0	5.3
Cycle Q Clear(g_c), s	8.7	24.4	24.4	2.0	47.8	1.3	1.1	0.0	0.0	24.7	0.0	5.3
Prop In Lane	1.00		0.02	1.00		1.00	0.80		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	266	596	626	442	1810	807	57	0	0	747	0	456
V/C Ratio(X)	0.79	0.60	0.60	0.06	0.69	0.02	0.27	0.00	0.00	0.84	0.00	0.17
Avail Cap(c_a), veh/h	568	596	626	442	1810	807	166	0	0	1097	0	612
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.58	0.58	0.58	0.76	0.76	0.76	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.2	37.5	37.5	49.2	46.7	27.6	66.2	0.0	0.0	52.4	0.0	36.2
Incr Delay (d2), s/veh	3.1	2.6	2.5	0.0	1.6	0.0	2.5	0.0	0.0	4.9	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	11.9	12.5	1.0	23.0	0.6	0.6	0.0	0.0	12.1	0.0	2.3
LnGrp Delay(d),s/veh	66.3	40.1	40.0	49.2	48.4	27.6	68.7	0.0	0.0	57.2	0.0	36.5
LnGrp LOS	E	D	D	D	D	C	E			E		D
Approach Vol, veh/h		948			1285			15			706	
Approach Delay, s/veh		45.9			48.1			68.7			54.9	
Approach LOS		D			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	40.9	55.0		35.5	15.5	80.4		8.6
Change Period (Y+Rc), s	6.0	* 6		4.9	* 4.2	6.0		4.2
Max Green Setting (Gmax), s	13.7	* 49		45.0	* 24	38.7		13.0
Max Q Clear Time (g_c+I1), s	4.0	26.4		26.7	10.7	49.8		3.1
Green Ext Time (p_c), s	0.0	8.2		4.0	0.5	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.1
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Lakeville Hwy & US 101 NB Ramps

06/28/2018

Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	168	1220	1055	865	310	458		
Future Volume (veh/h)	168	1220	1055	865	310	458		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1827	1827	1863	1863	1827	1827		
Adj Flow Rate, veh/h	168	1220	1055	19	310	329		
Adj No. of Lanes	1	2	2	1	2	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	4	4	2	2	4	4		
Cap, veh/h	137	2481	2133	954	698	443		
Arrive On Green	0.10	0.95	0.60	0.60	0.21	0.21		
Sat Flow, veh/h	1740	3563	3632	1583	3375	1553		
Grp Volume(v), veh/h	168	1220	1055	19	310	329		
Grp Sat Flow(s),veh/h/ln	1740	1736	1770	1583	1688	1553		
Q Serve(g_s), s	11.0	4.6	23.6	0.7	11.2	26.9		
Cycle Q Clear(g_c), s	11.0	4.6	23.6	0.7	11.2	26.9		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	137	2481	2133	954	698	443		
V/C Ratio(X)	1.23	0.49	0.49	0.02	0.44	0.74		
Avail Cap(c_a), veh/h	137	2481	2133	954	699	444		
HCM Platoon Ratio	1.33	1.33	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.84	0.84	0.31	0.31	1.00	1.00		
Uniform Delay (d), s/veh	62.7	1.1	15.7	11.2	48.5	45.4		
Incr Delay (d2), s/veh	145.3	0.6	0.3	0.0	0.4	6.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.8	2.1	11.5	0.3	5.3	22.7		
LnGrp Delay(d),s/veh	208.0	1.7	16.0	11.2	49.0	52.0		
LnGrp LOS	F	A	B	B	D	D		
Approach Vol, veh/h		1388	1074		639			
Approach Delay, s/veh		26.7	15.9		50.5			
Approach LOS		C	B		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		106.1		33.9	15.7	90.4		
Change Period (Y+Rc), s		6.0		5.0	* 4.7	6.0		
Max Green Setting (Gmax), s		100.0		29.0	* 11	84.3		
Max Q Clear Time (g_c+I1), s		6.6		28.9	13.0	25.6		
Green Ext Time (p_c), s		29.0		0.0	0.0	20.4		
Intersection Summary								
HCM 2010 Ctrl Delay			27.9					
HCM 2010 LOS			C					
Notes								

HCM 2010 Signalized Intersection Summary
6: Baywood Dr & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	1237	27	17	1634	52	107	43	24	19	12	162
Future Volume (veh/h)	234	1237	27	17	1634	52	107	43	24	19	12	162
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1777	1900	1863	1778	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	234	1237	25	17	1634	50	107	43	7	19	12	27
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	259	1780	36	332	1924	59	137	134	22	116	144	354
Arrive On Green	0.05	0.17	0.17	0.13	0.39	0.39	0.08	0.09	0.09	0.07	0.08	0.08
Sat Flow, veh/h	1774	3386	68	1774	3347	102	1774	1561	254	1774	1863	1583
Grp Volume(v), veh/h	234	617	645	17	822	862	107	0	50	19	12	27
Grp Sat Flow(s),veh/h/ln	1774	1689	1765	1774	1689	1760	1774	0	1815	1774	1863	1583
Q Serve(g_s), s	18.4	48.1	48.1	1.2	62.2	62.7	8.3	0.0	3.6	1.4	0.8	1.9
Cycle Q Clear(g_c), s	18.4	48.1	48.1	1.2	62.2	62.7	8.3	0.0	3.6	1.4	0.8	1.9
Prop In Lane	1.00		0.04	1.00		0.06	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	259	888	928	332	971	1012	137	0	155	116	144	354
V/C Ratio(X)	0.90	0.69	0.70	0.05	0.85	0.85	0.78	0.00	0.32	0.16	0.08	0.08
Avail Cap(c_a), veh/h	274	888	928	332	971	1012	266	0	415	116	266	458
HCM Platoon Ratio	0.33	0.33	0.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.70	0.70	0.70	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.6	47.3	47.3	50.3	37.4	37.6	63.4	0.0	60.2	61.8	60.0	42.9
Incr Delay (d2), s/veh	26.6	3.9	3.7	0.0	6.6	6.5	18.2	0.0	1.2	1.4	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	23.5	24.5	0.6	30.9	32.3	4.8	0.0	1.9	0.7	0.4	0.8
LnGrp Delay(d),s/veh	92.2	51.2	51.0	50.3	44.0	44.1	81.6	0.0	61.4	63.2	60.2	43.0
LnGrp LOS	F	D	D	D	D	D	F		E	E	E	D
Approach Vol, veh/h		1496			1701			157			58	
Approach Delay, s/veh		57.5			44.1			75.1			53.2	
Approach LOS		E			D			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.5	78.9	14.5	15.0	24.7	85.8	13.4	16.2				
Change Period (Y+Rc), s	5.3	* 5.3	3.7	* 4.2	* 4.2	5.3	* 4.2	* 4.2				
Max Green Setting (Gmax), s	8.0	* 74	21.0	* 20	* 22	60.0	* 9	* 32				
Max Q Clear Time (g_c+I1), s	3.2	50.1	10.3	3.9	20.4	64.7	3.4	5.6				
Green Ext Time (p_c), s	0.0	15.2	0.4	0.1	0.1	0.0	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			51.6									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary
7: Casa Grande Rd & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	980	108	37	1468	20	85	57	16	10	47	135
Future Volume (veh/h)	206	980	108	37	1468	20	85	57	16	10	47	135
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.98	0.99		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1863	1784	1900	1863	1776	1863	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	206	980	91	37	1468	0	85	57	10	10	47	0
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	0	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	2	2	2	2	2	2	2
Cap, veh/h	227	1951	181	337	2316	1087	167	122	21	43	129	126
Arrive On Green	0.26	1.00	1.00	0.38	1.00	0.00	0.08	0.08	0.08	0.08	0.08	0.00
Sat Flow, veh/h	1774	3136	291	1774	3374	1583	1337	1540	270	165	1629	1583
Grp Volume(v), veh/h	206	530	541	37	1468	0	85	0	67	57	0	0
Grp Sat Flow(s),veh/h/ln	1774	1695	1732	1774	1687	1583	1337	0	1810	1794	0	1583
Q Serve(g_s), s	15.8	0.0	0.0	1.9	0.0	0.0	3.7	0.0	5.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.8	0.0	0.0	1.9	0.0	0.0	7.7	0.0	5.0	4.1	0.0	0.0
Prop In Lane	1.00		0.17	1.00		1.00	1.00		0.15	0.18		1.00
Lane Grp Cap(c), veh/h	227	1054	1078	337	2316	1087	167	0	144	173	0	126
V/C Ratio(X)	0.91	0.50	0.50	0.11	0.63	0.00	0.51	0.00	0.47	0.33	0.00	0.00
Avail Cap(c_a), veh/h	291	1054	1078	337	2316	1087	309	0	336	357	0	294
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.82	0.82	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	51.3	0.0	0.0	35.8	0.0	0.0	62.7	0.0	61.6	61.2	0.0	0.0
Incr Delay (d2), s/veh	20.0	1.4	1.4	0.1	1.3	0.0	0.9	0.0	0.9	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.4	0.4	0.9	0.4	0.0	3.3	0.0	2.5	2.1	0.0	0.0
LnGrp Delay(d),s/veh	71.3	1.4	1.4	35.8	1.3	0.0	63.6	0.0	62.5	61.6	0.0	0.0
LnGrp LOS	E	A	A	D	A		E		E	E		
Approach Vol, veh/h		1277			1505			152			57	
Approach Delay, s/veh		12.7			2.2			63.1			61.6	
Approach LOS		B			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	32.1	92.6		15.3	23.1	101.6		15.3
Change Period (Y+Rc), s	5.5	* 5.5		* 4.2	* 5.2	5.5		* 4.2
Max Green Setting (Gmax), s	12.0	* 87		* 26	* 23	76.1		* 26
Max Q Clear Time (g_c+I1), s	3.9	2.0		6.1	17.8	2.0		9.7
Green Ext Time (p_c), s	0.0	4.4		0.1	0.1	8.7		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.9
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	824	151	15	1040	188	491	327	7	84	81	15
Future Volume (veh/h)	8	824	151	15	1040	188	491	327	7	84	81	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	18	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1863	1789	1900	1863	1788	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	8	824	134	15	1040	172	491	327	5	84	81	8
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	37	893	145	381	1494	247	483	914	13	146	225	22
Arrive On Green	0.04	0.61	0.61	0.22	0.52	0.52	0.26	0.25	0.25	0.08	0.07	0.07
Sat Flow, veh/h	1774	2927	476	1774	2920	482	1774	3568	54	1774	3259	318
Grp Volume(v), veh/h	8	478	480	15	604	608	491	162	170	84	43	46
Grp Sat Flow(s),veh/h/ln	1774	1699	1704	1774	1699	1703	1774	1770	1853	1774	1770	1807
Q Serve(g_s), s	0.6	35.1	35.1	0.9	37.1	37.3	37.0	10.6	10.6	6.4	3.3	3.4
Cycle Q Clear(g_c), s	0.6	35.1	35.1	0.9	37.1	37.3	37.0	10.6	10.6	6.4	3.3	3.4
Prop In Lane	1.00		0.28	1.00		0.28	1.00		0.03	1.00		0.18
Lane Grp Cap(c), veh/h	37	519	520	381	869	871	483	453	474	146	122	125
V/C Ratio(X)	0.21	0.92	0.92	0.04	0.70	0.70	1.02	0.36	0.36	0.57	0.36	0.36
Avail Cap(c_a), veh/h	139	557	559	395	883	885	469	632	662	190	367	374
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.9	25.8	25.8	43.6	26.0	26.0	50.5	43.7	43.7	61.9	62.2	62.2
Incr Delay (d2), s/veh	2.8	24.3	24.3	0.0	4.6	4.6	45.0	0.5	0.5	3.5	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	4.1	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	19.7	19.8	0.5	18.7	19.0	24.0	7.3	7.5	3.3	1.7	1.7
LnGrp Delay(d),s/veh	68.8	50.1	50.1	43.7	30.6	30.7	95.5	48.6	48.3	65.4	63.9	64.0
LnGrp LOS	E	D	D	D	C	C	F	D	D	E	E	E
Approach Vol, veh/h		966			1227			823			173	
Approach Delay, s/veh		50.3			30.8			76.5			64.6	
Approach LOS		D			C			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	36.7	48.2	41.2	13.9	6.6	78.3	16.2	38.8
Change Period (Y+Rc), s	5.5	* 5.5	* 4.2	* 4.2	3.7	5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	11.0	* 46	* 37	* 29	11.0	45.9	* 15	* 50
Max Q Clear Time (g_c+I1), s	2.9	37.1	39.0	5.4	2.6	39.3	8.4	12.6
Green Ext Time (p_c), s	0.0	5.6	0.0	0.4	0.0	5.2	0.1	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.3
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
1: Washington St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	240	40	230	210	121	50	574	171	141	857	54
Future Volume (veh/h)	44	240	40	230	210	121	50	574	171	141	857	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	1	14	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1785	1900	1759	1796	1900	1863	1759	1900	1863	1765	1900
Adj Flow Rate, veh/h	44	240	40	230	210	116	50	574	167	141	857	51
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	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
Percent Heavy Veh, %	8	8	8	8	8	8	2	8	8	2	8	8
Cap, veh/h	49	267	44	357	284	61	92	831	241	166	1168	69
Arrive On Green	0.21	0.21	0.21	0.07	0.07	0.07	0.06	0.33	0.33	0.09	0.36	0.36
Sat Flow, veh/h	235	1283	214	1675	1087	600	1774	2546	738	1774	3215	191
Grp Volume(v), veh/h	324	0	0	230	0	326	50	376	365	141	447	461
Grp Sat Flow(s),veh/h/ln	1731	0	0	1675	0	1687	1774	1671	1613	1774	1677	1729
Q Serve(g_s), s	22.8	0.0	0.0	16.7	0.0	24.0	3.4	24.2	24.4	9.8	28.9	28.9
Cycle Q Clear(g_c), s	22.8	0.0	0.0	16.7	0.0	24.0	3.4	24.2	24.4	9.8	28.9	28.9
Prop In Lane	0.14		0.12	1.00		0.36	1.00		0.46	1.00		0.11
Lane Grp Cap(c), veh/h	360	0	0	357	0	393	92	545	526	166	609	628
V/C Ratio(X)	0.90	0.00	0.00	0.64	0.00	0.83	0.54	0.69	0.69	0.85	0.73	0.73
Avail Cap(c_a), veh/h	411	0	0	389	0	391	104	556	537	170	609	628
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.92	0.00	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	0.0	53.6	0.0	57.4	57.8	36.6	36.7	55.8	34.6	34.6
Incr Delay (d2), s/veh	19.1	0.0	0.0	2.1	0.0	12.2	1.8	7.0	7.3	29.2	7.7	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.2	0.0	53.2	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.8	0.0	0.0	8.1	0.0	20.4	1.7	12.3	12.0	6.2	14.7	15.1
LnGrp Delay(d),s/veh	67.3	0.0	0.0	55.9	0.0	122.8	59.7	43.6	44.0	85.0	42.2	42.0
LnGrp LOS	E			E		F	E	D	D	F	D	D
Approach Vol, veh/h		324			556			791			1049	
Approach Delay, s/veh		67.3			95.1			44.8			47.9	
Approach LOS		E			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.7	46.4		31.3	12.1	50.0		31.6
Change Period (Y+Rc), s	4.0	* 4.8		* 5.3	4.8	* 4.6		5.0
Max Green Setting (Gmax), s	12.0	* 35		* 30	2.0	* 45		29.0
Max Q Clear Time (g_c+I1), s	11.8	26.4		24.8	5.4	30.9		26.0
Green Ext Time (p_c), s	0.0	2.4		0.6	0.0	3.5		0.6

Intersection Summary	
HCM 2010 Ctrl Delay	59.0
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
2: E D St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	430	110	416	420	41	110	204	510	43	174	21
Future Volume (veh/h)	9	430	110	416	420	41	110	204	510	43	174	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	6	3	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1700	1863	1863	1696	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	9	430	109	416	420	32	110	204	510	43	174	17
Adj No. of Lanes	0	1	1	1	1	1	0	1	1	1	1	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
Percent Heavy Veh, %	12	12	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	29	418	504	466	1056	984	75	140	602	256	240	23
Arrive On Green	0.32	0.32	0.32	0.26	0.62	0.62	0.12	0.12	0.12	0.14	0.14	0.14
Sat Flow, veh/h	13	1674	1569	1774	1696	1581	641	1189	1583	1774	1660	162
Grp Volume(v), veh/h	439	0	109	416	420	32	314	0	510	43	0	191
Grp Sat Flow(s),veh/h/ln	1687	0	1569	1774	1696	1581	1831	0	1583	1774	0	1822
Q Serve(g_s), s	4.2	0.0	6.3	28.2	15.5	1.0	14.7	0.0	4.0	2.7	0.0	12.5
Cycle Q Clear(g_c), s	29.6	0.0	6.3	28.2	15.5	1.0	14.7	0.0	4.0	2.7	0.0	12.5
Prop In Lane	0.02		1.00	1.00		1.00	0.35		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	375	0	504	466	1056	984	215	0	602	256	0	263
V/C Ratio(X)	1.17	0.00	0.22	0.89	0.40	0.03	1.46	0.00	0.85	0.17	0.00	0.73
Avail Cap(c_a), veh/h	572	0	504	466	1056	984	215	0	602	379	0	389
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.39	0.00	0.39	0.72	0.72	0.72	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.2	0.0	30.9	45.2	12.0	9.1	55.2	0.0	35.4	46.9	0.0	51.1
Incr Delay (d2), s/veh	88.2	0.0	0.4	14.4	0.8	0.0	230.2	0.0	11.2	0.2	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	11.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.0	0.0	2.8	18.2	8.0	0.4	21.2	0.0	3.5	1.3	0.0	6.5
LnGrp Delay(d),s/veh	130.3	0.0	31.3	70.7	13.0	9.1	285.3	0.0	46.6	47.1	0.0	53.9
LnGrp LOS	F		C	E	B	A	F		D	D		D
Approach Vol, veh/h		548			868			824			234	
Approach Delay, s/veh		110.6			40.5			137.6			52.7	
Approach LOS		F			D			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		20.0	37.6	45.0		22.4		82.6
Change Period (Y+Rc), s		* 5.3	* 4.8	* 4.8		4.3		* 4.8
Max Green Setting (Gmax), s		* 15	* 25	* 40		26.7		* 69
Max Q Clear Time (g_c+I1), s		16.7	30.2	31.6		14.5		17.5
Green Ext Time (p_c), s		0.0	0.0	1.4		0.8		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	89.5
HCM 2010 LOS	F

Notes

HCM 2010 Signalized Intersection Summary
3: Caulfield Ln & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	620	46	134	780	70	113	378	262	270	207	300
Future Volume (veh/h)	200	620	46	134	780	70	113	378	262	270	207	300
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1707	1900	1863	1696	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	200	620	46	134	780	38	113	378	244	238	251	257
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	1	1
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
Percent Heavy Veh, %	2	12	12	2	12	2	2	2	2	2	2	2
Cap, veh/h	221	992	73	213	1029	504	306	358	228	294	308	455
Arrive On Green	0.12	0.32	0.32	0.12	0.32	0.32	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1774	3062	227	1774	3223	1579	1774	2077	1322	1774	1863	1555
Grp Volume(v), veh/h	200	328	338	134	780	38	113	321	301	238	251	257
Grp Sat Flow(s),veh/h/ln	1774	1622	1667	1774	1612	1579	1774	1770	1629	1774	1863	1555
Q Serve(g_s), s	9.8	15.1	15.2	6.3	19.2	1.5	5.0	15.2	15.2	11.4	11.5	12.4
Cycle Q Clear(g_c), s	9.8	15.1	15.2	6.3	19.2	1.5	5.0	15.2	15.2	11.4	11.5	12.4
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.81	1.00		1.00
Lane Grp Cap(c), veh/h	221	525	540	213	1029	504	306	305	281	294	308	455
V/C Ratio(X)	0.90	0.62	0.63	0.63	0.76	0.08	0.37	1.05	1.07	0.81	0.81	0.56
Avail Cap(c_a), veh/h	221	736	757	221	1452	711	306	305	281	300	315	460
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	25.2	25.3	36.9	26.9	20.9	32.2	36.5	36.5	35.4	35.5	26.6
Incr Delay (d2), s/veh	34.7	1.7	1.7	3.8	1.9	0.1	0.6	66.0	73.5	14.6	14.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	7.0	7.2	3.3	8.7	0.7	2.5	13.0	12.5	6.7	7.1	5.5
LnGrp Delay(d),s/veh	72.7	27.0	27.0	40.7	28.9	21.0	32.8	102.5	110.0	50.0	49.8	27.9
LnGrp LOS	E	C	C	D	C	C	C	F	F	D	D	C
Approach Vol, veh/h		866			952			735			746	
Approach Delay, s/veh		37.5			30.2			94.8			42.3	
Approach LOS		D			C			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	33.8		19.7	15.0	33.4		20.0
Change Period (Y+Rc), s	4.0	* 5.3		* 5.1	4.0	5.3		4.8
Max Green Setting (Gmax), s	11.0	* 40		* 15	11.0	39.7		15.2
Max Q Clear Time (g_c+I1), s	8.3	17.2		14.4	11.8	21.2		17.2
Green Ext Time (p_c), s	0.0	5.8		0.2	0.0	6.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.3
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
4: In-n-Out Driveway/US 101 SB Ramps & Lakeville St/Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	922	10	6	756	360	5	5	7	920	5	298
Future Volume (veh/h)	310	922	10	6	756	360	5	5	7	920	5	298
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1793	1900	1863	1792	1792	1900	1863	1900	1792	1793	1792
Adj Flow Rate, veh/h	310	922	10	6	756	73	5	5	0	924	0	128
Adj No. of Lanes	2	2	0	1	2	1	0	1	0	2	0	1
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
Percent Heavy Veh, %	6	6	6	2	6	6	2	2	2	6	2	6
Cap, veh/h	705	1774	19	27	1027	458	21	21	0	1001	0	771
Arrive On Green	0.21	0.51	0.51	0.00	0.10	0.10	0.02	0.02	0.00	0.29	0.00	0.29
Sat Flow, veh/h	3312	3453	37	1774	3406	1519	909	909	0	3414	0	1524
Grp Volume(v), veh/h	310	455	477	6	756	73	10	0	0	924	0	128
Grp Sat Flow(s),veh/h/ln	1656	1704	1787	1774	1703	1519	1817	0	0	1707	0	1524
Q Serve(g_s), s	10.2	22.1	22.1	0.4	27.0	5.5	0.7	0.0	0.0	32.8	0.0	0.0
Cycle Q Clear(g_c), s	10.2	22.1	22.1	0.4	27.0	5.5	0.7	0.0	0.0	32.8	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.50		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	705	875	918	27	1027	458	43	0	0	1001	0	771
V/C Ratio(X)	0.44	0.52	0.52	0.22	0.74	0.16	0.23	0.00	0.00	0.92	0.00	0.17
Avail Cap(c_a), veh/h	705	875	918	142	1027	458	145	0	0	1038	0	788
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	0.88	0.88	0.88	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.7	20.1	20.1	61.5	51.4	41.8	59.9	0.0	0.0	42.8	0.0	16.6
Incr Delay (d2), s/veh	0.3	1.5	1.4	3.7	4.1	0.7	2.8	0.0	0.0	13.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	10.7	11.2	0.2	13.3	2.4	0.4	0.0	0.0	17.2	0.0	2.4
LnGrp Delay(d),s/veh	43.0	21.6	21.6	65.1	55.6	42.4	62.7	0.0	0.0	56.1	0.0	16.8
LnGrp LOS	D	C	C	E	E	D	E			E		B
Approach Vol, veh/h		1242			835			10			1052	
Approach Delay, s/veh		27.0			54.5			62.7			51.3	
Approach LOS		C			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	70.2		41.5	32.6	43.7		7.1
Change Period (Y+Rc), s	* 4.2	6.0		4.9	6.0	* 6		4.2
Max Green Setting (Gmax), s	* 10	47.7		38.0	20.0	* 38		10.0
Max Q Clear Time (g_c+I1), s	2.4	24.1		34.8	12.2	29.0		2.7
Green Ext Time (p_c), s	0.0	11.0		1.9	0.7	5.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	42.5
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Lakeville Hwy & US 101 NB Ramps

06/28/2018

Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	132	1490	1085	780	305	118		
Future Volume (veh/h)	132	1490	1085	780	305	118		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1827	1827	1863	1863	1827	1827		
Adj Flow Rate, veh/h	132	1490	1085	-39	305	24		
Adj No. of Lanes	1	2	2	1	2	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	4	4	2	2	4	4		
Cap, veh/h	153	2775	2385	1067	380	311		
Arrive On Green	0.18	1.00	0.67	0.00	0.11	0.11		
Sat Flow, veh/h	1740	3563	3632	1583	3375	1553		
Grp Volume(v), veh/h	132	1490	1085	-39	305	24		
Grp Sat Flow(s),veh/h/ln	1740	1736	1770	1583	1688	1553		
Q Serve(g_s), s	9.2	0.0	18.0	0.0	11.0	1.6		
Cycle Q Clear(g_c), s	9.2	0.0	18.0	0.0	11.0	1.6		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	153	2775	2385	1067	380	311		
V/C Ratio(X)	0.86	0.54	0.45	-0.04	0.80	0.08		
Avail Cap(c_a), veh/h	153	2775	2385	1067	837	522		
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.71	0.71	0.70	0.00	1.00	1.00		
Uniform Delay (d), s/veh	50.8	0.0	9.6	0.0	54.1	40.6		
Incr Delay (d2), s/veh	28.2	0.5	0.4	0.0	4.0	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.6	0.2	8.9	0.0	5.3	1.5		
LnGrp Delay(d),s/veh	79.0	0.5	10.0	0.0	58.1	40.7		
LnGrp LOS	E	A	B		E	D		
Approach Vol, veh/h		1622	1046		329			
Approach Delay, s/veh		6.9	10.4		56.9			
Approach LOS		A	B		E			

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		105.9		19.1	15.7	90.2		
Change Period (Y+Rc), s		6.0		5.0	* 4.7	6.0		
Max Green Setting (Gmax), s		83.0		31.0	* 11	67.3		
Max Q Clear Time (g_c+I1), s		2.0		13.0	11.2	20.0		
Green Ext Time (p_c), s		40.2		1.0	0.0	19.5		

Intersection Summary	
HCM 2010 Ctrl Delay	13.6
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
6: Baywood Dr & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	1782	39	16	1296	35	28	10	14	32	23	335
Future Volume (veh/h)	77	1782	39	16	1296	35	28	10	14	32	23	335
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1777	1900	1863	1778	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	77	1782	37	16	1296	33	28	10	2	32	23	214
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	116	1670	35	342	2120	54	35	177	35	86	272	335
Arrive On Green	0.09	0.66	0.66	0.13	0.42	0.42	0.02	0.12	0.12	0.05	0.15	0.15
Sat Flow, veh/h	1774	3384	70	1774	3366	86	1774	1508	302	1774	1863	1583
Grp Volume(v), veh/h	77	887	932	16	650	679	28	0	12	32	23	214
Grp Sat Flow(s),veh/h/ln	1774	1689	1765	1774	1689	1763	1774	0	1810	1774	1863	1583
Q Serve(g_s), s	5.3	61.7	61.7	1.0	37.5	37.5	2.0	0.0	0.7	2.2	1.3	15.4
Cycle Q Clear(g_c), s	5.3	61.7	61.7	1.0	37.5	37.5	2.0	0.0	0.7	2.2	1.3	15.4
Prop In Lane	1.00		0.04	1.00		0.05	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	116	833	871	342	1064	1110	35	0	212	86	272	335
V/C Ratio(X)	0.66	1.06	1.07	0.05	0.61	0.61	0.80	0.00	0.06	0.37	0.08	0.64
Avail Cap(c_a), veh/h	125	833	871	342	1064	1110	47	0	478	142	592	607
HCM Platoon Ratio	1.33	1.33	1.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	0.75	0.75	0.75	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	21.5	21.5	44.4	24.2	24.2	61.0	0.0	49.0	57.6	46.2	45.0
Incr Delay (d2), s/veh	9.1	46.5	47.9	0.0	2.0	1.9	67.0	0.0	0.1	5.7	0.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	39.1	41.2	0.5	18.1	18.9	1.6	0.0	0.4	1.2	0.7	6.9
LnGrp Delay(d),s/veh	64.8	68.0	69.4	44.4	26.2	26.1	128.1	0.0	49.1	63.3	46.3	47.0
LnGrp LOS	E	F	F	D	C	C	F		D	E	D	D
Approach Vol, veh/h		1896			1345			40			269	
Approach Delay, s/veh		68.6			26.4			104.4			48.9	
Approach LOS		E			C			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.4	67.0	6.2	22.4	12.4	84.0	9.7	18.8
Change Period (Y+Rc), s	5.3	* 5.3	3.7	* 4.2	* 4.2	5.3	3.7	* 4.2
Max Green Setting (Gmax), s	2.9	* 62	3.3	* 40	* 8.8	55.8	10.0	* 33
Max Q Clear Time (g_c+I1), s	3.0	63.7	4.0	17.4	7.3	39.5	4.2	2.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	12.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	51.5
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
7: Casa Grande Rd & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	1550	40	18	1147	45	85	58	28	29	43	268
Future Volume (veh/h)	227	1550	40	18	1147	45	85	58	28	29	43	268
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1863	1778	1900	1863	1776	1863	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	227	1550	37	18	1147	0	85	58	13	29	43	-6
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	0	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	2	2	2	2	2	2	2
Cap, veh/h	199	1783	42	458	2286	1073	173	134	30	75	92	144
Arrive On Green	0.22	1.00	1.00	0.52	1.00	0.00	0.09	0.09	0.09	0.09	0.09	0.00
Sat Flow, veh/h	1774	3372	80	1774	3374	1583	1356	1471	330	380	1004	1583
Grp Volume(v), veh/h	227	775	812	18	1147	0	85	0	71	72	0	-6
Grp Sat Flow(s),veh/h/ln	1774	1689	1764	1774	1687	1583	1356	0	1801	1384	0	1583
Q Serve(g_s), s	14.0	0.0	0.0	0.6	0.0	0.0	1.5	0.0	4.7	2.3	0.0	0.0
Cycle Q Clear(g_c), s	14.0	0.0	0.0	0.6	0.0	0.0	8.4	0.0	4.7	7.0	0.0	0.0
Prop In Lane	1.00		0.05	1.00		1.00	1.00		0.18	0.40		1.00
Lane Grp Cap(c), veh/h	199	893	933	458	2286	1073	173	0	164	167	0	144
V/C Ratio(X)	1.14	0.87	0.87	0.04	0.50	0.00	0.49	0.00	0.43	0.43	0.00	-0.04
Avail Cap(c_a), veh/h	199	893	933	458	2286	1073	386	0	447	417	0	393
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.54	0.54	0.54	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	48.5	0.0	0.0	22.5	0.0	0.0	55.5	0.0	53.7	54.5	0.0	0.0
Incr Delay (d2), s/veh	91.6	6.4	6.3	0.0	0.8	0.0	0.8	0.0	0.7	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	1.6	1.6	0.3	0.3	0.0	2.9	0.0	2.4	2.4	0.0	0.0
LnGrp Delay(d),s/veh	140.1	6.4	6.3	22.6	0.8	0.0	56.3	0.0	54.4	55.2	0.0	0.0
LnGrp LOS	F	A	A	C	A		E		D	E		
Approach Vol, veh/h		1814			1165			156			66	
Approach Delay, s/veh		23.1			1.1			55.4			60.2	
Approach LOS		C			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	37.8	71.6		15.6	19.2	90.2		15.6
Change Period (Y+Rc), s	5.5	* 5.5		* 4.2	* 5.2	5.5		* 4.2
Max Green Setting (Gmax), s	13.0	* 66		* 31	* 14	65.1		* 31
Max Q Clear Time (g_c+I1), s	2.6	2.0		9.0	16.0	2.0		10.4
Green Ext Time (p_c), s	0.0	8.4		0.2	0.0	5.8		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	17.5
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1035	726	38	836	65	98	11	206	272	15	5
Future Volume (veh/h)	5	1035	726	38	836	65	98	11	206	272	15	5
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	15	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1811	1900	1863	1782	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	5	1035	625	38	836	57	98	11	201	272	15	2
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	402	1417	239	114	980	67	483	265	237	284	130	17
Arrive On Green	0.45	0.96	0.96	0.06	0.30	0.30	0.27	0.15	0.15	0.16	0.04	0.04
Sat Flow, veh/h	1774	2106	1210	1774	3216	219	1774	1770	1580	1774	3146	410
Grp Volume(v), veh/h	5	836	824	38	440	453	98	11	201	272	8	9
Grp Sat Flow(s),veh/h/ln	1774	1720	1596	1774	1693	1743	1774	1770	1580	1774	1770	1787
Q Serve(g_s), s	0.2	60.1	60.1	2.6	30.5	30.5	5.3	0.7	15.5	19.0	0.6	0.6
Cycle Q Clear(g_c), s	0.2	60.1	60.1	2.6	30.5	30.5	5.3	0.7	15.5	19.0	0.6	0.6
Prop In Lane	1.00		0.76	1.00		0.13	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	402	827	829	114	515	531	483	265	237	284	73	74
V/C Ratio(X)	0.01	1.01	0.99	0.33	0.85	0.85	0.20	0.04	0.85	0.96	0.11	0.12
Avail Cap(c_a), veh/h	402	827	768	156	567	584	483	467	417	284	411	415
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	2.4	2.4	55.9	40.8	40.8	35.0	45.5	51.8	52.1	57.7	57.7
Incr Delay (d2), s/veh	0.0	33.8	30.0	1.7	16.3	15.9	0.2	0.1	8.3	42.0	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	31.7	30.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	32.0	30.7	1.3	16.6	17.1	2.6	0.3	7.3	12.6	0.3	0.3
LnGrp Delay(d),s/veh	26.5	67.9	62.6	57.6	57.1	56.8	35.2	45.5	60.1	94.1	58.4	58.4
LnGrp LOS	C	F	E	E	E	E	D	D	E	F	E	E
Approach Vol, veh/h		1665			931			310			289	
Approach Delay, s/veh		65.2			57.0			51.7			92.0	
Approach LOS		E			E			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	65.6	38.2	9.4	33.8	43.6	24.7	22.9
Change Period (Y+Rc), s	3.7	5.5	* 4.2	* 4.2	5.5	* 5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	11.0	42.9	* 25	* 29	12.0	* 42	* 20	* 33
Max Q Clear Time (g_c+I1), s	4.6	62.1	7.3	2.6	2.2	32.5	21.0	17.5
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	5.5	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	63.9
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
1: Washington St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	259	80	450	319	152	68	767	257	111	1023	122
Future Volume (veh/h)	60	259	80	450	319	152	68	767	257	111	1023	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	12	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1794	1900	1759	1791	1900	1863	1759	1900	1863	1770	1900
Adj Flow Rate, veh/h	60	259	79	450	319	148	68	767	248	111	1023	119
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	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
Percent Heavy Veh, %	8	8	8	8	8	8	2	8	8	2	8	8
Cap, veh/h	62	267	82	378	368	30	406	1289	417	140	1108	129
Arrive On Green	0.24	0.24	0.24	0.07	0.07	0.07	0.23	0.52	0.52	0.08	0.37	0.37
Sat Flow, veh/h	259	1116	340	1675	1153	535	1774	2473	800	1774	3027	352
Grp Volume(v), veh/h	398	0	0	450	0	467	68	518	497	111	568	574
Grp Sat Flow(s),veh/h/ln	1715	0	0	1675	0	1688	1774	1671	1602	1774	1681	1698
Q Serve(g_s), s	28.5	0.0	0.0	28.0	0.0	28.0	3.8	26.7	26.7	7.6	40.1	40.2
Cycle Q Clear(g_c), s	28.5	0.0	0.0	28.0	0.0	28.0	3.8	26.7	26.7	7.6	40.1	40.2
Prop In Lane	0.15		0.20	1.00		0.32	1.00		0.50	1.00		0.21
Lane Grp Cap(c), veh/h	411	0	0	378	0	399	406	871	835	140	616	622
V/C Ratio(X)	0.97	0.00	0.00	1.19	0.00	1.17	0.17	0.60	0.60	0.79	0.92	0.92
Avail Cap(c_a), veh/h	411	0	0	378	0	381	406	871	835	157	616	622
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.48	0.00	0.48	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	0.0	0.0	57.4	0.0	57.4	38.3	20.6	20.6	56.1	37.6	37.6
Incr Delay (d2), s/veh	36.0	0.0	0.0	97.7	0.0	89.9	0.1	3.0	3.1	18.8	21.5	21.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	86.9	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.6	0.0	0.0	23.3	0.0	35.6	1.9	13.0	12.5	4.5	22.3	22.5
LnGrp Delay(d),s/veh	82.7	0.0	0.0	155.1	0.0	234.2	38.4	23.6	23.7	74.9	59.1	59.2
LnGrp LOS	F			F		F	D	C	C	E	E	E
Approach Vol, veh/h		398			917			1083			1253	
Approach Delay, s/veh		82.7			195.4			24.6			60.6	
Approach LOS		F			F			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.8	70.2		35.0	34.0	50.0		33.0
Change Period (Y+Rc), s	4.0	* 4.8		* 5.3	4.8	* 4.6		5.0
Max Green Setting (Gmax), s	11.0	* 36		* 30	2.0	* 45		28.0
Max Q Clear Time (g_c+I1), s	9.6	28.7		30.5	5.8	42.2		30.0
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	1.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	86.2
HCM 2010 LOS	F

Notes

HCM 2010 Signalized Intersection Summary
2: E D St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	534	101	352	668	62	169	196	428	66	288	104
Future Volume (veh/h)	22	534	101	352	668	62	169	196	428	66	288	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	8	3	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.95
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1702	1863	1863	1696	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	22	534	101	352	668	56	169	196	428	66	288	103
Adj No. of Lanes	0	1	1	1	1	1	0	1	1	1	1	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
Percent Heavy Veh, %	12	12	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	30	449	648	449	1196	1110	148	171	678	396	288	103
Arrive On Green	0.41	0.41	0.41	0.25	0.70	0.70	0.17	0.17	0.17	0.22	0.22	0.22
Sat Flow, veh/h	33	1553	1570	1774	1696	1575	843	978	1583	1774	1289	461
Grp Volume(v), veh/h	556	0	101	352	668	56	365	0	428	66	0	391
Grp Sat Flow(s),veh/h/ln	1586	0	1570	1774	1696	1575	1821	0	1583	1774	0	1751
Q Serve(g_s), s	14.7	0.0	5.0	22.9	23.8	1.3	21.7	0.0	0.0	3.7	0.0	27.7
Cycle Q Clear(g_c), s	39.5	0.0	5.0	22.9	23.8	1.3	21.7	0.0	0.0	3.7	0.0	27.7
Prop In Lane	0.04		1.00	1.00		1.00	0.46		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	344	0	648	449	1196	1110	319	0	678	396	0	391
V/C Ratio(X)	1.62	0.00	0.16	0.78	0.56	0.05	1.15	0.00	0.63	0.17	0.00	1.00
Avail Cap(c_a), veh/h	685	0	648	449	1196	1110	319	0	678	396	0	391
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.28	0.00	0.28	0.59	0.59	0.59	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.2	0.0	22.8	44.2	9.1	5.6	51.2	0.0	27.8	38.8	0.0	48.1
Incr Delay (d2), s/veh	281.4	0.0	0.1	4.9	1.1	0.1	95.9	0.0	2.2	0.1	0.0	45.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	10.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	37.6	0.0	2.2	14.5	12.0	0.6	19.4	0.0	11.8	1.8	0.0	18.3
LnGrp Delay(d),s/veh	324.6	0.0	23.0	59.6	10.3	5.7	147.1	0.0	30.0	39.0	0.0	93.6
LnGrp LOS	F		C	E	B	A	F		C	D		F
Approach Vol, veh/h		657			1076			793			457	
Approach Delay, s/veh		278.2			26.2			83.9			85.7	
Approach LOS		F			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		27.0	37.0	56.0		32.0		93.0
Change Period (Y+Rc), s		* 5.3	* 4.8	* 4.8		4.3		* 4.8
Max Green Setting (Gmax), s		* 22	* 5	* 51		27.7		* 60
Max Q Clear Time (g_c+I1), s		23.7	24.9	41.5		29.7		25.8
Green Ext Time (p_c), s		0.0	0.0	2.0		0.0		3.4

Intersection Summary	
HCM 2010 Ctrl Delay	106.2
HCM 2010 LOS	F

Notes

HCM 2010 Signalized Intersection Summary
3: Caulfield Ln & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	780	133	424	980	310	123	409	201	200	332	350
Future Volume (veh/h)	250	780	133	424	980	310	123	409	201	200	332	350
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1719	1900	1863	1696	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	250	780	130	424	980	286	123	409	188	200	332	308
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	1	1
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
Percent Heavy Veh, %	2	12	12	2	12	2	2	2	2	2	2	2
Cap, veh/h	259	796	133	395	1163	570	275	367	167	339	356	530
Arrive On Green	0.15	0.28	0.28	0.22	0.36	0.36	0.16	0.16	0.16	0.19	0.19	0.19
Sat Flow, veh/h	1774	2801	467	1774	3223	1581	1774	2367	1076	1774	1863	1568
Grp Volume(v), veh/h	250	455	455	424	980	286	123	305	292	200	332	308
Grp Sat Flow(s),veh/h/ln	1774	1633	1635	1774	1612	1581	1774	1770	1673	1774	1863	1568
Q Serve(g_s), s	18.3	36.0	36.0	29.0	36.4	18.4	8.2	20.2	20.2	13.4	22.9	21.1
Cycle Q Clear(g_c), s	18.3	36.0	36.0	29.0	36.4	18.4	8.2	20.2	20.2	13.4	22.9	21.1
Prop In Lane	1.00		0.29	1.00		1.00	1.00		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	259	464	464	395	1163	570	275	274	259	339	356	530
V/C Ratio(X)	0.97	0.98	0.98	1.07	0.84	0.50	0.45	1.11	1.13	0.59	0.93	0.58
Avail Cap(c_a), veh/h	259	464	464	395	1163	570	275	274	259	339	356	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	46.3	46.3	50.6	38.2	32.5	50.0	55.0	55.0	48.1	51.9	35.7
Incr Delay (d2), s/veh	46.2	36.6	36.6	66.3	6.0	1.0	0.8	87.1	94.5	2.4	30.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	20.9	20.9	21.4	17.2	8.2	4.1	16.5	16.1	6.8	14.9	9.3
LnGrp Delay(d),s/veh	101.5	82.9	82.9	117.0	44.2	33.5	50.8	142.2	149.5	50.4	82.8	37.0
LnGrp LOS	F	F	F	F	D	C	D	F	F	D	F	D
Approach Vol, veh/h		1160			1690			720			840	
Approach Delay, s/veh		86.9			60.7			129.6			58.3	
Approach LOS		F			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	33.0	42.3		30.0	23.0	52.3		25.0
Change Period (Y+Rc), s	4.0	* 5.3		* 5.1	4.0	5.3		4.8
Max Green Setting (Gmax), s	29.0	* 37		* 25	19.0	46.7		20.2
Max Q Clear Time (g_c+I1), s	31.0	38.0		24.9	20.3	38.4		22.2
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	5.6		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	78.4
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
4: In-n-Out Driveway/US 101 SB Ramps & Lakeville St/Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	1096	15	32	1357	270	25	5	10	670	5	377
Future Volume (veh/h)	160	1096	15	32	1357	270	25	5	10	670	5	377
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1793	1900	1863	1792	1792	1900	1863	1900	1792	1793	1792
Adj Flow Rate, veh/h	160	1096	14	32	1357	42	25	5	-4	674	0	207
Adj No. of Lanes	2	2	0	1	2	1	0	1	0	2	0	1
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
Percent Heavy Veh, %	6	6	6	2	6	6	2	2	2	6	2	6
Cap, veh/h	214	1206	15	519	2012	898	163	33	0	808	0	459
Arrive On Green	0.06	0.35	0.35	0.10	0.19	0.19	0.00	0.00	0.00	0.24	0.00	0.24
Sat Flow, veh/h	3312	3445	44	1774	3406	1520	1754	351	-281	3414	0	1524
Grp Volume(v), veh/h	160	542	568	32	1357	42	0	0	0	674	0	207
Grp Sat Flow(s),veh/h/ln	1656	1704	1786	1774	1703	1520	0	0	0	1707	0	1524
Q Serve(g_s), s	6.6	42.5	42.5	2.3	51.7	3.1	0.0	0.0	0.0	26.3	0.0	15.4
Cycle Q Clear(g_c), s	6.6	42.5	42.5	2.3	51.7	3.1	0.0	0.0	0.0	26.3	0.0	15.4
Prop In Lane	1.00		0.02	1.00		1.00	0.96		-0.15	1.00		1.00
Lane Grp Cap(c), veh/h	214	596	625	519	2012	898	0	0	0	808	0	459
V/C Ratio(X)	0.75	0.91	0.91	0.06	0.67	0.05	0.00	0.00	0.00	0.83	0.00	0.45
Avail Cap(c_a), veh/h	568	596	625	519	2012	898	0	0	0	1097	0	588
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.26	0.26	0.26	0.70	0.70	0.70	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.3	43.4	43.4	45.8	43.9	24.3	0.0	0.0	0.0	50.8	0.0	39.5
Incr Delay (d2), s/veh	1.4	6.8	6.5	0.0	1.3	0.1	0.0	0.0	0.0	4.9	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	21.0	22.0	1.1	24.8	1.3	0.0	0.0	0.0	12.9	0.0	6.6
LnGrp Delay(d),s/veh	65.7	50.1	49.9	45.8	45.2	24.4	0.0	0.0	0.0	55.7	0.0	40.5
LnGrp LOS	E	D	D	D	D	C				E		D
Approach Vol, veh/h		1270			1431			0			881	
Approach Delay, s/veh		52.0			44.6			0.0			52.1	
Approach LOS		D			D						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	47.0	55.0		38.0	13.3	88.7		0.0
Change Period (Y+Rc), s	6.0	* 6		4.9	* 4.2	6.0		4.2
Max Green Setting (Gmax), s	13.7	* 49		45.0	* 24	38.7		13.0
Max Q Clear Time (g_c+I1), s	4.3	44.5		28.3	8.6	53.7		0.0
Green Ext Time (p_c), s	0.0	3.5		4.8	0.4	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.1
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Lakeville Hwy & US 101 NB Ramps

06/28/2018

Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	159	1587	1485	840	250	237		
Future Volume (veh/h)	159	1587	1485	840	250	237		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1827	1827	1863	1863	1827	1827		
Adj Flow Rate, veh/h	159	1587	1485	-6	250	108		
Adj No. of Lanes	1	2	2	1	2	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	4	4	2	2	4	4		
Cap, veh/h	137	2870	2530	1132	319	269		
Arrive On Green	0.08	0.83	0.48	0.00	0.09	0.09		
Sat Flow, veh/h	1740	3563	3632	1583	3375	1553		
Grp Volume(v), veh/h	159	1587	1485	-6	250	108		
Grp Sat Flow(s),veh/h/ln	1740	1736	1770	1583	1688	1553		
Q Serve(g_s), s	11.0	20.4	42.6	0.0	10.1	8.7		
Cycle Q Clear(g_c), s	11.0	20.4	42.6	0.0	10.1	8.7		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	137	2870	2530	1132	319	269		
V/C Ratio(X)	1.16	0.55	0.59	-0.01	0.78	0.40		
Avail Cap(c_a), veh/h	137	2870	2530	1132	699	444		
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00		
Upstream Filter(I)	0.67	0.67	0.43	0.00	1.00	1.00		
Uniform Delay (d), s/veh	64.5	3.9	21.5	0.0	62.0	51.4		
Incr Delay (d2), s/veh	113.9	0.5	0.4	0.0	4.2	1.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9.6	9.7	21.0	0.0	4.9	7.7		
LnGrp Delay(d),s/veh	178.4	4.4	21.9	0.0	66.2	52.4		
LnGrp LOS	F	A	C		E	D		
Approach Vol, veh/h		1746	1479		358			
Approach Delay, s/veh		20.2	22.0		62.0			
Approach LOS		C	C		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		121.8		18.2	15.7	106.1		
Change Period (Y+Rc), s		6.0		5.0	* 4.7	6.0		
Max Green Setting (Gmax), s		100.0		29.0	* 11	84.3		
Max Q Clear Time (g_c+I1), s		22.4		12.1	13.0	44.6		
Green Ext Time (p_c), s		43.8		1.1	0.0	26.6		
Intersection Summary								
HCM 2010 Ctrl Delay			25.1					
HCM 2010 LOS			C					
Notes								

HCM 2010 Signalized Intersection Summary
6: Baywood Dr & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	1297	32	18	1536	40	119	37	19	27	12	157
Future Volume (veh/h)	221	1297	32	18	1536	40	119	37	19	27	12	157
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1778	1900	1863	1778	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	221	1297	30	18	1536	38	119	37	2	27	12	22
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	246	1774	41	324	1946	48	146	150	8	125	143	341
Arrive On Green	0.09	0.35	0.35	0.06	0.19	0.19	0.08	0.09	0.09	0.07	0.08	0.08
Sat Flow, veh/h	1774	3375	78	1774	3369	83	1774	1750	95	1774	1863	1583
Grp Volume(v), veh/h	221	649	678	18	769	805	119	0	39	27	12	22
Grp Sat Flow(s),veh/h/ln	1774	1689	1764	1774	1689	1763	1774	0	1845	1774	1863	1583
Q Serve(g_s), s	17.3	46.9	47.0	1.3	60.7	60.9	9.2	0.0	2.8	2.0	0.8	1.5
Cycle Q Clear(g_c), s	17.3	46.9	47.0	1.3	60.7	60.9	9.2	0.0	2.8	2.0	0.8	1.5
Prop In Lane	1.00		0.04	1.00		0.05	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	246	888	927	324	976	1019	146	0	158	125	143	341
V/C Ratio(X)	0.90	0.73	0.73	0.06	0.79	0.79	0.81	0.00	0.25	0.22	0.08	0.06
Avail Cap(c_a), veh/h	274	888	927	324	976	1019	266	0	422	125	266	446
HCM Platoon Ratio	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	0.58	0.58	0.58	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.5	36.7	36.7	54.4	48.5	48.6	63.2	0.0	59.8	61.4	60.0	43.7
Incr Delay (d2), s/veh	23.7	4.2	4.0	0.0	3.8	3.7	20.0	0.0	0.8	1.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	22.9	24.0	0.7	29.5	30.9	5.3	0.0	1.4	1.1	0.4	0.7
LnGrp Delay(d),s/veh	86.2	40.9	40.8	54.4	52.3	52.3	83.2	0.0	60.6	63.3	60.3	43.8
LnGrp LOS	F	D	D	D	D	D	F		E	E	E	D
Approach Vol, veh/h		1548			1592			158			61	
Approach Delay, s/veh		47.3			52.3			77.6			55.6	
Approach LOS		D			D			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.9	78.9	15.2	15.0	23.6	86.2	14.0	16.2				
Change Period (Y+Rc), s	5.3	* 5.3	3.7	* 4.2	* 4.2	5.3	* 4.2	* 4.2				
Max Green Setting (Gmax), s	8.0	* 74	21.0	* 20	* 22	60.0	* 9	* 32				
Max Q Clear Time (g_c+I1), s	3.3	49.0	11.2	3.5	19.3	62.9	4.0	4.8				
Green Ext Time (p_c), s	0.0	16.6	0.4	0.1	0.1	0.0	0.0	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			51.3									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary
7: Casa Grande Rd & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	299	1243	79	33	1487	80	96	75	16	20	56	140
Future Volume (veh/h)	299	1243	79	33	1487	80	96	75	16	20	56	140
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1781	1900	1863	1776	1863	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	299	1243	62	33	1487	0	96	75	10	20	56	5
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	0	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	2	2	2	2	2	2	2
Cap, veh/h	291	2041	102	242	2011	944	172	214	29	72	182	209
Arrive On Green	0.33	1.00	1.00	0.27	1.00	0.00	0.13	0.13	0.13	0.13	0.13	0.13
Sat Flow, veh/h	1774	3280	163	1774	3374	1583	1327	1608	214	300	1367	1569
Grp Volume(v), veh/h	299	641	664	33	1487	0	96	0	85	76	0	5
Grp Sat Flow(s),veh/h/ln	1774	1692	1752	1774	1687	1583	1327	0	1823	1667	0	1569
Q Serve(g_s), s	23.0	0.0	0.0	2.0	0.0	0.0	9.9	0.0	5.9	0.0	0.0	0.4
Cycle Q Clear(g_c), s	23.0	0.0	0.0	2.0	0.0	0.0	15.9	0.0	5.9	6.0	0.0	0.4
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.12	0.26		1.00
Lane Grp Cap(c), veh/h	291	1052	1090	242	2011	944	172	0	243	254	0	209
V/C Ratio(X)	1.03	0.61	0.61	0.14	0.74	0.00	0.56	0.00	0.35	0.30	0.00	0.02
Avail Cap(c_a), veh/h	291	1052	1090	242	2011	944	241	0	338	342	0	291
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.0	0.0	0.0	44.7	0.0	0.0	62.4	0.0	55.2	54.8	0.0	52.8
Incr Delay (d2), s/veh	53.6	2.1	2.0	0.1	2.5	0.0	1.1	0.0	0.3	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.5	0.6	0.6	1.0	0.7	0.0	3.7	0.0	3.0	2.7	0.0	0.2
LnGrp Delay(d),s/veh	100.6	2.1	2.0	44.8	2.5	0.0	63.5	0.0	55.5	55.1	0.0	52.8
LnGrp LOS	F	A	A	D	A		E		E	E		D
Approach Vol, veh/h		1604			1520			181			81	
Approach Delay, s/veh		20.4			3.4			59.7			54.9	
Approach LOS		C			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	24.6	92.6		22.8	28.2	89.0		22.8
Change Period (Y+Rc), s	5.5	* 5.5		* 4.2	* 5.2	5.5		* 4.2
Max Green Setting (Gmax), s	12.0	* 87		* 26	* 23	76.1		* 26
Max Q Clear Time (g_c+I1), s	4.0	2.0		8.0	25.0	2.0		17.9
Green Ext Time (p_c), s	0.0	5.9		0.2	0.0	8.9		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	15.7
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	904	123	15	994	226	536	371	11	67	90	15
Future Volume (veh/h)	14	904	123	15	994	226	536	371	11	67	90	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	18	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1863	1786	1900	1863	1791	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	14	904	106	15	994	210	536	371	9	67	90	8
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	59	1003	118	339	1396	294	484	920	20	141	230	20
Arrive On Green	0.07	0.66	0.66	0.20	0.51	0.51	0.26	0.25	0.25	0.08	0.07	0.07
Sat Flow, veh/h	1774	3059	359	1774	2798	590	1774	3531	86	1774	3292	289
Grp Volume(v), veh/h	14	501	509	15	604	600	536	186	194	67	48	50
Grp Sat Flow(s),veh/h/ln	1774	1696	1722	1774	1702	1687	1774	1770	1847	1774	1770	1812
Q Serve(g_s), s	1.0	34.8	34.8	1.0	37.9	38.1	37.0	12.3	12.3	5.1	3.6	3.7
Cycle Q Clear(g_c), s	1.0	34.8	34.8	1.0	37.9	38.1	37.0	12.3	12.3	5.1	3.6	3.7
Prop In Lane	1.00		0.21	1.00		0.35	1.00		0.05	1.00		0.16
Lane Grp Cap(c), veh/h	59	556	565	339	849	841	484	460	479	141	124	127
V/C Ratio(X)	0.24	0.90	0.90	0.04	0.71	0.71	1.11	0.40	0.41	0.48	0.39	0.40
Avail Cap(c_a), veh/h	139	636	646	354	863	855	469	632	660	190	367	375
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	22.2	22.2	46.3	27.3	27.4	50.6	43.9	44.0	61.7	62.2	62.3
Incr Delay (d2), s/veh	2.1	20.2	20.0	0.1	5.0	5.1	73.9	0.6	0.6	2.5	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	4.3	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	19.0	19.2	0.5	19.3	19.2	28.1	8.2	8.4	2.6	1.8	1.9
LnGrp Delay(d),s/veh	65.8	42.4	42.2	46.3	32.4	32.5	124.4	49.1	48.8	64.1	64.2	64.3
LnGrp LOS	E	D	D	D	C	C	F	D	D	E	E	E
Approach Vol, veh/h		1024			1219			916			165	
Approach Delay, s/veh		42.6			32.6			93.1			64.2	
Approach LOS		D			C			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.4	51.4	41.2	14.0	8.3	76.5	15.8	39.4
Change Period (Y+Rc), s	5.5	* 5.5	* 4.2	* 4.2	3.7	5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	4.4	* 53	* 37	* 29	11.0	45.9	* 15	* 50
Max Q Clear Time (g_c+I1), s	3.0	36.8	39.0	5.7	3.0	40.1	7.1	14.3
Green Ext Time (p_c), s	0.0	9.1	0.0	0.4	0.0	4.6	0.1	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	53.9
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
1: Washington St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	133	28	215	103	56	18	660	202	62	731	29
Future Volume (veh/h)	30	133	28	215	103	56	18	660	202	62	731	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	1	14	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1789	1900	1759	1794	1900	1863	1759	1900	1863	1763	1900
Adj Flow Rate, veh/h	32	143	30	231	111	55	19	710	213	67	786	28
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	8	8	8	8	8	8	2	8	8	2	8	8
Cap, veh/h	41	183	38	273	210	73	435	1144	343	128	908	32
Arrive On Green	0.15	0.15	0.15	0.05	0.05	0.05	0.25	0.46	0.46	0.07	0.28	0.28
Sat Flow, veh/h	269	1203	252	1675	1131	560	1774	2527	758	1774	3298	117
Grp Volume(v), veh/h	205	0	0	231	0	166	19	470	453	67	399	415
Grp Sat Flow(s),veh/h/ln	1725	0	0	1675	0	1692	1774	1671	1614	1774	1675	1740
Q Serve(g_s), s	14.3	0.0	0.0	17.1	0.0	12.0	1.0	26.3	26.3	4.6	28.3	28.4
Cycle Q Clear(g_c), s	14.3	0.0	0.0	17.1	0.0	12.0	1.0	26.3	26.3	4.6	28.3	28.4
Prop In Lane	0.16		0.15	1.00		0.33	1.00		0.47	1.00		0.07
Lane Grp Cap(c), veh/h	263	0	0	273	0	305	435	757	731	128	461	479
V/C Ratio(X)	0.78	0.00	0.00	0.85	0.00	0.55	0.04	0.62	0.62	0.52	0.87	0.87
Avail Cap(c_a), veh/h	410	0	0	389	0	392	450	772	745	156	461	479
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.95	0.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.0	0.0	0.0	57.7	0.0	55.9	36.1	26.1	26.1	55.9	43.1	43.1
Incr Delay (d2), s/veh	1.9	0.0	0.0	7.8	0.0	0.5	0.0	3.8	3.9	1.2	19.1	18.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.6	0.0	33.4	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	0.0	8.7	0.0	10.5	0.5	13.1	12.7	2.3	15.5	16.1
LnGrp Delay(d),s/veh	52.9	0.0	0.0	66.2	0.0	89.9	36.1	29.9	30.0	57.1	62.3	61.7
LnGrp LOS	D			E		F	D	C	C	E	E	E
Approach Vol, veh/h		205			397			942			881	
Approach Delay, s/veh		52.9			76.1			30.1			61.6	
Approach LOS		D			E			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	62.5		24.3	36.5	39.0		25.1
Change Period (Y+Rc), s	4.0	* 4.8		* 5.3	4.8	* 4.6		5.0
Max Green Setting (Gmax), s	11.0	* 36		* 30	13.0	* 34		29.0
Max Q Clear Time (g_c+I1), s	6.6	28.3		16.3	3.0	30.4		19.1
Green Ext Time (p_c), s	0.0	2.8		0.6	0.0	1.4		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	51.0
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
2: E D St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	337	68	410	322	45	46	112	431	14	177	11
Future Volume (veh/h)	7	337	68	410	322	45	46	112	431	14	177	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	6	3	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1700	1863	1863	1696	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	8	374	75	456	358	40	51	124	479	16	197	8
Adj No. of Lanes	0	1	1	1	1	1	0	1	1	1	1	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	12	12	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	29	315	340	657	1062	990	59	143	759	265	264	11
Arrive On Green	0.22	0.22	0.22	0.37	0.63	0.63	0.11	0.11	0.11	0.15	0.15	0.15
Sat Flow, veh/h	13	1675	1562	1774	1696	1581	535	1301	1583	1774	1773	72
Grp Volume(v), veh/h	382	0	75	456	358	40	175	0	479	16	0	205
Grp Sat Flow(s),veh/h/ln	1688	0	1562	1774	1696	1581	1836	0	1583	1774	0	1845
Q Serve(g_s), s	10.1	0.0	4.9	27.2	12.5	1.2	11.7	0.0	0.0	1.0	0.0	13.3
Cycle Q Clear(g_c), s	27.2	0.0	4.9	27.2	12.5	1.2	11.7	0.0	0.0	1.0	0.0	13.3
Prop In Lane	0.02		1.00	1.00		1.00	0.29		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	262	0	340	657	1062	990	201	0	759	265	0	275
V/C Ratio(X)	1.46	0.00	0.22	0.69	0.34	0.04	0.87	0.00	0.63	0.06	0.00	0.75
Avail Cap(c_a), veh/h	397	0	340	657	1062	990	201	0	759	393	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.00	0.66	0.85	0.85	0.85	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	46.0	0.0	40.2	34.1	11.3	9.0	54.8	0.0	24.3	45.7	0.0	50.9
Incr Delay (d2), s/veh	218.9	0.0	1.0	2.3	0.7	0.1	31.7	0.0	2.0	0.1	0.0	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	2.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.0	0.0	2.2	15.2	6.6	0.5	7.7	0.0	12.7	0.5	0.0	7.0
LnGrp Delay(d),s/veh	264.9	0.0	41.2	38.3	12.1	9.0	86.5	0.0	26.2	45.7	0.0	53.9
LnGrp LOS	F		D	D	B	A	F		C	D		D
Approach Vol, veh/h		457			854			654			221	
Approach Delay, s/veh		228.1			26.0			42.4			53.3	
Approach LOS		F			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		19.0	51.1	32.0		22.9		83.1
Change Period (Y+Rc), s		* 5.3	* 4.8	* 4.8		4.3		* 4.8
Max Green Setting (Gmax), s		* 14	* 38	* 27		27.7		* 69
Max Q Clear Time (g_c+I1), s		13.7	29.2	29.2		15.3		14.5
Green Ext Time (p_c), s		0.0	0.3	0.0		0.8		1.6

Intersection Summary	
HCM 2010 Ctrl Delay	75.9
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
3: Caulfield Ln & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	567	14	46	560	163	41	31	41	306	23	242
Future Volume (veh/h)	134	567	14	46	560	163	41	31	41	306	23	242
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1700	1900	1863	1696	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	140	591	15	48	583	137	43	32	24	336	0	207
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	2	0	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	12	12	2	12	2	2	2	2	2	2	2
Cap, veh/h	253	1056	27	167	900	441	254	290	196	602	0	490
Arrive On Green	0.14	0.33	0.33	0.09	0.28	0.28	0.14	0.14	0.14	0.17	0.00	0.17
Sat Flow, veh/h	1774	3219	82	1774	3223	1578	1774	2025	1366	3548	0	1555
Grp Volume(v), veh/h	140	296	310	48	583	137	43	28	28	336	0	207
Grp Sat Flow(s),veh/h/ln	1774	1615	1686	1774	1612	1578	1774	1770	1622	1774	0	1555
Q Serve(g_s), s	5.3	10.9	10.9	1.8	11.5	5.0	1.5	1.0	1.1	6.3	0.0	7.6
Cycle Q Clear(g_c), s	5.3	10.9	10.9	1.8	11.5	5.0	1.5	1.0	1.1	6.3	0.0	7.6
Prop In Lane	1.00		0.05	1.00		1.00	1.00		0.84	1.00		1.00
Lane Grp Cap(c), veh/h	253	530	553	167	900	441	254	253	232	602	0	490
V/C Ratio(X)	0.55	0.56	0.56	0.29	0.65	0.31	0.17	0.11	0.12	0.56	0.00	0.42
Avail Cap(c_a), veh/h	270	892	932	270	1768	866	373	372	341	730	0	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.9	20.0	20.0	30.5	23.0	20.6	27.2	27.0	27.1	27.6	0.0	19.7
Incr Delay (d2), s/veh	1.0	1.3	1.3	0.3	1.1	0.6	0.2	0.1	0.2	0.6	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	5.1	5.3	0.9	5.2	2.2	0.8	0.5	0.5	3.1	0.0	3.3
LnGrp Delay(d),s/veh	29.9	21.3	21.3	30.9	24.1	21.2	27.5	27.1	27.2	28.2	0.0	20.2
LnGrp LOS	C	C	C	C	C	C	C	C	C	C		C
Approach Vol, veh/h		746			768			99			543	
Approach Delay, s/veh		22.9			24.0			27.3			25.1	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.8	29.0		17.4	14.3	25.5		15.2
Change Period (Y+Rc), s	4.0	* 5.3		* 5.1	4.0	5.3		4.8
Max Green Setting (Gmax), s	11.0	* 40		* 15	11.0	39.7		15.2
Max Q Clear Time (g_c+I1), s	3.8	12.9		9.6	7.3	13.5		3.5
Green Ext Time (p_c), s	0.0	5.5		0.8	0.1	6.3		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	24.1
HCM 2010 LOS	C

Notes

HCM 2010 Signalized Intersection Summary
4: In-n-Out Driveway/US 101 SB Ramps & Lakeville St/Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	254	614	3	6	611	319	5	1	7	963	9	170
Future Volume (veh/h)	254	614	3	6	611	319	5	1	7	963	9	170
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1793	1900	1863	1792	1792	1900	1863	1900	1792	1794	1792
Adj Flow Rate, veh/h	267	646	3	6	643	34	5	1	0	1020	0	0
Adj No. of Lanes	2	2	0	1	2	1	0	1	0	2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	6	6	2	6	6	2	2	2	6	2	6
Cap, veh/h	697	1778	8	27	1027	458	22	4	0	1038	0	784
Arrive On Green	0.21	0.51	0.51	0.00	0.10	0.10	0.02	0.02	0.00	0.30	0.00	0.00
Sat Flow, veh/h	3312	3477	16	1774	3406	1519	1490	298	0	3414	0	1524
Grp Volume(v), veh/h	267	316	333	6	643	34	6	0	0	1020	0	0
Grp Sat Flow(s),veh/h/ln	1656	1703	1790	1774	1703	1519	1788	0	0	1707	0	1524
Q Serve(g_s), s	8.7	13.9	13.9	0.4	22.7	2.5	0.4	0.0	0.0	37.1	0.0	0.0
Cycle Q Clear(g_c), s	8.7	13.9	13.9	0.4	22.7	2.5	0.4	0.0	0.0	37.1	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.83		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	697	871	916	27	1027	458	27	0	0	1038	0	784
V/C Ratio(X)	0.38	0.36	0.36	0.22	0.63	0.07	0.22	0.00	0.00	0.98	0.00	0.00
Avail Cap(c_a), veh/h	697	871	916	142	1027	458	143	0	0	1038	0	784
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	0.93	0.93	0.93	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.4	18.3	18.3	61.5	49.5	40.4	60.8	0.0	0.0	43.2	0.0	0.0
Incr Delay (d2), s/veh	0.3	1.0	1.0	3.9	2.7	0.3	4.1	0.0	0.0	23.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	6.7	7.1	0.2	11.1	1.1	0.2	0.0	0.0	20.8	0.0	0.0
LnGrp Delay(d),s/veh	42.7	19.3	19.3	65.4	52.2	40.7	64.9	0.0	0.0	66.9	0.0	0.0
LnGrp LOS	D	B	B	E	D	D	E			E		
Approach Vol, veh/h		916			683			6			1020	
Approach Delay, s/veh		26.1			51.7			64.9			66.9	
Approach LOS		C			D			E			E	

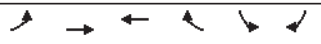
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	69.9		42.9	32.3	43.7		6.1
Change Period (Y+Rc), s	* 4.2	6.0		4.9	6.0	* 6		4.2
Max Green Setting (Gmax), s	* 10	47.7		38.0	20.0	* 38		10.0
Max Q Clear Time (g_c+I1), s	2.4	15.9		39.1	10.7	24.7		2.4
Green Ext Time (p_c), s	0.0	8.1		0.0	0.6	5.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	48.7
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Lakeville Hwy & US 101 NB Ramps

06/28/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	67	1484	828	840	251	94
Future Volume (veh/h)	67	1484	828	840	251	94
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1827	1863	1863	1827	1827
Adj Flow Rate, veh/h	74	1649	920	23	279	0
Adj No. of Lanes	1	2	2	1	2	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	4	4	2	2	4	4
Cap, veh/h	103	2805	2517	1126	351	253
Arrive On Green	0.12	1.00	0.71	0.71	0.10	0.00
Sat Flow, veh/h	1740	3563	3632	1583	3375	1553
Grp Volume(v), veh/h	74	1649	920	23	279	0
Grp Sat Flow(s),veh/h/ln	1740	1736	1770	1583	1688	1553
Q Serve(g_s), s	5.1	0.0	12.7	0.5	10.1	0.0
Cycle Q Clear(g_c), s	5.1	0.0	12.7	0.5	10.1	0.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	103	2805	2517	1126	351	253
V/C Ratio(X)	0.72	0.59	0.37	0.02	0.79	0.00
Avail Cap(c_a), veh/h	153	2805	2517	1126	837	477
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.60	0.60	1.00	0.00
Uniform Delay (d), s/veh	54.1	0.0	7.0	5.3	54.7	0.0
Incr Delay (d2), s/veh	6.6	0.6	0.2	0.0	4.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.3	6.2	0.2	4.9	0.0
LnGrp Delay(d),s/veh	60.7	0.6	7.3	5.3	58.8	0.0
LnGrp LOS	E	A	A	A	E	
Approach Vol, veh/h		1723	943		279	
Approach Delay, s/veh		3.2	7.2		58.8	
Approach LOS		A	A		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		107.0		18.0	12.1	94.9		
Change Period (Y+Rc), s		6.0		5.0	* 4.7	6.0		
Max Green Setting (Gmax), s		83.0		31.0	* 11	67.3		
Max Q Clear Time (g_c+I1), s		2.0		12.1	7.1	14.7		
Green Ext Time (p_c), s		47.7		0.9	0.0	16.2		

Intersection Summary	
HCM 2010 Ctrl Delay	9.8
HCM 2010 LOS	A

Notes

HCM 2010 Signalized Intersection Summary
6: Baywood Dr & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	1559	27	8	1366	29	36	2	12	21	20	287
Future Volume (veh/h)	75	1559	27	8	1366	29	36	2	12	21	20	287
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1777	1900	1863	1777	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	81	1676	27	9	1469	29	39	2	0	23	22	179
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	133	1540	25	374	2023	40	116	277	0	70	229	314
Arrive On Green	0.15	0.91	0.91	0.07	0.20	0.20	0.07	0.15	0.00	0.04	0.12	0.12
Sat Flow, veh/h	1774	3401	55	1774	3387	67	1774	1863	0	1774	1863	1583
Grp Volume(v), veh/h	81	831	872	9	732	766	39	2	0	23	22	179
Grp Sat Flow(s),veh/h/ln	1774	1688	1767	1774	1689	1766	1774	1863	0	1774	1863	1583
Q Serve(g_s), s	5.3	56.6	56.6	0.6	50.7	50.9	2.6	0.1	0.0	1.6	1.3	12.8
Cycle Q Clear(g_c), s	5.3	56.6	56.6	0.6	50.7	50.9	2.6	0.1	0.0	1.6	1.3	12.8
Prop In Lane	1.00		0.03	1.00		0.04	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	764	800	374	1008	1054	116	277	0	70	229	314
V/C Ratio(X)	0.61	1.09	1.09	0.02	0.73	0.73	0.34	0.01	0.00	0.33	0.10	0.57
Avail Cap(c_a), veh/h	213	764	800	374	1008	1054	156	492	0	142	477	524
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	0.81	0.81	0.81	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	5.9	5.9	46.2	40.6	40.6	55.8	45.3	0.0	58.4	48.6	45.3
Incr Delay (d2), s/veh	3.3	54.9	55.5	0.0	3.7	3.6	3.6	0.0	0.0	5.7	0.2	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	33.9	35.7	0.3	24.8	26.0	1.4	0.1	0.0	0.9	0.7	5.7
LnGrp Delay(d),s/veh	54.7	60.8	61.4	46.2	44.3	44.2	59.4	45.3	0.0	64.1	48.8	46.9
LnGrp LOS	D	F	F	D	D	D	E	D		E	D	D
Approach Vol, veh/h		1784			1507			41			224	
Approach Delay, s/veh		60.8			44.3			58.8			48.9	
Approach LOS		E			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.7	61.9	11.9	19.6	13.6	80.0	8.7	22.8
Change Period (Y+Rc), s	5.3	* 5.3	3.7	* 4.2	* 4.2	5.3	3.7	* 4.2
Max Green Setting (Gmax), s	8.0	* 57	11.0	* 32	* 15	49.6	10.0	* 33
Max Q Clear Time (g_c+I1), s	2.6	58.6	4.6	14.8	7.3	52.9	3.6	2.1
Green Ext Time (p_c), s	0.0	0.0	0.1	0.6	0.1	0.0	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	53.0
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
7: Casa Grande Rd & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1343	61	26	960	10	174	70	40	15	53	278
Future Volume (veh/h)	142	1343	61	26	960	10	174	70	40	15	53	278
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1779	1900	1863	1776	1863	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	149	1414	61	27	1011	0	183	74	26	16	56	5
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	7	7	2	7	2	2	2	2	2	2	2
Cap, veh/h	173	1746	75	288	2011	944	263	247	87	86	276	295
Arrive On Green	0.20	1.00	1.00	0.32	1.00	0.00	0.19	0.19	0.19	0.19	0.19	0.19
Sat Flow, veh/h	1774	3302	142	1774	3374	1583	1331	1316	462	270	1472	1576
Grp Volume(v), veh/h	149	722	753	27	1011	0	183	0	100	72	0	5
Grp Sat Flow(s),veh/h/ln	1774	1690	1754	1774	1687	1583	1331	0	1779	1741	0	1576
Q Serve(g_s), s	10.2	0.0	0.0	1.3	0.0	0.0	16.8	0.0	6.1	0.0	0.0	0.3
Cycle Q Clear(g_c), s	10.2	0.0	0.0	1.3	0.0	0.0	20.9	0.0	6.1	4.1	0.0	0.3
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.26	0.22		1.00
Lane Grp Cap(c), veh/h	173	894	928	288	2011	944	263	0	333	361	0	295
V/C Ratio(X)	0.86	0.81	0.81	0.09	0.50	0.00	0.69	0.00	0.30	0.20	0.00	0.02
Avail Cap(c_a), veh/h	199	894	928	288	2011	944	344	0	441	464	0	391
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.60	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	0.0	35.8	0.0	0.0	51.8	0.0	43.7	42.9	0.0	41.4
Incr Delay (d2), s/veh	16.5	4.8	4.7	0.1	0.9	0.0	2.1	0.0	0.2	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	1.2	1.2	0.7	0.3	0.0	6.4	0.0	3.0	2.1	0.0	0.1
LnGrp Delay(d),s/veh	66.0	4.8	4.7	35.9	0.9	0.0	53.9	0.0	43.9	43.0	0.0	41.4
LnGrp LOS	E	A	A	D	A		D		D	D		D
Approach Vol, veh/h		1624			1038			283			77	
Approach Delay, s/veh		10.4			1.8			50.4			42.9	
Approach LOS		B			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	25.8	71.6		27.6	17.4	80.0		27.6
Change Period (Y+Rc), s	5.5	* 5.5		* 4.2	* 5.2	5.5		* 4.2
Max Green Setting (Gmax), s	13.0	* 66		* 31	* 14	65.1		* 31
Max Q Clear Time (g_c+I1), s	3.3	2.0		6.1	12.2	2.0		22.9
Green Ext Time (p_c), s	0.0	7.3		0.2	0.0	4.9		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	866	492	31	717	65	266	144	9	173	260	11
Future Volume (veh/h)	9	866	492	31	717	65	266	144	9	173	260	11
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	15	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1806	1900	1863	1783	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	9	893	403	32	739	59	274	148	4	178	268	8
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	509	1266	504	105	901	72	302	543	15	206	366	11
Arrive On Green	0.57	1.00	1.00	0.06	0.28	0.28	0.17	0.15	0.15	0.12	0.10	0.10
Sat Flow, veh/h	1774	2307	1032	1774	3178	254	1774	3521	95	1774	3509	104
Grp Volume(v), veh/h	9	662	634	32	394	404	274	74	78	178	135	141
Grp Sat Flow(s),veh/h/ln	1774	1716	1623	1774	1693	1738	1774	1770	1846	1774	1770	1844
Q Serve(g_s), s	0.3	0.0	0.0	2.2	27.1	27.2	18.9	4.6	4.7	12.3	9.2	9.3
Cycle Q Clear(g_c), s	0.3	0.0	0.0	2.2	27.1	27.2	18.9	4.6	4.7	12.3	9.2	9.3
Prop In Lane	1.00		0.64	1.00		0.15	1.00		0.05	1.00		0.06
Lane Grp Cap(c), veh/h	509	902	860	105	480	493	302	273	285	206	185	192
V/C Ratio(X)	0.02	0.73	0.74	0.31	0.82	0.82	0.91	0.27	0.27	0.86	0.73	0.73
Avail Cap(c_a), veh/h	509	902	853	156	568	583	355	467	487	284	411	428
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.0	0.0	0.0	56.4	41.8	41.8	50.9	46.6	46.7	54.3	54.3	54.3
Incr Delay (d2), s/veh	0.0	5.3	5.6	1.6	14.5	14.2	24.0	0.5	0.5	17.9	5.4	5.3
Initial Q Delay(d3),s/veh	0.0	1.9	2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	1.8	1.8	1.1	14.6	15.0	11.3	2.3	2.4	7.1	4.8	5.0
LnGrp Delay(d),s/veh	19.1	7.1	7.7	58.0	56.3	56.1	74.9	47.2	47.2	72.2	59.7	59.6
LnGrp LOS	B	A	A	E	E	E	E	D	D	E	E	E
Approach Vol, veh/h		1305			830			426			454	
Approach Delay, s/veh		7.5			56.3			65.0			64.6	
Approach LOS		A			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	71.2	25.5	17.2	41.4	40.9	19.2	23.5
Change Period (Y+Rc), s	3.7	5.5	* 4.2	* 4.2	5.5	* 5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	11.0	42.9	* 25	* 29	12.0	* 42	* 20	* 33
Max Q Clear Time (g_c+I1), s	4.2	2.0	20.9	11.3	2.3	29.2	14.3	6.7
Green Ext Time (p_c), s	0.0	22.3	0.3	1.3	0.0	6.3	0.2	0.8

Intersection Summary	
HCM 2010 Ctrl Delay	37.6
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
1: Washington St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	95	41	218	162	103	40	790	178	75	776	41
Future Volume (veh/h)	57	95	41	218	162	103	40	790	178	75	776	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	12	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1810	1900	1759	1798	1900	1863	1759	1900	1863	1764	1900
Adj Flow Rate, veh/h	59	98	41	225	167	102	41	814	175	77	800	39
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	8	8	8	8	8	8	2	8	8	2	8	8
Cap, veh/h	77	128	54	334	264	79	378	1146	246	133	901	44
Arrive On Green	0.15	0.15	0.15	0.06	0.06	0.06	0.23	0.43	0.43	0.07	0.28	0.28
Sat Flow, veh/h	510	847	355	1675	1038	634	1774	2726	586	1774	3248	158
Grp Volume(v), veh/h	198	0	0	225	0	269	41	499	490	77	413	426
Grp Sat Flow(s),veh/h/ln	1712	0	0	1675	0	1673	1774	1671	1641	1774	1676	1730
Q Serve(g_s), s	13.8	0.0	0.0	16.4	0.0	19.8	2.3	29.9	29.9	5.2	29.3	29.3
Cycle Q Clear(g_c), s	13.8	0.0	0.0	16.4	0.0	19.8	2.3	29.9	29.9	5.2	29.3	29.3
Prop In Lane	0.30		0.21	1.00		0.38	1.00		0.36	1.00		0.09
Lane Grp Cap(c), veh/h	259	0	0	334	0	343	378	703	690	133	465	480
V/C Ratio(X)	0.76	0.00	0.00	0.67	0.00	0.79	0.11	0.71	0.71	0.58	0.89	0.89
Avail Cap(c_a), veh/h	424	0	0	365	0	364	401	724	711	157	465	480
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.91	0.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.5	0.0	0.0	54.0	0.0	57.0	39.3	29.7	29.7	55.5	42.9	43.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	2.9	0.0	8.4	0.0	6.0	6.1	1.5	21.5	21.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	41.2	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	0.0	7.8	0.0	15.6	1.1	15.2	15.0	2.6	16.3	16.8
LnGrp Delay(d),s/veh	52.3	0.0	0.0	56.9	0.0	106.5	39.3	35.7	35.8	56.9	64.4	63.9
LnGrp LOS	D			E		F	D	D	D	E	E	E
Approach Vol, veh/h		198			494			1030			916	
Approach Delay, s/veh		52.3			83.9			35.9			63.6	
Approach LOS		D			F			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.3	58.5		24.1	32.8	39.0		28.1
Change Period (Y+Rc), s	4.0	* 4.8		* 5.3	4.8	* 4.6		5.0
Max Green Setting (Gmax), s	11.0	* 36		* 31	13.0	* 34		27.0
Max Q Clear Time (g_c+I1), s	7.2	31.9		15.8	4.3	31.3		21.8
Green Ext Time (p_c), s	0.0	2.0		0.6	0.0	1.2		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	55.7
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
2: E D St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	294	63	407	373	34	90	175	540	19	186	14
Future Volume (veh/h)	9	294	63	407	373	34	90	175	540	19	186	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	8	3	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.99	1.00		1.00	1.00		0.92
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1701	1863	1863	1696	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	10	313	67	433	397	30	96	186	574	20	198	14
Adj No. of Lanes	0	1	1	1	1	1	0	1	1	1	1	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
Percent Heavy Veh, %	12	12	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	30	215	278	595	938	870	107	207	803	282	272	19
Arrive On Green	0.18	0.18	0.18	0.34	0.55	0.55	0.17	0.17	0.17	0.16	0.16	0.16
Sat Flow, veh/h	12	1355	1552	1774	1696	1573	624	1208	1583	1774	1709	121
Grp Volume(v), veh/h	323	0	67	433	397	30	282	0	574	20	0	212
Grp Sat Flow(s),veh/h/ln	1367	0	1552	1774	1696	1573	1832	0	1583	1774	0	1830
Q Serve(g_s), s	5.3	0.0	4.6	26.6	16.9	1.1	18.7	0.0	0.0	1.2	0.0	13.7
Cycle Q Clear(g_c), s	22.2	0.0	4.6	26.6	16.9	1.1	18.7	0.0	0.0	1.2	0.0	13.7
Prop In Lane	0.03		1.00	1.00		1.00	0.34		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	204	0	278	595	938	870	314	0	803	282	0	291
V/C Ratio(X)	1.58	0.00	0.24	0.73	0.42	0.03	0.90	0.00	0.72	0.07	0.00	0.73
Avail Cap(c_a), veh/h	275	0	278	595	938	870	321	0	808	396	0	409
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.00	0.66	0.81	0.81	0.81	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.5	0.0	43.7	37.2	16.4	12.6	50.3	0.0	23.6	44.3	0.0	49.6
Incr Delay (d2), s/veh	275.8	0.0	1.3	3.2	1.1	0.1	26.5	0.0	3.3	0.1	0.0	3.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	4.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.6	0.0	2.1	15.8	8.8	0.5	11.8	0.0	15.7	0.6	0.0	7.1
LnGrp Delay(d),s/veh	324.2	0.0	45.0	45.2	17.7	12.7	76.8	0.0	26.9	44.4	0.0	52.7
LnGrp LOS	F		D	D	B	B	E		C	D		D
Approach Vol, veh/h		390			860			856			232	
Approach Delay, s/veh		276.3			31.4			43.3			51.9	
Approach LOS		F			C			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		26.6	46.4	27.0		24.0		73.4
Change Period (Y+Rc), s		* 5.3	* 4.8	* 4.8		4.3		* 4.8
Max Green Setting (Gmax), s		* 22	* 34	* 22		27.7		* 60
Max Q Clear Time (g_c+I1), s		20.7	28.6	24.2		15.7		18.9
Green Ext Time (p_c), s		0.6	0.3	0.0		0.8		1.7

Intersection Summary	
HCM 2010 Ctrl Delay	78.6
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
3: Caulfield Ln & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	531	27	51	708	395	68	77	29	228	20	144
Future Volume (veh/h)	220	531	27	51	708	395	68	77	29	228	20	144
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1704	1900	1863	1696	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	232	559	25	54	745	391	72	81	17	255	0	108
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	12	12	2	12	2	2	2	2	2	2	2
Cap, veh/h	235	1215	54	168	1117	548	252	416	85	522	0	440
Arrive On Green	0.13	0.38	0.38	0.09	0.35	0.35	0.14	0.14	0.14	0.15	0.00	0.15
Sat Flow, veh/h	1774	3156	141	1774	3223	1581	1774	2929	598	3548	0	1564
Grp Volume(v), veh/h	232	286	298	54	745	391	72	48	50	255	0	108
Grp Sat Flow(s),veh/h/ln	1774	1619	1679	1774	1612	1581	1774	1770	1757	1774	0	1564
Q Serve(g_s), s	10.8	11.0	11.0	2.4	16.3	17.8	3.0	2.0	2.1	5.5	0.0	4.4
Cycle Q Clear(g_c), s	10.8	11.0	11.0	2.4	16.3	17.8	3.0	2.0	2.1	5.5	0.0	4.4
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	235	623	646	168	1117	548	252	251	249	522	0	440
V/C Ratio(X)	0.99	0.46	0.46	0.32	0.67	0.71	0.29	0.19	0.20	0.49	0.00	0.25
Avail Cap(c_a), veh/h	235	781	810	235	1544	757	325	324	322	638	0	491
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.9	19.0	19.1	35.1	23.0	23.5	31.8	31.4	31.4	32.5	0.0	23.1
Incr Delay (d2), s/veh	54.3	0.8	0.7	0.4	1.0	2.7	0.5	0.3	0.3	0.5	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	5.0	5.2	1.2	7.4	8.1	1.5	1.0	1.0	2.7	0.0	1.9
LnGrp Delay(d),s/veh	90.1	19.8	19.8	35.5	24.0	26.2	32.3	31.6	31.7	33.0	0.0	23.3
LnGrp LOS	F	B	B	D	C	C	C	C	C	C		C
Approach Vol, veh/h		816			1190			170			363	
Approach Delay, s/veh		39.8			25.2			31.9			30.1	
Approach LOS		D			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.8	37.2		17.3	15.0	34.0		16.6
Change Period (Y+Rc), s	4.0	* 5.3		* 5.1	4.0	5.3		4.8
Max Green Setting (Gmax), s	11.0	* 40		* 15	11.0	39.7		15.2
Max Q Clear Time (g_c+I1), s	4.4	13.0		7.5	12.8	19.8		5.0
Green Ext Time (p_c), s	0.0	5.3		0.6	0.0	8.9		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	31.1
HCM 2010 LOS	C

Notes

HCM 2010 Signalized Intersection Summary
4: In-n-Out Driveway/US 101 SB Ramps & Lakeville St/Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	606	8	28	1059	247	12	3	14	622	14	170
Future Volume (veh/h)	115	606	8	28	1059	247	12	3	14	622	14	170
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1793	1900	1863	1792	1792	1900	1863	1900	1792	1795	1792
Adj Flow Rate, veh/h	122	645	8	30	1127	1	13	3	0	673	0	0
Adj No. of Lanes	2	2	0	1	2	1	0	1	0	2	0	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	2	6	6	2	2	2	6	2	6
Cap, veh/h	174	1206	15	419	1862	831	48	11	0	784	0	430
Arrive On Green	0.05	0.35	0.35	0.08	0.18	0.18	0.03	0.03	0.00	0.23	0.00	0.00
Sat Flow, veh/h	3312	3447	43	1774	3406	1519	1454	336	0	3414	0	1524
Grp Volume(v), veh/h	122	319	334	30	1127	1	16	0	0	673	0	0
Grp Sat Flow(s),veh/h/ln	1656	1704	1786	1774	1703	1519	1790	0	0	1707	0	1524
Q Serve(g_s), s	5.1	20.9	21.0	2.2	42.6	0.1	1.2	0.0	0.0	26.5	0.0	0.0
Cycle Q Clear(g_c), s	5.1	20.9	21.0	2.2	42.6	0.1	1.2	0.0	0.0	26.5	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.81		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	174	596	625	419	1862	831	59	0	0	784	0	430
V/C Ratio(X)	0.70	0.53	0.53	0.07	0.61	0.00	0.27	0.00	0.00	0.86	0.00	0.00
Avail Cap(c_a), veh/h	568	596	625	419	1862	831	166	0	0	1097	0	570
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.90	0.90	0.90	0.85	0.85	0.85	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	65.2	36.4	36.4	50.3	43.5	26.0	66.0	0.0	0.0	51.7	0.0	0.0
Incr Delay (d2), s/veh	4.5	3.1	2.9	0.1	1.2	0.0	2.4	0.0	0.0	5.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	10.3	10.8	1.1	20.5	0.0	0.6	0.0	0.0	13.2	0.0	0.0
LnGrp Delay(d),s/veh	69.8	39.5	39.3	50.4	44.7	26.0	68.4	0.0	0.0	57.6	0.0	0.0
LnGrp LOS	E	D	D	D	D	C	E			E		
Approach Vol, veh/h		775			1158			16			673	
Approach Delay, s/veh		44.2			44.9			68.4			57.6	
Approach LOS		D			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	39.1	55.0		37.1	11.6	82.5		8.8
Change Period (Y+Rc), s	6.0	* 6		4.9	* 4.2	6.0		4.2
Max Green Setting (Gmax), s	13.7	* 49		45.0	* 24	38.7		13.0
Max Q Clear Time (g_c+I1), s	4.2	23.0		28.5	7.1	44.6		3.2
Green Ext Time (p_c), s	0.0	7.6		3.7	0.3	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	48.1
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Lakeville Hwy & US 101 NB Ramps

06/28/2018

Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	100	1167	995	861	317	339		
Future Volume (veh/h)	100	1167	995	861	317	339		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1827	1827	1863	1863	1827	1827		
Adj Flow Rate, veh/h	101	1179	1005	15	320	221		
Adj No. of Lanes	1	2	2	1	2	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	4	4	2	2	4	4		
Cap, veh/h	122	2668	2353	1053	516	346		
Arrive On Green	0.09	1.00	0.88	0.88	0.15	0.15		
Sat Flow, veh/h	1740	3563	3632	1583	3375	1553		
Grp Volume(v), veh/h	101	1179	1005	15	320	221		
Grp Sat Flow(s),veh/h/ln	1740	1736	1770	1583	1688	1553		
Q Serve(g_s), s	8.0	0.0	7.4	0.2	12.4	18.1		
Cycle Q Clear(g_c), s	8.0	0.0	7.4	0.2	12.4	18.1		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	122	2668	2353	1053	516	346		
V/C Ratio(X)	0.83	0.44	0.43	0.01	0.62	0.64		
Avail Cap(c_a), veh/h	137	2668	2353	1053	699	430		
HCM Platoon Ratio	1.33	1.33	1.33	1.33	1.00	1.00		
Upstream Filter(I)	0.85	0.85	0.37	0.37	1.00	1.00		
Uniform Delay (d), s/veh	62.7	0.0	3.1	2.7	55.5	49.3		
Incr Delay (d2), s/veh	26.6	0.5	0.2	0.0	1.2	2.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.8	0.2	3.4	0.1	5.9	15.4		
LnGrp Delay(d),s/veh	89.2	0.5	3.4	2.7	56.7	51.4		
LnGrp LOS	F	A	A	A	E	D		
Approach Vol, veh/h		1280	1020		541			
Approach Delay, s/veh		7.5	3.3		54.5			
Approach LOS		A	A		D			

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		113.6		26.4	14.5	99.1		
Change Period (Y+Rc), s		6.0		5.0	* 4.7	6.0		
Max Green Setting (Gmax), s		100.0		29.0	* 11	84.3		
Max Q Clear Time (g_c+I1), s		2.0		20.1	10.0	9.4		
Green Ext Time (p_c), s		27.4		1.4	0.0	19.9		

Intersection Summary	
HCM 2010 Ctrl Delay	14.9
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
6: Baywood Dr & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	197	1248	27	13	1605	37	95	41	21	10	9	140
Future Volume (veh/h)	197	1248	27	13	1605	37	95	41	21	10	9	140
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1777	1900	1863	1778	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	203	1287	26	13	1655	36	98	42	4	10	9	6
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	230	1780	36	340	2014	44	136	143	14	109	137	321
Arrive On Green	0.04	0.17	0.17	0.13	0.40	0.40	0.08	0.09	0.09	0.06	0.07	0.07
Sat Flow, veh/h	1774	3386	68	1774	3380	73	1774	1673	159	1774	1863	1583
Grp Volume(v), veh/h	203	642	671	13	825	866	98	0	46	10	9	6
Grp Sat Flow(s),veh/h/ln	1774	1689	1765	1774	1689	1765	1774	0	1833	1774	1863	1583
Q Serve(g_s), s	15.9	50.3	50.3	0.9	61.1	61.5	7.6	0.0	3.3	0.7	0.6	0.4
Cycle Q Clear(g_c), s	15.9	50.3	50.3	0.9	61.1	61.5	7.6	0.0	3.3	0.7	0.6	0.4
Prop In Lane	1.00		0.04	1.00		0.04	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	230	888	928	340	1006	1052	136	0	157	109	137	321
V/C Ratio(X)	0.88	0.72	0.72	0.04	0.82	0.82	0.72	0.00	0.29	0.09	0.07	0.02
Avail Cap(c_a), veh/h	274	888	928	340	1006	1052	266	0	419	114	266	431
HCM Platoon Ratio	0.33	0.33	0.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.86	0.86	0.69	0.69	0.69	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	66.0	48.2	48.2	49.7	35.3	35.5	63.1	0.0	60.1	62.0	60.4	44.6
Incr Delay (d2), s/veh	21.8	4.4	4.2	0.0	5.3	5.2	14.1	0.0	1.0	0.8	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	24.6	25.7	0.4	30.0	31.5	4.2	0.0	1.7	0.4	0.3	0.2
LnGrp Delay(d),s/veh	87.7	52.6	52.5	49.7	40.6	40.6	77.2	0.0	61.1	62.8	60.6	44.7
LnGrp LOS	F	D	D	D	D	D	E		E	E	E	D
Approach Vol, veh/h		1516			1704			144			25	
Approach Delay, s/veh		57.3			40.7			72.1			57.6	
Approach LOS		E			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.1	78.9	14.5	14.5	22.3	88.7	12.8	16.2
Change Period (Y+Rc), s	5.3	* 5.3	3.7	* 4.2	* 4.2	5.3	* 4.2	* 4.2
Max Green Setting (Gmax), s	8.0	* 74	21.0	* 20	* 22	60.0	* 9	* 32
Max Q Clear Time (g_c+I1), s	2.9	52.3	9.6	2.6	17.9	63.5	2.7	5.3
Green Ext Time (p_c), s	0.0	14.7	0.4	0.0	0.2	0.0	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	49.6
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
7: Casa Grande Rd & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	906	182	53	1382	20	122	62	20	10	60	135
Future Volume (veh/h)	206	906	182	53	1382	20	122	62	20	10	60	135
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1863	1790	1900	1863	1776	1863	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	212	934	155	55	1425	0	126	64	11	10	62	0
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	0	1	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	7	7	2	7	2	2	2	2	2	2	2
Cap, veh/h	232	1816	301	276	2189	1027	204	176	30	43	192	180
Arrive On Green	0.26	1.00	1.00	0.31	1.00	0.00	0.11	0.11	0.11	0.11	0.11	0.00
Sat Flow, veh/h	1774	2920	484	1774	3374	1583	1324	1547	266	119	1693	1583
Grp Volume(v), veh/h	212	544	545	55	1425	0	126	0	75	72	0	0
Grp Sat Flow(s),veh/h/ln	1774	1700	1704	1774	1687	1583	1324	0	1812	1812	0	1583
Q Serve(g_s), s	16.2	0.0	0.0	3.2	0.0	0.0	7.9	0.0	5.4	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.2	0.0	0.0	3.2	0.0	0.0	12.9	0.0	5.4	5.0	0.0	0.0
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.15	0.14		1.00
Lane Grp Cap(c), veh/h	232	1058	1060	276	2189	1027	204	0	206	235	0	180
V/C Ratio(X)	0.91	0.51	0.51	0.20	0.65	0.00	0.62	0.00	0.36	0.31	0.00	0.00
Avail Cap(c_a), veh/h	291	1058	1060	276	2189	1027	299	0	337	362	0	294
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.80	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	50.9	0.0	0.0	41.8	0.0	0.0	60.6	0.0	57.4	57.2	0.0	0.0
Incr Delay (d2), s/veh	20.9	1.4	1.4	0.1	1.5	0.0	1.1	0.0	0.4	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	0.4	0.4	1.6	0.5	0.0	4.8	0.0	2.7	2.6	0.0	0.0
LnGrp Delay(d),s/veh	71.8	1.4	1.4	41.9	1.5	0.0	61.8	0.0	57.8	57.5	0.0	0.0
LnGrp LOS	E	A	A	D	A		E		E	E		
Approach Vol, veh/h		1301			1480			201			72	
Approach Delay, s/veh		12.9			3.0			60.3			57.5	
Approach LOS		B			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	27.3	92.6		20.1	23.5	96.3		20.1
Change Period (Y+Rc), s	5.5	* 5.5		* 4.2	* 5.2	5.5		* 4.2
Max Green Setting (Gmax), s	12.0	* 87		* 26	* 23	76.1		* 26
Max Q Clear Time (g_c+I1), s	5.2	2.0		7.0	18.2	2.0		14.9
Green Ext Time (p_c), s	0.0	4.5		0.2	0.1	8.3		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.3
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	775	150	15	954	168	490	320	7	64	77	8
Future Volume (veh/h)	9	775	150	15	954	168	490	320	7	64	77	8
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	18	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1863	1789	1900	1863	1788	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	9	791	136	15	973	156	500	327	5	65	79	1
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	0
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	41	868	149	394	1498	240	483	923	13	140	244	3
Arrive On Green	0.05	0.60	0.60	0.23	0.52	0.52	0.26	0.25	0.25	0.08	0.07	0.07
Sat Flow, veh/h	1774	2901	499	1774	2934	470	1774	3568	54	1774	3579	45
Grp Volume(v), veh/h	9	463	464	15	563	566	500	162	170	65	39	41
Grp Sat Flow(s),veh/h/ln	1774	1700	1700	1774	1699	1705	1774	1770	1853	1774	1770	1855
Q Serve(g_s), s	0.7	33.7	33.7	0.9	33.4	33.5	37.0	10.6	10.6	4.9	2.9	2.9
Cycle Q Clear(g_c), s	0.7	33.7	33.7	0.9	33.4	33.5	37.0	10.6	10.6	4.9	2.9	2.9
Prop In Lane	1.00		0.29	1.00		0.28	1.00		0.03	1.00		0.02
Lane Grp Cap(c), veh/h	41	508	508	394	867	870	483	457	478	140	121	127
V/C Ratio(X)	0.22	0.91	0.91	0.04	0.65	0.65	1.04	0.35	0.36	0.46	0.32	0.32
Avail Cap(c_a), veh/h	139	557	557	408	881	884	469	632	662	190	367	384
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.5	26.5	26.5	42.8	25.2	25.2	50.5	43.5	43.5	61.7	62.1	62.1
Incr Delay (d2), s/veh	2.6	23.1	23.1	0.0	3.8	3.8	50.3	0.5	0.4	2.4	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	18.7	18.7	0.5	16.8	16.9	24.8	7.3	7.5	2.5	1.5	1.6
LnGrp Delay(d),s/veh	68.2	49.6	49.6	42.8	28.9	28.9	100.8	48.3	47.9	64.0	63.7	63.6
LnGrp LOS	E	D	D	D	C	C	F	D	D	E	E	E
Approach Vol, veh/h		936			1144			832			145	
Approach Delay, s/veh		49.8			29.1			79.8			63.8	
Approach LOS		D			C			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	37.7	47.4	41.2	13.8	6.9	78.1	15.7	39.2
Change Period (Y+Rc), s	5.5	* 5.5	* 4.2	* 4.2	3.7	5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	11.0	* 46	* 37	* 29	11.0	45.9	* 15	* 50
Max Q Clear Time (g_c+I1), s	2.9	35.7	39.0	4.9	2.7	35.5	6.9	12.6
Green Ext Time (p_c), s	0.0	6.1	0.0	0.3	0.0	7.3	0.1	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.9
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
1: Washington St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	247	64	218	222	103	41	744	203	89	800	48
Future Volume (veh/h)	80	247	64	218	222	103	41	744	203	89	800	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	1	14	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1796	1900	1759	1791	1900	1863	1759	1900	1863	1765	1900
Adj Flow Rate, veh/h	80	247	64	218	222	98	41	744	199	89	800	45
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	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
Percent Heavy Veh, %	8	8	8	8	8	8	2	8	8	2	8	8
Cap, veh/h	84	259	67	350	291	55	145	860	230	111	991	56
Arrive On Green	0.24	0.24	0.24	0.07	0.07	0.07	0.09	0.34	0.34	0.06	0.31	0.31
Sat Flow, veh/h	353	1089	282	1675	1177	520	1774	2598	695	1774	3226	181
Grp Volume(v), veh/h	391	0	0	218	0	320	41	479	464	89	416	429
Grp Sat Flow(s),veh/h/ln	1724	0	0	1675	0	1696	1774	1671	1622	1774	1677	1730
Q Serve(g_s), s	28.0	0.0	0.0	15.8	0.0	23.4	2.7	33.2	33.2	6.2	28.6	28.6
Cycle Q Clear(g_c), s	28.0	0.0	0.0	15.8	0.0	23.4	2.7	33.2	33.2	6.2	28.6	28.6
Prop In Lane	0.20		0.16	1.00		0.31	1.00		0.43	1.00		0.10
Lane Grp Cap(c), veh/h	410	0	0	350	0	389	145	553	537	111	515	532
V/C Ratio(X)	0.95	0.00	0.00	0.62	0.00	0.82	0.28	0.86	0.87	0.80	0.81	0.81
Avail Cap(c_a), veh/h	410	0	0	389	0	394	158	566	549	114	515	532
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.90	0.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.0	0.0	0.0	53.5	0.0	57.4	54.0	39.2	39.2	57.8	39.9	39.9
Incr Delay (d2), s/veh	32.6	0.0	0.0	1.4	0.0	11.1	0.4	16.4	16.8	29.7	12.8	12.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.2	0.0	52.5	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.0	0.0	0.0	7.7	0.0	19.9	1.3	18.0	17.5	4.0	15.0	15.4
LnGrp Delay(d),s/veh	79.6	0.0	0.0	55.1	0.0	121.0	54.4	55.6	56.0	87.5	52.6	52.3
LnGrp LOS	E			E		F	D	E	E	F	D	D
Approach Vol, veh/h		391			538			984			934	
Approach Delay, s/veh		79.6			94.3			55.7			55.8	
Approach LOS		E			F			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.8	47.1		35.0	15.9	43.0		31.1
Change Period (Y+Rc), s	4.0	* 4.8		* 5.3	4.8	* 4.6		5.0
Max Green Setting (Gmax), s	8.0	* 39		* 30	9.0	* 38		29.0
Max Q Clear Time (g_c+I1), s	8.2	35.2		30.0	4.7	30.6		25.4
Green Ext Time (p_c), s	0.0	1.8		0.0	0.0	2.4		0.7

Intersection Summary	
HCM 2010 Ctrl Delay	66.3
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
2: E D St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	468	80	558	480	46	56	124	508	15	181	11
Future Volume (veh/h)	7	468	80	558	480	46	56	124	508	15	181	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	6	3	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1699	1863	1863	1696	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	7	468	79	558	480	37	56	124	508	15	181	7
Adj No. of Lanes	0	1	1	1	1	1	0	1	1	1	1	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
Percent Heavy Veh, %	12	12	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	29	370	441	569	1087	1013	58	128	669	252	253	10
Arrive On Green	0.28	0.28	0.28	0.32	0.64	0.64	0.10	0.10	0.10	0.14	0.14	0.14
Sat Flow, veh/h	8	1681	1566	1774	1696	1581	571	1264	1583	1774	1777	69
Grp Volume(v), veh/h	475	0	79	558	480	37	180	0	508	15	0	188
Grp Sat Flow(s),veh/h/ln	1690	0	1566	1774	1696	1581	1834	0	1583	1774	0	1845
Q Serve(g_s), s	11.6	0.0	4.8	39.0	17.7	1.1	12.2	0.0	0.0	0.9	0.0	12.2
Cycle Q Clear(g_c), s	35.1	0.0	4.8	39.0	17.7	1.1	12.2	0.0	0.0	0.9	0.0	12.2
Prop In Lane	0.01		1.00	1.00		1.00	0.31		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	349	0	441	569	1087	1013	186	0	669	252	0	263
V/C Ratio(X)	1.36	0.00	0.18	0.98	0.44	0.04	0.97	0.00	0.76	0.06	0.00	0.72
Avail Cap(c_a), veh/h	505	0	441	569	1087	1013	186	0	669	407	0	424
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.27	0.00	0.27	0.72	0.72	0.72	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.2	0.0	34.0	42.4	11.5	8.3	55.9	0.0	30.7	46.4	0.0	51.2
Incr Delay (d2), s/veh	166.9	0.0	0.2	26.9	0.9	0.0	56.0	0.0	5.4	0.1	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	29.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.3	0.0	2.1	28.4	9.1	0.5	9.1	0.0	15.8	0.5	0.0	6.4
LnGrp Delay(d),s/veh	209.1	0.0	34.2	98.3	12.5	8.3	112.0	0.0	36.1	46.4	0.0	53.9
LnGrp LOS	F		C	F	B	A	F		D	D		D
Approach Vol, veh/h		554			1075			688			203	
Approach Delay, s/veh		184.1			56.9			55.9			53.4	
Approach LOS		F			E			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		18.0	44.9	40.0		22.1		84.9
Change Period (Y+Rc), s		* 5.3	* 4.8	* 4.8		4.3		* 4.8
Max Green Setting (Gmax), s		* 13	* 30	* 35		28.7		* 69
Max Q Clear Time (g_c+I1), s		14.2	41.0	37.1		14.2		19.7
Green Ext Time (p_c), s		0.0	0.0	0.0		0.7		2.2

Intersection Summary	
HCM 2010 Ctrl Delay	84.3
HCM 2010 LOS	F

Notes

HCM 2010 Signalized Intersection Summary
3: Caulfield Ln & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	143	650	141	141	629	173	282	77	186	335	67	253
Future Volume (veh/h)	143	650	141	141	629	173	282	77	186	335	67	253
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1724	1900	1863	1696	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	143	650	141	141	629	141	282	77	168	383	0	210
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	2	0	1
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
Percent Heavy Veh, %	2	12	12	2	12	2	2	2	2	2	2	2
Cap, veh/h	222	861	186	222	1035	507	317	317	283	525	0	428
Arrive On Green	0.13	0.32	0.32	0.13	0.32	0.32	0.18	0.18	0.18	0.15	0.00	0.15
Sat Flow, veh/h	1774	2679	580	1774	3223	1579	1774	1770	1583	3548	0	1551
Grp Volume(v), veh/h	143	397	394	141	629	141	282	77	168	383	0	210
Grp Sat Flow(s),veh/h/ln	1774	1638	1621	1774	1612	1579	1774	1770	1583	1774	0	1551
Q Serve(g_s), s	6.5	18.4	18.5	6.4	14.0	5.6	13.2	3.2	8.3	8.7	0.0	9.6
Cycle Q Clear(g_c), s	6.5	18.4	18.5	6.4	14.0	5.6	13.2	3.2	8.3	8.7	0.0	9.6
Prop In Lane	1.00		0.36	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	222	526	521	222	1035	507	317	317	283	525	0	428
V/C Ratio(X)	0.64	0.75	0.76	0.64	0.61	0.28	0.89	0.24	0.59	0.73	0.00	0.49
Avail Cap(c_a), veh/h	230	773	765	230	1510	740	318	317	284	624	0	471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.3	25.8	25.8	35.2	24.3	21.4	34.0	29.9	32.0	34.5	0.0	25.9
Incr Delay (d2), s/veh	4.3	3.3	3.4	4.0	0.8	0.4	24.5	0.3	2.9	3.2	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	8.8	8.7	3.4	6.3	2.5	8.6	1.6	3.8	4.5	0.0	4.2
LnGrp Delay(d),s/veh	39.6	29.1	29.2	39.2	25.1	21.9	58.5	30.2	34.8	37.6	0.0	26.5
LnGrp LOS	D	C	C	D	C	C	E	C	C	D		C
Approach Vol, veh/h		934			911			527			593	
Approach Delay, s/veh		30.7			26.8			46.8			33.7	
Approach LOS		C			C			D			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	32.5		17.7	14.6	32.5		20.0
Change Period (Y+Rc), s	4.0	* 5.3		* 5.1	4.0	5.3		4.8
Max Green Setting (Gmax), s	11.0	* 40		* 15	11.0	39.7		15.2
Max Q Clear Time (g_c+I1), s	8.4	20.5		11.6	8.5	16.0		15.2
Green Ext Time (p_c), s	0.0	6.7		0.6	0.0	6.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	33.0
HCM 2010 LOS	C

Notes

HCM 2010 Signalized Intersection Summary
4: In-n-Out Driveway/US 101 SB Ramps & Lakeville St/Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	773	3	6	740	344	5	1	7	975	9	216
Future Volume (veh/h)	353	773	3	6	740	344	5	1	7	975	9	216
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1793	1900	1863	1792	1792	1900	1863	1900	1792	1794	1792
Adj Flow Rate, veh/h	353	773	3	6	740	57	5	1	0	981	0	46
Adj No. of Lanes	2	2	0	1	2	1	0	1	0	2	0	1
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
Percent Heavy Veh, %	6	6	6	2	6	6	2	2	2	6	2	6
Cap, veh/h	705	1788	7	27	1027	458	22	4	0	1030	0	784
Arrive On Green	0.21	0.51	0.51	0.00	0.10	0.10	0.02	0.02	0.00	0.30	0.00	0.30
Sat Flow, veh/h	3312	3480	14	1774	3406	1519	1490	298	0	3414	0	1524
Grp Volume(v), veh/h	353	378	398	6	740	57	6	0	0	981	0	46
Grp Sat Flow(s),veh/h/ln	1656	1703	1790	1774	1703	1519	1788	0	0	1707	0	1524
Q Serve(g_s), s	11.7	17.4	17.4	0.4	26.3	4.3	0.4	0.0	0.0	35.2	0.0	0.0
Cycle Q Clear(g_c), s	11.7	17.4	17.4	0.4	26.3	4.3	0.4	0.0	0.0	35.2	0.0	0.0
Prop In Lane	1.00		0.01	1.00		1.00	0.83		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	705	875	920	27	1027	458	27	0	0	1030	0	784
V/C Ratio(X)	0.50	0.43	0.43	0.22	0.72	0.12	0.22	0.00	0.00	0.95	0.00	0.06
Avail Cap(c_a), veh/h	705	875	920	142	1027	458	143	0	0	1038	0	788
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.60	0.60	0.60	0.92	0.92	0.92	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.3	19.0	19.0	61.5	51.2	41.2	60.8	0.0	0.0	42.8	0.0	15.2
Incr Delay (d2), s/veh	0.3	0.9	0.9	3.8	4.0	0.5	4.1	0.0	0.0	17.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	8.3	8.7	0.2	13.0	1.9	0.2	0.0	0.0	19.2	0.0	0.8
LnGrp Delay(d),s/veh	43.7	19.9	19.9	65.3	55.2	41.7	64.9	0.0	0.0	60.5	0.0	15.2
LnGrp LOS	D	B	B	E	E	D	E			E		B
Approach Vol, veh/h		1129			803			6			1027	
Approach Delay, s/veh		27.3			54.3			64.9			58.5	
Approach LOS		C			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	70.2		42.6	32.6	43.7		6.1
Change Period (Y+Rc), s	* 4.2	6.0		4.9	6.0	* 6		4.2
Max Green Setting (Gmax), s	* 10	47.7		38.0	20.0	* 38		10.0
Max Q Clear Time (g_c+I1), s	2.4	19.4		37.2	13.7	28.3		2.4
Green Ext Time (p_c), s	0.0	9.7		0.5	0.7	5.2		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	45.5
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Lakeville Hwy & US 101 NB Ramps

06/28/2018

Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	129	1593	921	857	260	155		
Future Volume (veh/h)	129	1593	921	857	260	155		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1827	1827	1863	1863	1827	1827		
Adj Flow Rate, veh/h	129	1593	921	38	260	61		
Adj No. of Lanes	1	2	2	1	2	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	4	4	2	2	4	4		
Cap, veh/h	151	2805	2419	1082	351	296		
Arrive On Green	0.17	1.00	0.68	0.68	0.10	0.10		
Sat Flow, veh/h	1740	3563	3632	1583	3375	1553		
Grp Volume(v), veh/h	129	1593	921	38	260	61		
Grp Sat Flow(s),veh/h/ln	1740	1736	1770	1583	1688	1553		
Q Serve(g_s), s	9.0	0.0	13.9	1.0	9.3	4.1		
Cycle Q Clear(g_c), s	9.0	0.0	13.9	1.0	9.3	4.1		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	151	2805	2419	1082	351	296		
V/C Ratio(X)	0.85	0.57	0.38	0.04	0.74	0.21		
Avail Cap(c_a), veh/h	153	2805	2419	1082	837	520		
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	0.72	0.72	0.56	0.56	1.00	1.00		
Uniform Delay (d), s/veh	50.9	0.0	8.5	6.4	54.4	42.6		
Incr Delay (d2), s/veh	26.8	0.6	0.3	0.0	3.1	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.5	0.2	6.9	0.4	4.5	3.8		
LnGrp Delay(d),s/veh	77.6	0.6	8.7	6.4	57.4	42.9		
LnGrp LOS	E	A	A	A	E	D		
Approach Vol, veh/h		1722	959		321			
Approach Delay, s/veh		6.4	8.6		54.7			
Approach LOS		A	A		D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		107.0		18.0	15.6	91.4		
Change Period (Y+Rc), s		6.0		5.0	* 4.7	6.0		
Max Green Setting (Gmax), s		83.0		31.0	* 11	67.3		
Max Q Clear Time (g_c+I1), s		2.0		11.3	11.0	15.9		
Green Ext Time (p_c), s		45.1		1.0	0.0	16.4		
Intersection Summary								
HCM 2010 Ctrl Delay			12.3					
HCM 2010 LOS			B					
Notes								

HCM 2010 Signalized Intersection Summary
6: Baywood Dr & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	1660	27	9	1418	33	56	5	16	36	21	324
Future Volume (veh/h)	86	1660	27	9	1418	33	56	5	16	36	21	324
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1777	1900	1863	1778	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	86	1660	25	9	1418	31	56	5	4	36	21	203
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	135	1653	25	273	1934	42	134	155	124	91	255	337
Arrive On Green	0.10	0.65	0.65	0.10	0.38	0.38	0.08	0.16	0.16	0.05	0.14	0.14
Sat Flow, veh/h	1774	3405	51	1774	3379	74	1774	960	768	1774	1863	1583
Grp Volume(v), veh/h	86	822	863	9	708	741	56	0	9	36	21	203
Grp Sat Flow(s),veh/h/ln	1774	1688	1768	1774	1689	1765	1774	0	1727	1774	1863	1583
Q Serve(g_s), s	5.8	60.7	60.7	0.6	44.9	45.0	3.8	0.0	0.5	2.5	1.2	14.5
Cycle Q Clear(g_c), s	5.8	60.7	60.7	0.6	44.9	45.0	3.8	0.0	0.5	2.5	1.2	14.5
Prop In Lane	1.00		0.03	1.00		0.04	1.00		0.44	1.00		1.00
Lane Grp Cap(c), veh/h	135	820	859	273	967	1010	134	0	278	91	255	337
V/C Ratio(X)	0.64	1.00	1.01	0.03	0.73	0.73	0.42	0.00	0.03	0.40	0.08	0.60
Avail Cap(c_a), veh/h	213	820	859	273	967	1010	156	0	456	142	477	526
HCM Platoon Ratio	1.33	1.33	1.33	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.78	0.82	0.82	0.82	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.5	22.1	22.1	47.7	30.3	30.4	55.2	0.0	44.2	57.4	47.1	44.4
Incr Delay (d2), s/veh	3.9	28.4	28.4	0.0	4.0	3.9	4.4	0.0	0.0	5.8	0.1	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	34.3	36.0	0.3	22.1	23.1	2.0	0.0	0.3	1.4	0.6	6.5
LnGrp Delay(d),s/veh	58.4	50.5	50.6	47.7	34.4	34.3	59.6	0.0	44.3	63.2	47.2	46.1
LnGrp LOS	E	F	F	D	C	C	E		D	E	D	D
Approach Vol, veh/h		1771			1458			65			260	
Approach Delay, s/veh		50.9			34.4			57.5			48.6	
Approach LOS		D			C			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.5	66.0	13.1	21.3	13.7	76.8	10.1	24.3				
Change Period (Y+Rc), s	5.3	* 5.3	3.7	* 4.2	* 4.2	5.3	3.7	* 4.2				
Max Green Setting (Gmax), s	3.9	* 61	11.0	* 32	* 15	49.6	10.0	* 33				
Max Q Clear Time (g_c+I1), s	2.6	62.7	5.8	16.5	7.8	47.0	4.5	2.5				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.7	0.1	2.3	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			44.1									
HCM 2010 LOS			D									
Notes												

HCM 2010 Signalized Intersection Summary
7: Casa Grande Rd & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	142	1455	70	33	1016	10	176	70	41	15	55	278
Future Volume (veh/h)	142	1455	70	33	1016	10	176	70	41	15	55	278
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1780	1900	1863	1776	1863	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	142	1455	67	33	1016	0	176	70	26	15	55	4
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	0	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	2	2	2	2	2	2	2
Cap, veh/h	166	1741	80	298	2043	959	257	235	87	81	271	286
Arrive On Green	0.19	1.00	1.00	0.34	1.00	0.00	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1774	3292	151	1774	3374	1583	1333	1294	481	254	1495	1575
Grp Volume(v), veh/h	142	745	777	33	1016	0	176	0	96	70	0	4
Grp Sat Flow(s),veh/h/ln	1774	1691	1753	1774	1687	1583	1333	0	1775	1750	0	1575
Q Serve(g_s), s	9.7	0.0	0.0	1.6	0.0	0.0	16.2	0.0	5.8	0.0	0.0	0.3
Cycle Q Clear(g_c), s	9.7	0.0	0.0	1.6	0.0	0.0	20.2	0.0	5.8	4.0	0.0	0.3
Prop In Lane	1.00		0.09	1.00		1.00	1.00		0.27	0.21		1.00
Lane Grp Cap(c), veh/h	166	894	927	298	2043	959	257	0	322	353	0	286
V/C Ratio(X)	0.85	0.83	0.84	0.11	0.50	0.00	0.69	0.00	0.30	0.20	0.00	0.01
Avail Cap(c_a), veh/h	199	894	927	298	2043	959	346	0	440	466	0	391
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.56	0.56	0.56	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.0	0.0	0.0	35.0	0.0	0.0	52.1	0.0	44.3	43.5	0.0	42.0
Incr Delay (d2), s/veh	13.9	5.3	5.3	0.1	0.9	0.0	1.5	0.0	0.2	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	1.3	1.4	0.8	0.2	0.0	6.1	0.0	2.9	2.1	0.0	0.1
LnGrp Delay(d),s/veh	63.9	5.3	5.3	35.1	0.9	0.0	53.6	0.0	44.5	43.6	0.0	42.0
LnGrp LOS	E	A	A	D	A		D		D	D		D
Approach Vol, veh/h		1664			1049			272			74	
Approach Delay, s/veh		10.3			1.9			50.3			43.5	
Approach LOS		B			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	26.5	71.6		26.9	16.9	81.2		26.9
Change Period (Y+Rc), s	5.5	* 5.5		* 4.2	* 5.2	5.5		* 4.2
Max Green Setting (Gmax), s	13.0	* 66		* 31	* 14	65.1		* 31
Max Q Clear Time (g_c+I1), s	3.6	2.0		6.0	11.7	2.0		22.2
Green Ext Time (p_c), s	0.0	7.7		0.2	0.0	4.9		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	11.8
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	962	493	31	771	78	266	146	9	186	267	19
Future Volume (veh/h)	19	962	493	31	771	78	266	146	9	186	267	19
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	15	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1804	1900	1863	1783	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	962	392	31	771	70	266	146	4	186	267	16
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	494	1315	470	103	923	84	294	522	14	214	363	22
Arrive On Green	0.56	1.00	1.00	0.06	0.29	0.29	0.17	0.15	0.15	0.12	0.11	0.11
Sat Flow, veh/h	1774	2386	962	1774	3142	285	1774	3519	96	1774	3393	202
Grp Volume(v), veh/h	19	688	666	31	416	425	266	73	77	186	139	144
Grp Sat Flow(s),veh/h/ln	1774	1714	1634	1774	1694	1733	1774	1770	1846	1774	1770	1826
Q Serve(g_s), s	0.6	0.0	0.0	2.1	28.7	28.7	18.4	4.6	4.6	12.9	9.5	9.6
Cycle Q Clear(g_c), s	0.6	0.0	0.0	2.1	28.7	28.7	18.4	4.6	4.6	12.9	9.5	9.6
Prop In Lane	1.00		0.59	1.00		0.16	1.00		0.05	1.00		0.11
Lane Grp Cap(c), veh/h	494	906	870	103	498	509	294	262	274	214	189	195
V/C Ratio(X)	0.04	0.76	0.76	0.30	0.84	0.84	0.90	0.28	0.28	0.87	0.73	0.74
Avail Cap(c_a), veh/h	494	906	863	156	568	581	355	467	487	284	411	424
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	0.0	56.4	41.3	41.3	51.2	47.3	47.3	54.0	54.1	54.1
Incr Delay (d2), s/veh	0.0	6.0	6.3	1.6	15.2	14.9	23.0	0.6	0.6	19.4	5.4	5.4
Initial Q Delay(d3),s/veh	0.0	2.1	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	2.0	2.1	1.1	15.5	15.8	10.9	2.3	2.4	7.5	4.9	5.1
LnGrp Delay(d),s/veh	20.2	8.0	8.6	58.1	56.5	56.2	74.1	47.9	47.9	73.4	59.4	59.5
LnGrp LOS	C	A	A	E	E	E	E	D	D	E	E	E
Approach Vol, veh/h		1373			872			416			469	
Approach Delay, s/veh		8.5			56.4			64.7			65.0	
Approach LOS		A			E			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	71.6	24.9	17.6	40.3	42.2	19.8	22.7
Change Period (Y+Rc), s	3.7	5.5	* 4.2	* 4.2	5.5	* 5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	11.0	42.9	* 25	* 29	12.0	* 42	* 20	* 33
Max Q Clear Time (g_c+I1), s	4.1	2.0	20.4	11.6	2.6	30.7	14.9	6.6
Green Ext Time (p_c), s	0.0	23.6	0.3	1.4	0.0	6.0	0.2	0.7

Intersection Summary	
HCM 2010 Ctrl Delay	37.8
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
1: Washington St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	241	80	223	278	145	84	939	190	130	943	109
Future Volume (veh/h)	105	241	80	223	278	145	84	939	190	130	943	109
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	12	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.97
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1803	1900	1759	1793	1900	1863	1759	1900	1863	1769	1900
Adj Flow Rate, veh/h	105	241	79	223	278	141	84	939	181	130	943	106
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	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
Percent Heavy Veh, %	8	8	8	8	8	8	2	8	8	2	8	8
Cap, veh/h	105	241	79	365	357	28	251	1068	206	114	916	103
Arrive On Green	0.25	0.25	0.25	0.07	0.07	0.07	0.14	0.38	0.38	0.06	0.30	0.30
Sat Flow, veh/h	425	975	320	1675	1117	566	1774	2784	536	1774	3037	341
Grp Volume(v), veh/h	425	0	0	223	0	419	84	563	557	130	522	527
Grp Sat Flow(s),veh/h/ln	1720	0	0	1675	0	1683	1774	1671	1649	1774	1681	1698
Q Serve(g_s), s	30.6	0.0	0.0	16.0	0.0	27.0	5.3	38.9	38.9	8.0	37.4	37.4
Cycle Q Clear(g_c), s	30.6	0.0	0.0	16.0	0.0	27.0	5.3	38.9	38.9	8.0	37.4	37.4
Prop In Lane	0.25		0.19	1.00		0.34	1.00		0.33	1.00		0.20
Lane Grp Cap(c), veh/h	426	0	0	365	0	385	251	641	633	114	507	512
V/C Ratio(X)	1.00	0.00	0.00	0.61	0.00	1.09	0.33	0.88	0.88	1.14	1.03	1.03
Avail Cap(c_a), veh/h	426	0	0	365	0	367	251	641	633	114	507	512
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.84	0.00	0.84	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	0.0	0.0	52.5	0.0	57.5	47.9	35.5	35.6	58.0	43.3	43.3
Incr Delay (d2), s/veh	43.1	0.0	0.0	1.8	0.0	67.9	0.3	15.8	16.1	125.3	47.7	47.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	96.7	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.6	0.0	0.0	7.6	0.0	32.5	2.6	20.6	20.5	7.9	24.0	24.3
LnGrp Delay(d),s/veh	89.8	0.0	0.0	54.3	0.0	222.1	48.2	51.3	51.6	183.3	91.0	90.9
LnGrp LOS	F			D		F	D	D	D	F	F	F
Approach Vol, veh/h		425			642			1204			1179	
Approach Delay, s/veh		89.8			163.8			51.2			101.1	
Approach LOS		F			F			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.0	52.6		36.0	22.6	42.0		32.0
Change Period (Y+Rc), s	4.0	* 4.8		* 5.3	4.8	* 4.6		5.0
Max Green Setting (Gmax), s	8.0	* 39		* 31	10.0	* 37		27.0
Max Q Clear Time (g_c+I1), s	10.0	40.9		32.6	7.3	39.4		29.0
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	94.0
HCM 2010 LOS	F

Notes

HCM 2010 Signalized Intersection Summary
2: E D St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	489	76	540	516	34	103	183	707	20	199	14
Future Volume (veh/h)	9	489	76	540	516	34	103	183	707	20	199	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	8	3	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		1.00	1.00		0.92
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1699	1863	1863	1696	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	9	489	76	540	516	28	103	183	707	20	199	13
Adj No. of Lanes	0	1	1	1	1	1	0	1	1	1	1	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
Percent Heavy Veh, %	12	12	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	30	285	393	502	973	902	99	177	687	283	274	18
Arrive On Green	0.25	0.25	0.25	0.28	0.57	0.57	0.15	0.15	0.15	0.16	0.16	0.16
Sat Flow, veh/h	8	1475	1561	1774	1696	1574	659	1171	1583	1774	1720	112
Grp Volume(v), veh/h	498	0	76	540	516	28	286	0	707	20	0	212
Grp Sat Flow(s),veh/h/ln	1483	0	1561	1774	1696	1574	1830	0	1583	1774	0	1832
Q Serve(g_s), s	8.1	0.0	4.7	35.1	23.1	1.0	18.7	0.0	18.7	1.2	0.0	13.6
Cycle Q Clear(g_c), s	31.2	0.0	4.7	35.1	23.1	1.0	18.7	0.0	18.7	1.2	0.0	13.6
Prop In Lane	0.02		1.00	1.00		1.00	0.36		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	294	0	393	502	973	902	276	0	687	283	0	292
V/C Ratio(X)	1.69	0.00	0.19	1.07	0.53	0.03	1.04	0.00	1.03	0.07	0.00	0.73
Avail Cap(c_a), veh/h	403	0	393	502	973	902	276	0	687	439	0	454
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.09	0.00	0.09	0.66	0.66	0.66	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.6	0.0	36.5	44.4	16.5	11.5	52.7	0.0	35.1	44.3	0.0	49.5
Incr Delay (d2), s/veh	312.9	0.0	0.1	54.7	1.4	0.0	64.0	0.0	41.9	0.1	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	51.6	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	34.7	0.0	2.1	32.8	11.7	0.4	14.3	0.0	15.9	0.6	0.0	7.1
LnGrp Delay(d),s/veh	355.5	0.0	36.6	150.8	18.0	11.5	116.6	0.0	77.0	44.4	0.0	52.1
LnGrp LOS	F		D	F	B	B	F		F	D		D
Approach Vol, veh/h		574			1084			993			232	
Approach Delay, s/veh		313.3			84.0			88.4			51.4	
Approach LOS		F			F			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		24.0	39.9	36.0		24.1		75.9
Change Period (Y+Rc), s		* 5.3	* 4.8	* 4.8		4.3		* 4.8
Max Green Setting (Gmax), s		* 19	* 25	* 31		30.7		* 60
Max Q Clear Time (g_c+I1), s		20.7	37.1	33.2		15.6		25.1
Green Ext Time (p_c), s		0.0	0.0	0.0		0.9		2.4

Intersection Summary	
HCM 2010 Ctrl Delay	128.5
HCM 2010 LOS	F

Notes

HCM 2010 Signalized Intersection Summary
3: Caulfield Ln & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	610	319	234	768	425	282	144	175	247	86	158
Future Volume (veh/h)	233	610	319	234	768	425	282	144	175	247	86	158
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1750	1900	1863	1696	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	233	610	316	234	768	401	282	144	162	166	199	116
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	1	1
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
Percent Heavy Veh, %	2	12	12	2	12	2	2	2	2	2	2	2
Cap, veh/h	217	761	394	217	1157	567	300	299	268	241	253	406
Arrive On Green	0.12	0.36	0.36	0.12	0.36	0.36	0.17	0.17	0.17	0.14	0.14	0.14
Sat Flow, veh/h	1774	2119	1098	1774	3223	1581	1774	1770	1583	1774	1863	1562
Grp Volume(v), veh/h	233	478	448	234	768	401	282	144	162	166	199	116
Grp Sat Flow(s),veh/h/ln	1774	1663	1555	1774	1612	1581	1774	1770	1583	1774	1863	1562
Q Serve(g_s), s	11.0	23.3	23.3	11.0	18.0	19.6	14.1	6.6	8.5	8.0	9.3	5.3
Cycle Q Clear(g_c), s	11.0	23.3	23.3	11.0	18.0	19.6	14.1	6.6	8.5	8.0	9.3	5.3
Prop In Lane	1.00		0.71	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	217	597	558	217	1157	567	300	299	268	241	253	406
V/C Ratio(X)	1.07	0.80	0.80	1.08	0.66	0.71	0.94	0.48	0.60	0.69	0.79	0.29
Avail Cap(c_a), veh/h	217	740	692	217	1424	698	300	299	268	294	309	453
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.4	25.9	25.9	39.4	24.2	24.7	36.9	33.8	34.5	37.0	37.6	26.7
Incr Delay (d2), s/veh	81.7	5.9	6.2	83.2	1.1	3.1	36.1	0.9	3.4	4.3	9.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	11.6	10.9	10.3	8.2	8.9	9.9	3.3	4.0	4.2	5.4	2.3
LnGrp Delay(d),s/veh	121.2	31.8	32.2	122.6	25.4	27.8	72.9	34.7	37.9	41.3	47.1	27.0
LnGrp LOS	F	C	C	F	C	C	E	C	D	D	D	C
Approach Vol, veh/h		1159			1403			588			481	
Approach Delay, s/veh		49.9			42.3			53.9			40.3	
Approach LOS		D			D			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.0	37.5		17.3	15.0	37.5		20.0
Change Period (Y+Rc), s	4.0	* 5.3		* 5.1	4.0	5.3		4.8
Max Green Setting (Gmax), s	11.0	* 40		* 15	11.0	39.7		15.2
Max Q Clear Time (g_c+I1), s	13.0	25.3		11.3	13.0	21.6		16.1
Green Ext Time (p_c), s	0.0	7.0		0.6	0.0	8.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	46.3
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
4: In-n-Out Driveway/US 101 SB Ramps & Lakeville St/Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	754	8	28	1253	264	12	3	14	639	14	248
Future Volume (veh/h)	210	754	8	28	1253	264	12	3	14	639	14	248
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1793	1900	1863	1792	1792	1900	1863	1900	1792	1795	1792
Adj Flow Rate, veh/h	210	754	7	28	1253	36	12	3	0	649	0	78
Adj No. of Lanes	2	2	0	1	2	1	0	1	0	2	0	1
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
Percent Heavy Veh, %	6	6	6	2	6	6	2	2	2	6	2	6
Cap, veh/h	266	1211	11	430	1788	798	45	11	0	768	0	465
Arrive On Green	0.08	0.35	0.35	0.08	0.17	0.17	0.03	0.03	0.00	0.23	0.00	0.23
Sat Flow, veh/h	3312	3459	32	1774	3406	1519	1433	358	0	3414	0	1524
Grp Volume(v), veh/h	210	371	390	28	1253	36	15	0	0	649	0	78
Grp Sat Flow(s),veh/h/ln	1656	1704	1787	1774	1703	1519	1791	0	0	1707	0	1524
Q Serve(g_s), s	8.7	25.4	25.4	2.0	48.5	2.8	1.1	0.0	0.0	25.5	0.0	5.2
Cycle Q Clear(g_c), s	8.7	25.4	25.4	2.0	48.5	2.8	1.1	0.0	0.0	25.5	0.0	5.2
Prop In Lane	1.00		0.02	1.00		1.00	0.80		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	266	596	626	430	1788	798	57	0	0	768	0	465
V/C Ratio(X)	0.79	0.62	0.62	0.07	0.70	0.05	0.27	0.00	0.00	0.84	0.00	0.17
Avail Cap(c_a), veh/h	568	596	626	430	1788	798	166	0	0	1097	0	612
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.57	0.57	0.57	0.74	0.74	0.74	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.2	37.8	37.8	49.7	47.5	28.6	66.2	0.0	0.0	51.9	0.0	35.6
Incr Delay (d2), s/veh	3.0	2.8	2.6	0.0	1.7	0.1	2.5	0.0	0.0	5.2	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	12.4	13.0	1.0	23.3	1.2	0.6	0.0	0.0	12.5	0.0	2.2
LnGrp Delay(d),s/veh	66.2	40.6	40.5	49.8	49.2	28.7	68.7	0.0	0.0	57.1	0.0	35.8
LnGrp LOS	E	D	D	D	D	C	E			E		D
Approach Vol, veh/h		971			1317			15			727	
Approach Delay, s/veh		46.1			48.7			68.7			54.8	
Approach LOS		D			D			E			D	

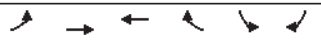
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	40.0	55.0		36.4	15.5	79.5		8.6
Change Period (Y+Rc), s	6.0	* 6		4.9	* 4.2	6.0		4.2
Max Green Setting (Gmax), s	13.7	* 49		45.0	* 24	38.7		13.0
Max Q Clear Time (g_c+I1), s	4.0	27.4		27.5	10.7	50.5		3.1
Green Ext Time (p_c), s	0.0	8.3		4.0	0.5	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.4
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Lakeville Hwy & US 101 NB Ramps

06/28/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	168	1264	1088	877	341	458
Future Volume (veh/h)	168	1264	1088	877	341	458
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1827	1863	1863	1827	1827
Adj Flow Rate, veh/h	168	1264	1088	31	341	329
Adj No. of Lanes	1	2	2	1	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	4	4	2	2	4	4
Cap, veh/h	137	2481	2133	954	698	443
Arrive On Green	0.08	0.71	0.60	0.60	0.21	0.21
Sat Flow, veh/h	1740	3563	3632	1583	3375	1553
Grp Volume(v), veh/h	168	1264	1088	31	341	329
Grp Sat Flow(s),veh/h/ln	1740	1736	1770	1583	1688	1553
Q Serve(g_s), s	11.0	22.9	24.7	1.1	12.5	26.9
Cycle Q Clear(g_c), s	11.0	22.9	24.7	1.1	12.5	26.9
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	137	2481	2133	954	698	443
V/C Ratio(X)	1.23	0.51	0.51	0.03	0.49	0.74
Avail Cap(c_a), veh/h	137	2481	2133	954	699	444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.25	0.25	1.00	1.00
Uniform Delay (d), s/veh	64.5	9.0	16.0	11.3	49.0	45.4
Incr Delay (d2), s/veh	144.8	0.6	0.2	0.0	0.5	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	11.1	12.0	0.5	5.9	22.7
LnGrp Delay(d),s/veh	209.3	9.6	16.2	11.3	49.5	52.0
LnGrp LOS	F	A	B	B	D	D
Approach Vol, veh/h		1432	1119		670	
Approach Delay, s/veh		33.0	16.0		50.7	
Approach LOS		C	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		106.1		33.9	15.7	90.4		
Change Period (Y+Rc), s		6.0		5.0	* 4.7	6.0		
Max Green Setting (Gmax), s		100.0		29.0	* 11	84.3		
Max Q Clear Time (g_c+I1), s		24.9		28.9	13.0	26.7		
Green Ext Time (p_c), s		29.2		0.0	0.0	21.5		

Intersection Summary	
HCM 2010 Ctrl Delay	30.8
HCM 2010 LOS	C

Notes

HCM 2010 Signalized Intersection Summary
6: Baywood Dr & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	1312	27	17	1679	52	107	43	24	19	12	162
Future Volume (veh/h)	234	1312	27	17	1679	52	107	43	24	19	12	162
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1777	1900	1863	1778	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	234	1312	25	17	1679	50	107	43	7	19	12	27
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	258	1782	34	332	1928	57	137	134	22	116	144	353
Arrive On Green	0.10	0.35	0.35	0.13	0.39	0.39	0.08	0.09	0.09	0.07	0.08	0.08
Sat Flow, veh/h	1774	3390	65	1774	3350	99	1774	1561	254	1774	1863	1583
Grp Volume(v), veh/h	234	653	684	17	844	885	107	0	50	19	12	27
Grp Sat Flow(s),veh/h/ln	1774	1689	1766	1774	1689	1761	1774	0	1815	1774	1863	1583
Q Serve(g_s), s	18.3	47.4	47.4	1.2	64.6	65.2	8.3	0.0	3.6	1.4	0.8	1.9
Cycle Q Clear(g_c), s	18.3	47.4	47.4	1.2	64.6	65.2	8.3	0.0	3.6	1.4	0.8	1.9
Prop In Lane	1.00		0.04	1.00		0.06	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	258	888	928	332	972	1013	137	0	155	116	144	353
V/C Ratio(X)	0.91	0.74	0.74	0.05	0.87	0.87	0.78	0.00	0.32	0.16	0.08	0.08
Avail Cap(c_a), veh/h	274	888	928	332	972	1013	266	0	415	116	266	457
HCM Platoon Ratio	0.67	0.67	0.67	0.67	0.67	0.67	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.84	0.84	0.84	0.67	0.67	0.67	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.2	36.8	36.9	50.3	38.1	38.3	63.4	0.0	60.2	61.8	60.0	43.0
Incr Delay (d2), s/veh	26.8	4.6	4.4	0.0	7.3	7.3	18.2	0.0	1.2	1.4	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	23.2	24.3	0.6	32.1	33.8	4.8	0.0	1.9	0.7	0.4	0.8
LnGrp Delay(d),s/veh	89.1	41.4	41.3	50.3	45.4	45.6	81.6	0.0	61.4	63.2	60.2	43.1
LnGrp LOS	F	D	D	D	D	D	F		E	E	E	D
Approach Vol, veh/h		1571			1746			157			58	
Approach Delay, s/veh		48.4			45.5			75.1			53.2	
Approach LOS		D			D			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.5	78.9	14.5	15.0	24.6	85.9	13.4	16.2
Change Period (Y+Rc), s	5.3	* 5.3	3.7	* 4.2	* 4.2	5.3	* 4.2	* 4.2
Max Green Setting (Gmax), s	8.0	* 74	21.0	* 20	* 22	60.0	* 9	* 32
Max Q Clear Time (g_c+I1), s	3.2	49.4	10.3	3.9	20.3	67.2	3.4	5.6
Green Ext Time (p_c), s	0.0	16.5	0.4	0.1	0.1	0.0	0.0	0.2

Intersection Summary	
HCM 2010 Ctrl Delay	48.3
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
7: Casa Grande Rd & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	980	183	54	1468	20	130	64	26	10	60	135
Future Volume (veh/h)	206	980	183	54	1468	20	130	64	26	10	60	135
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1863	1789	1900	1863	1776	1863	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	206	980	166	54	1468	0	130	64	20	10	60	0
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	0	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	2	2	2	2	2	2	2
Cap, veh/h	227	1810	306	273	2194	1030	208	157	49	43	195	183
Arrive On Green	0.26	1.00	1.00	0.31	1.00	0.00	0.12	0.12	0.12	0.12	0.12	0.00
Sat Flow, veh/h	1774	2909	492	1774	3374	1583	1326	1358	424	121	1689	1583
Grp Volume(v), veh/h	206	572	574	54	1468	0	130	0	84	70	0	0
Grp Sat Flow(s),veh/h/ln	1774	1699	1702	1774	1687	1583	1326	0	1783	1810	0	1583
Q Serve(g_s), s	15.8	0.0	0.0	3.1	0.0	0.0	8.3	0.0	6.1	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.8	0.0	0.0	3.1	0.0	0.0	13.1	0.0	6.1	4.8	0.0	0.0
Prop In Lane	1.00		0.29	1.00		1.00	1.00		0.24	0.14		1.00
Lane Grp Cap(c), veh/h	227	1057	1059	273	2194	1030	208	0	206	238	0	183
V/C Ratio(X)	0.91	0.54	0.54	0.20	0.67	0.00	0.63	0.00	0.41	0.29	0.00	0.00
Avail Cap(c_a), veh/h	291	1057	1059	273	2194	1030	301	0	331	362	0	294
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	51.3	0.0	0.0	42.1	0.0	0.0	60.5	0.0	57.5	56.9	0.0	0.0
Incr Delay (d2), s/veh	19.5	1.6	1.6	0.1	1.6	0.0	1.2	0.0	0.5	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.9	0.5	0.5	1.5	0.5	0.0	5.0	0.0	3.0	2.5	0.0	0.0
LnGrp Delay(d),s/veh	70.8	1.6	1.6	42.2	1.6	0.0	61.6	0.0	58.0	57.2	0.0	0.0
LnGrp LOS	E	A	A	D	A		E		E	E		
Approach Vol, veh/h		1352			1522			214			70	
Approach Delay, s/veh		12.1			3.1			60.2			57.2	
Approach LOS		B			A			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	27.0	92.6		20.4	23.1	96.5		20.4
Change Period (Y+Rc), s	5.5	* 5.5		* 4.2	* 5.2	5.5		* 4.2
Max Green Setting (Gmax), s	12.0	* 87		* 26	* 23	76.1		* 26
Max Q Clear Time (g_c+I1), s	5.1	2.0		6.8	17.8	2.0		15.1
Green Ext Time (p_c), s	0.0	4.9		0.2	0.1	8.7		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	12.0
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	834	151	15	1057	188	491	327	7	84	81	15
Future Volume (veh/h)	8	834	151	15	1057	188	491	327	7	84	81	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	18	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1863	1789	1900	1863	1788	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	8	834	134	15	1057	172	491	327	5	84	81	8
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	37	901	145	377	1498	243	483	914	13	146	225	22
Arrive On Green	0.04	0.61	0.61	0.22	0.52	0.52	0.26	0.25	0.25	0.08	0.07	0.07
Sat Flow, veh/h	1774	2932	471	1774	2928	475	1774	3568	54	1774	3259	318
Grp Volume(v), veh/h	8	483	485	15	613	616	491	162	170	84	43	46
Grp Sat Flow(s),veh/h/ln	1774	1699	1704	1774	1699	1704	1774	1770	1853	1774	1770	1807
Q Serve(g_s), s	0.6	35.6	35.6	0.9	37.9	38.1	37.0	10.6	10.6	6.4	3.3	3.4
Cycle Q Clear(g_c), s	0.6	35.6	35.6	0.9	37.9	38.1	37.0	10.6	10.6	6.4	3.3	3.4
Prop In Lane	1.00		0.28	1.00		0.28	1.00		0.03	1.00		0.18
Lane Grp Cap(c), veh/h	37	522	523	377	869	872	483	453	474	146	122	125
V/C Ratio(X)	0.21	0.93	0.93	0.04	0.70	0.71	1.02	0.36	0.36	0.57	0.36	0.36
Avail Cap(c_a), veh/h	139	557	559	392	883	886	469	632	662	190	367	374
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.9	25.6	25.6	43.8	26.2	26.3	50.5	43.7	43.7	61.9	62.2	62.2
Incr Delay (d2), s/veh	2.8	24.8	24.7	0.0	4.8	4.8	45.0	0.5	0.5	3.5	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	4.1	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	20.0	20.0	0.5	19.2	19.3	24.0	7.3	7.5	3.3	1.7	1.7
LnGrp Delay(d),s/veh	68.8	50.3	50.3	43.9	31.0	31.1	95.5	48.6	48.3	65.4	63.9	64.0
LnGrp LOS	E	D	D	D	C	C	F	D	D	E	E	E
Approach Vol, veh/h		976			1244			823			173	
Approach Delay, s/veh		50.5			31.2			76.5			64.6	
Approach LOS		D			C			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	36.4	48.5	41.2	13.9	6.6	78.3	16.2	38.8
Change Period (Y+Rc), s	5.5	* 5.5	* 4.2	* 4.2	3.7	5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	11.0	* 46	* 37	* 29	11.0	45.9	* 15	* 50
Max Q Clear Time (g_c+I1), s	2.9	37.6	39.0	5.4	2.6	40.1	8.4	12.6
Green Ext Time (p_c), s	0.0	5.4	0.0	0.4	0.0	4.6	0.1	2.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.4
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
1: Washington St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	242	40	230	215	125	50	574	171	142	857	54
Future Volume (veh/h)	44	242	40	230	215	125	50	574	171	142	857	54
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	1	14	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1785	1900	1759	1796	1900	1863	1759	1900	1863	1765	1900
Adj Flow Rate, veh/h	44	242	40	230	215	120	50	574	167	142	857	51
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	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
Percent Heavy Veh, %	8	8	8	8	8	8	2	8	8	2	8	8
Cap, veh/h	49	269	44	365	292	55	84	818	237	167	1168	69
Arrive On Green	0.21	0.21	0.21	0.07	0.07	0.07	0.05	0.33	0.33	0.09	0.36	0.36
Sat Flow, veh/h	234	1285	212	1675	1082	604	1774	2546	738	1774	3215	191
Grp Volume(v), veh/h	326	0	0	230	0	335	50	376	365	142	447	461
Grp Sat Flow(s),veh/h/ln	1732	0	0	1675	0	1686	1774	1671	1613	1774	1677	1729
Q Serve(g_s), s	22.9	0.0	0.0	16.7	0.0	24.7	3.4	24.4	24.6	9.9	28.9	28.9
Cycle Q Clear(g_c), s	22.9	0.0	0.0	16.7	0.0	24.7	3.4	24.4	24.6	9.9	28.9	28.9
Prop In Lane	0.13		0.12	1.00		0.36	1.00		0.46	1.00		0.11
Lane Grp Cap(c), veh/h	362	0	0	365	0	400	84	537	518	167	609	628
V/C Ratio(X)	0.90	0.00	0.00	0.63	0.00	0.84	0.59	0.70	0.70	0.85	0.73	0.73
Avail Cap(c_a), veh/h	411	0	0	389	0	391	94	546	527	170	609	628
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.92	0.00	0.92	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.2	0.0	0.0	53.3	0.0	57.5	58.4	37.2	37.2	55.7	34.6	34.6
Incr Delay (d2), s/veh	19.5	0.0	0.0	1.9	0.0	13.3	4.3	7.4	7.8	29.5	7.7	7.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	54.7	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	0.0	0.0	8.1	0.0	21.1	1.8	12.5	12.1	6.2	14.7	15.1
LnGrp Delay(d),s/veh	67.6	0.0	0.0	55.3	0.0	125.5	62.6	44.6	45.0	85.3	42.2	42.0
LnGrp LOS	E			E		F	E	D	D	F	D	D
Approach Vol, veh/h		326			565			791			1050	
Approach Delay, s/veh		67.6			96.9			45.9			47.9	
Approach LOS		E			F			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.8	45.7		31.4	11.4	50.0		32.2
Change Period (Y+Rc), s	4.0	* 4.8		* 5.3	4.8	* 4.6		5.0
Max Green Setting (Gmax), s	12.0	* 35		* 30	2.0	* 45		29.0
Max Q Clear Time (g_c+I1), s	11.9	26.6		24.9	5.4	30.9		26.7
Green Ext Time (p_c), s	0.0	2.3		0.6	0.0	3.5		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	59.8
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
2: E D St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	433	110	427	430	42	110	204	513	43	174	21
Future Volume (veh/h)	9	433	110	427	430	42	110	204	513	43	174	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	6	3	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.94
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1700	1863	1863	1696	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	9	433	109	427	430	33	110	204	513	43	174	17
Adj No. of Lanes	0	1	1	1	1	1	0	1	1	1	1	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
Percent Heavy Veh, %	12	12	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	29	411	504	466	1056	984	75	140	602	256	240	23
Arrive On Green	0.32	0.32	0.32	0.26	0.62	0.62	0.12	0.12	0.12	0.14	0.14	0.14
Sat Flow, veh/h	12	1674	1569	1774	1696	1581	641	1189	1583	1774	1660	162
Grp Volume(v), veh/h	442	0	109	427	430	33	314	0	513	43	0	191
Grp Sat Flow(s),veh/h/ln	1687	0	1569	1774	1696	1581	1831	0	1583	1774	0	1822
Q Serve(g_s), s	4.5	0.0	6.3	29.2	16.0	1.0	14.7	0.0	4.3	2.7	0.0	12.5
Cycle Q Clear(g_c), s	29.9	0.0	6.3	29.2	16.0	1.0	14.7	0.0	4.3	2.7	0.0	12.5
Prop In Lane	0.02		1.00	1.00		1.00	0.35		1.00	1.00		0.09
Lane Grp Cap(c), veh/h	375	0	504	466	1056	984	215	0	602	256	0	263
V/C Ratio(X)	1.18	0.00	0.22	0.92	0.41	0.03	1.46	0.00	0.85	0.17	0.00	0.73
Avail Cap(c_a), veh/h	572	0	504	466	1056	984	215	0	602	379	0	389
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.38	0.00	0.38	0.71	0.71	0.71	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.2	0.0	30.9	45.6	12.1	9.1	55.2	0.0	35.5	46.9	0.0	51.1
Incr Delay (d2), s/veh	91.1	0.0	0.4	17.5	0.8	0.0	230.2	0.0	11.6	0.2	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	14.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	21.4	0.0	2.8	19.5	8.2	0.5	21.2	0.0	3.7	1.3	0.0	6.5
LnGrp Delay(d),s/veh	133.3	0.0	31.3	77.3	13.1	9.1	285.3	0.0	47.2	47.1	0.0	53.9
LnGrp LOS	F		C	E	B	A	F		D	D		D
Approach Vol, veh/h		551			890			827			234	
Approach Delay, s/veh		113.1			43.7			137.6			52.7	
Approach LOS		F			D			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		20.0	37.6	45.0		22.4		82.6
Change Period (Y+Rc), s		* 5.3	* 4.8	* 4.8		4.3		* 4.8
Max Green Setting (Gmax), s		* 15	* 25	* 40		26.7		* 69
Max Q Clear Time (g_c+I1), s		16.7	31.2	31.9		14.5		18.0
Green Ext Time (p_c), s		0.0	0.0	1.4		0.8		1.9

Intersection Summary	
HCM 2010 Ctrl Delay	90.9
HCM 2010 LOS	F

Notes

HCM 2010 Signalized Intersection Summary
3: Caulfield Ln & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	626	46	134	801	72	113	378	262	271	207	300
Future Volume (veh/h)	200	626	46	134	801	72	113	378	262	271	207	300
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1707	1900	1863	1696	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	200	626	46	134	801	40	113	378	244	239	252	257
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	1	1
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
Percent Heavy Veh, %	2	12	12	2	12	2	2	2	2	2	2	2
Cap, veh/h	219	1009	74	211	1047	513	303	355	226	293	307	452
Arrive On Green	0.12	0.33	0.33	0.12	0.32	0.32	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1774	3064	225	1774	3223	1579	1774	2077	1322	1774	1863	1555
Grp Volume(v), veh/h	200	331	341	134	801	40	113	321	301	239	252	257
Grp Sat Flow(s),veh/h/ln	1774	1622	1667	1774	1612	1579	1774	1770	1629	1774	1863	1555
Q Serve(g_s), s	9.9	15.3	15.3	6.4	19.9	1.6	5.0	15.2	15.2	11.6	11.6	12.5
Cycle Q Clear(g_c), s	9.9	15.3	15.3	6.4	19.9	1.6	5.0	15.2	15.2	11.6	11.6	12.5
Prop In Lane	1.00		0.13	1.00		1.00	1.00		0.81	1.00		1.00
Lane Grp Cap(c), veh/h	219	534	549	211	1047	513	303	302	278	293	307	452
V/C Ratio(X)	0.91	0.62	0.62	0.63	0.77	0.08	0.37	1.06	1.08	0.82	0.82	0.57
Avail Cap(c_a), veh/h	219	729	750	219	1438	705	303	302	278	297	312	456
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	25.2	25.2	37.3	27.0	20.8	32.7	36.9	36.9	35.8	35.9	27.0
Incr Delay (d2), s/veh	36.9	1.7	1.6	4.1	2.1	0.1	0.6	69.3	77.0	15.5	15.2	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	7.1	7.3	3.4	9.1	0.7	2.5	13.2	12.8	6.9	7.2	5.5
LnGrp Delay(d),s/veh	75.4	26.8	26.8	41.4	29.1	20.9	33.2	106.2	113.9	51.3	51.0	28.4
LnGrp LOS	E	C	C	D	C	C	C	F	F	D	D	C
Approach Vol, veh/h		872			975			735			748	
Approach Delay, s/veh		38.0			30.5			98.1			43.3	
Approach LOS		D			C			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.6	34.6		19.8	15.0	34.2		20.0
Change Period (Y+Rc), s	4.0	* 5.3		* 5.1	4.0	5.3		4.8
Max Green Setting (Gmax), s	11.0	* 40		* 15	11.0	39.7		15.2
Max Q Clear Time (g_c+I1), s	8.4	17.3		14.5	11.9	21.9		17.2
Green Ext Time (p_c), s	0.0	5.9		0.1	0.0	6.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	50.3
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
4: In-n-Out Driveway/US 101 SB Ramps & Lakeville St/Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	310	929	10	6	779	392	5	5	7	926	5	298
Future Volume (veh/h)	310	929	10	6	779	392	5	5	7	926	5	298
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1793	1900	1863	1792	1792	1900	1863	1900	1792	1793	1792
Adj Flow Rate, veh/h	310	929	10	6	779	105	5	5	0	930	0	128
Adj No. of Lanes	2	2	0	1	2	1	0	1	0	2	0	1
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
Percent Heavy Veh, %	6	6	6	2	6	6	2	2	2	6	2	6
Cap, veh/h	702	1771	19	27	1027	458	21	21	0	1004	0	771
Arrive On Green	0.21	0.51	0.51	0.00	0.10	0.10	0.02	0.02	0.00	0.29	0.00	0.29
Sat Flow, veh/h	3312	3453	37	1774	3406	1519	909	909	0	3414	0	1524
Grp Volume(v), veh/h	310	458	481	6	779	105	10	0	0	930	0	128
Grp Sat Flow(s),veh/h/ln	1656	1704	1787	1774	1703	1519	1817	0	0	1707	0	1524
Q Serve(g_s), s	10.2	22.4	22.4	0.4	27.8	8.0	0.7	0.0	0.0	33.0	0.0	0.0
Cycle Q Clear(g_c), s	10.2	22.4	22.4	0.4	27.8	8.0	0.7	0.0	0.0	33.0	0.0	0.0
Prop In Lane	1.00		0.02	1.00		1.00	0.50		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	702	874	916	27	1027	458	43	0	0	1004	0	771
V/C Ratio(X)	0.44	0.52	0.52	0.22	0.76	0.23	0.23	0.00	0.00	0.93	0.00	0.17
Avail Cap(c_a), veh/h	702	874	916	142	1027	458	145	0	0	1038	0	786
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.68	0.68	0.68	0.86	0.86	0.86	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	42.8	20.3	20.3	61.5	51.8	42.9	59.9	0.0	0.0	42.8	0.0	16.6
Incr Delay (d2), s/veh	0.3	1.5	1.5	3.6	4.5	1.0	2.8	0.0	0.0	13.6	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	10.8	11.3	0.2	13.8	3.5	0.4	0.0	0.0	17.4	0.0	2.4
LnGrp Delay(d),s/veh	43.1	21.8	21.8	65.0	56.4	43.9	62.7	0.0	0.0	56.4	0.0	16.8
LnGrp LOS	D	C	C	E	E	D	E			E		B
Approach Vol, veh/h		1249			890			10			1058	
Approach Delay, s/veh		27.1			54.9			62.7			51.6	
Approach LOS		C			D			E			D	

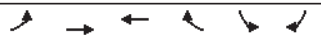
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.1	70.1		41.7	32.5	43.7		7.1
Change Period (Y+Rc), s	* 4.2	6.0		4.9	6.0	* 6		4.2
Max Green Setting (Gmax), s	* 10	47.7		38.0	20.0	* 38		10.0
Max Q Clear Time (g_c+I1), s	2.4	24.4		35.0	12.2	29.8		2.7
Green Ext Time (p_c), s	0.0	11.0		1.7	0.7	4.8		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	43.0
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Lakeville Hwy & US 101 NB Ramps

06/28/2018



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	132	1503	1140	801	315	118
Future Volume (veh/h)	132	1503	1140	801	315	118
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1827	1827	1863	1863	1827	1827
Adj Flow Rate, veh/h	132	1503	1140	-18	315	24
Adj No. of Lanes	1	2	2	1	2	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	4	4	2	2	4	4
Cap, veh/h	153	2764	2374	1062	390	316
Arrive On Green	0.18	1.00	0.67	0.00	0.12	0.12
Sat Flow, veh/h	1740	3563	3632	1583	3375	1553
Grp Volume(v), veh/h	132	1503	1140	-18	315	24
Grp Sat Flow(s),veh/h/ln	1740	1736	1770	1583	1688	1553
Q Serve(g_s), s	9.2	0.0	19.6	0.0	11.4	1.6
Cycle Q Clear(g_c), s	9.2	0.0	19.6	0.0	11.4	1.6
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	153	2764	2374	1062	390	316
V/C Ratio(X)	0.86	0.54	0.48	-0.02	0.81	0.08
Avail Cap(c_a), veh/h	153	2764	2374	1062	837	522
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.71	0.71	0.66	0.00	1.00	1.00
Uniform Delay (d), s/veh	50.8	0.0	10.0	0.0	53.9	40.3
Incr Delay (d2), s/veh	28.1	0.5	0.5	0.0	4.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	0.2	9.7	0.0	5.5	1.5
LnGrp Delay(d),s/veh	78.9	0.5	10.5	0.0	57.9	40.4
LnGrp LOS	E	A	B		E	D
Approach Vol, veh/h		1635	1122		339	
Approach Delay, s/veh		6.9	10.6		56.7	
Approach LOS		A	B		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		105.6		19.4	15.7	89.9		
Change Period (Y+Rc), s		6.0		5.0	* 4.7	6.0		
Max Green Setting (Gmax), s		83.0		31.0	* 11	67.3		
Max Q Clear Time (g_c+I1), s		2.0		13.4	11.2	21.6		
Green Ext Time (p_c), s		40.8		1.1	0.0	20.6		

Intersection Summary	
HCM 2010 Ctrl Delay	13.7
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
6: Baywood Dr & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	1805	39	16	1372	35	28	10	14	32	23	335
Future Volume (veh/h)	77	1805	39	16	1372	35	28	10	14	32	23	335
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1777	1900	1863	1778	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	77	1805	37	16	1372	33	28	10	2	32	23	214
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	116	1671	34	342	2123	51	35	177	35	86	272	335
Arrive On Green	0.09	0.66	0.66	0.19	0.63	0.63	0.02	0.12	0.12	0.05	0.15	0.15
Sat Flow, veh/h	1774	3385	69	1774	3371	81	1774	1508	302	1774	1863	1583
Grp Volume(v), veh/h	77	898	944	16	687	718	28	0	12	32	23	214
Grp Sat Flow(s),veh/h/ln	1774	1689	1765	1774	1689	1763	1774	0	1810	1774	1863	1583
Q Serve(g_s), s	5.3	61.7	61.7	0.9	31.7	31.8	2.0	0.0	0.7	2.2	1.3	15.4
Cycle Q Clear(g_c), s	5.3	61.7	61.7	0.9	31.7	31.8	2.0	0.0	0.7	2.2	1.3	15.4
Prop In Lane	1.00		0.04	1.00		0.05	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	116	833	871	342	1064	1111	35	0	212	86	272	335
V/C Ratio(X)	0.66	1.08	1.08	0.05	0.65	0.65	0.80	0.00	0.06	0.37	0.08	0.64
Avail Cap(c_a), veh/h	125	833	871	342	1064	1111	47	0	478	142	592	607
HCM Platoon Ratio	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	0.79	0.72	0.72	0.72	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	21.5	21.5	41.1	14.4	14.5	61.0	0.0	49.0	57.6	46.2	45.0
Incr Delay (d2), s/veh	9.0	51.0	52.6	0.0	2.2	2.1	67.0	0.0	0.1	5.7	0.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	40.1	42.3	0.5	15.3	16.0	1.6	0.0	0.4	1.2	0.7	6.9
LnGrp Delay(d),s/veh	64.7	72.5	74.1	41.1	16.6	16.6	128.1	0.0	49.1	63.3	46.3	47.0
LnGrp LOS	E	F	F	D	B	B	F		D	E	D	D
Approach Vol, veh/h		1919			1421			40			269	
Approach Delay, s/veh		73.0			16.9			104.4			48.9	
Approach LOS		E			B			F			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.4	67.0	6.2	22.4	12.4	84.0	9.7	18.8
Change Period (Y+Rc), s	5.3	* 5.3	3.7	* 4.2	* 4.2	5.3	3.7	* 4.2
Max Green Setting (Gmax), s	2.9	* 62	3.3	* 40	* 8.8	55.8	10.0	* 33
Max Q Clear Time (g_c+I1), s	2.9	63.7	4.0	17.4	7.3	33.8	4.2	2.7
Green Ext Time (p_c), s	0.0	0.0	0.0	0.8	0.0	16.1	0.0	0.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.7
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
7: Casa Grande Rd & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	1550	63	23	1147	45	161	71	45	29	47	268
Future Volume (veh/h)	227	1550	63	23	1147	45	161	71	45	29	47	268
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1779	1900	1863	1776	1863	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	227	1550	60	23	1147	0	161	71	30	29	47	-6
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	0	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	2	2	2	2	2	2	2
Cap, veh/h	199	1755	68	352	2084	978	245	188	79	100	146	239
Arrive On Green	0.22	1.00	1.00	0.40	1.00	0.00	0.15	0.15	0.15	0.15	0.15	0.00
Sat Flow, veh/h	1774	3318	128	1774	3374	1583	1354	1242	525	400	964	1583
Grp Volume(v), veh/h	227	787	823	23	1147	0	161	0	101	76	0	-6
Grp Sat Flow(s),veh/h/ln	1774	1690	1756	1774	1687	1583	1354	0	1766	1364	0	1583
Q Serve(g_s), s	14.0	0.0	0.0	1.0	0.0	0.0	7.9	0.0	6.4	1.7	0.0	0.0
Cycle Q Clear(g_c), s	14.0	0.0	0.0	1.0	0.0	0.0	16.1	0.0	6.4	8.1	0.0	0.0
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.30	0.38		1.00
Lane Grp Cap(c), veh/h	199	894	929	352	2084	978	245	0	267	246	0	239
V/C Ratio(X)	1.14	0.88	0.89	0.07	0.55	0.00	0.66	0.00	0.38	0.31	0.00	-0.03
Avail Cap(c_a), veh/h	199	894	929	352	2084	978	377	0	438	400	0	393
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.52	0.52	0.52	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	48.5	0.0	0.0	30.5	0.0	0.0	52.3	0.0	47.8	47.9	0.0	0.0
Incr Delay (d2), s/veh	90.9	6.9	6.9	0.0	1.1	0.0	1.1	0.0	0.3	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.8	1.7	1.8	0.5	0.3	0.0	5.5	0.0	3.2	2.4	0.0	0.0
LnGrp Delay(d),s/veh	139.4	6.9	6.9	30.5	1.1	0.0	53.4	0.0	48.1	48.1	0.0	0.0
LnGrp LOS	F	A	A	C	A		D		D	D		
Approach Vol, veh/h		1837			1170			262			70	
Approach Delay, s/veh		23.3			1.6			51.4			52.3	
Approach LOS		C			A			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.3	71.6		23.1	19.2	82.7		23.1
Change Period (Y+Rc), s	5.5	* 5.5		* 4.2	* 5.2	5.5		* 4.2
Max Green Setting (Gmax), s	13.0	* 66		* 31	* 14	65.1		* 31
Max Q Clear Time (g_c+I1), s	3.0	2.0		10.1	16.0	2.0		18.1
Green Ext Time (p_c), s	0.0	8.6		0.2	0.0	5.8		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	18.5
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1052	726	38	841	65	98	11	206	272	15	5
Future Volume (veh/h)	5	1052	726	38	841	65	98	11	206	272	15	5
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	15	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1810	1900	1863	1782	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	5	1052	625	38	841	57	98	11	201	272	15	2
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	400	1417	239	114	983	67	483	265	237	284	130	17
Arrive On Green	0.45	0.96	0.96	0.06	0.31	0.31	0.27	0.15	0.15	0.16	0.04	0.04
Sat Flow, veh/h	1774	2121	1197	1774	3218	218	1774	1770	1580	1774	3146	410
Grp Volume(v), veh/h	5	843	834	38	442	456	98	11	201	272	8	9
Grp Sat Flow(s),veh/h/ln	1774	1720	1598	1774	1693	1743	1774	1770	1580	1774	1770	1787
Q Serve(g_s), s	0.2	60.1	60.1	2.6	30.7	30.7	5.3	0.7	15.5	19.0	0.6	0.6
Cycle Q Clear(g_c), s	0.2	60.1	60.1	2.6	30.7	30.7	5.3	0.7	15.5	19.0	0.6	0.6
Prop In Lane	1.00		0.75	1.00		0.13	1.00		1.00	1.00		0.23
Lane Grp Cap(c), veh/h	400	827	828	114	517	533	483	265	237	284	73	74
V/C Ratio(X)	0.01	1.02	1.01	0.33	0.86	0.86	0.20	0.04	0.85	0.96	0.11	0.12
Avail Cap(c_a), veh/h	400	827	769	156	567	584	483	467	417	284	411	415
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	2.4	2.4	55.9	40.8	40.8	35.0	45.5	51.8	52.1	57.7	57.7
Incr Delay (d2), s/veh	0.0	36.1	33.0	1.7	16.4	16.0	0.2	0.1	8.3	42.0	0.7	0.7
Initial Q Delay(d3),s/veh	0.0	31.5	31.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	32.6	31.9	1.3	16.7	17.2	2.6	0.3	7.3	12.6	0.3	0.3
LnGrp Delay(d),s/veh	26.6	69.9	67.2	57.6	57.2	56.9	35.2	45.5	60.1	94.1	58.4	58.4
LnGrp LOS	C	F	F	E	E	E	D	D	E	F	E	E
Approach Vol, veh/h		1682			936			310			289	
Approach Delay, s/veh		68.4			57.1			51.7			92.0	
Approach LOS		E			E			D			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	65.6	38.2	9.4	33.7	43.7	24.7	22.9
Change Period (Y+Rc), s	3.7	5.5	* 4.2	* 4.2	5.5	* 5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	11.0	42.9	* 25	* 29	12.0	* 42	* 20	* 33
Max Q Clear Time (g_c+I1), s	4.6	62.1	7.3	2.6	2.2	32.7	21.0	17.5
Green Ext Time (p_c), s	0.0	0.0	0.2	0.0	0.0	5.5	0.0	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	65.6
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
1: Washington St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	264	80	450	322	154	68	767	257	115	1023	122
Future Volume (veh/h)	60	264	80	450	322	154	68	767	257	115	1023	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	12	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1794	1900	1759	1791	1900	1863	1759	1900	1863	1770	1900
Adj Flow Rate, veh/h	60	264	79	450	322	150	68	767	248	115	1023	119
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	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
Percent Heavy Veh, %	8	8	8	8	8	8	2	8	8	2	8	8
Cap, veh/h	61	269	81	378	368	31	406	1288	417	140	1108	129
Arrive On Green	0.24	0.24	0.24	0.07	0.07	0.07	0.23	0.52	0.52	0.08	0.37	0.37
Sat Flow, veh/h	255	1124	336	1675	1151	536	1774	2473	800	1774	3027	352
Grp Volume(v), veh/h	403	0	0	450	0	472	68	518	497	115	568	574
Grp Sat Flow(s),veh/h/ln	1716	0	0	1675	0	1687	1774	1671	1602	1774	1681	1698
Q Serve(g_s), s	29.0	0.0	0.0	28.0	0.0	28.0	3.8	26.7	26.7	7.9	40.1	40.2
Cycle Q Clear(g_c), s	29.0	0.0	0.0	28.0	0.0	28.0	3.8	26.7	26.7	7.9	40.1	40.2
Prop In Lane	0.15		0.20	1.00		0.32	1.00		0.50	1.00		0.21
Lane Grp Cap(c), veh/h	411	0	0	378	0	399	406	871	834	140	616	622
V/C Ratio(X)	0.98	0.00	0.00	1.19	0.00	1.18	0.17	0.60	0.60	0.82	0.92	0.92
Avail Cap(c_a), veh/h	411	0	0	378	0	381	406	871	834	157	616	622
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.47	0.00	0.47	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.9	0.0	0.0	57.4	0.0	57.4	38.3	20.6	20.6	56.2	37.6	37.6
Incr Delay (d2), s/veh	39.1	0.0	0.0	97.4	0.0	94.8	0.1	3.0	3.1	22.9	21.5	21.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	86.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.1	0.0	0.0	23.2	0.0	36.2	1.9	13.0	12.5	4.8	22.3	22.5
LnGrp Delay(d),s/veh	85.9	0.0	0.0	154.8	0.0	238.2	38.4	23.6	23.8	79.1	59.1	59.2
LnGrp LOS	F			F		F	D	C	C	E	E	E
Approach Vol, veh/h		403			922			1083			1257	
Approach Delay, s/veh		85.9			197.5			24.6			61.0	
Approach LOS		F			F			C			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	13.8	70.2		35.0	34.0	50.0		33.0
Change Period (Y+Rc), s	4.0	* 4.8		* 5.3	4.8	* 4.6		5.0
Max Green Setting (Gmax), s	11.0	* 36		* 30	2.0	* 45		28.0
Max Q Clear Time (g_c+I1), s	9.9	28.7		31.0	5.8	42.2		30.0
Green Ext Time (p_c), s	0.0	3.0		0.0	0.0	1.7		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	87.3
HCM 2010 LOS	F

Notes

HCM 2010 Signalized Intersection Summary
2: E D St & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	543	101	358	674	63	169	196	439	67	288	104
Future Volume (veh/h)	22	543	101	358	674	63	169	196	439	67	288	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	8	3	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	1.00		0.95
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1900	1702	1863	1863	1696	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	22	543	101	358	674	57	169	196	439	67	288	103
Adj No. of Lanes	0	1	1	1	1	1	0	1	1	1	1	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
Percent Heavy Veh, %	12	12	2	2	12	2	2	2	2	2	2	2
Cap, veh/h	30	445	648	449	1196	1110	148	171	678	396	288	103
Arrive On Green	0.41	0.41	0.41	0.25	0.70	0.70	0.17	0.17	0.17	0.22	0.22	0.22
Sat Flow, veh/h	32	1543	1570	1774	1696	1575	843	978	1583	1774	1289	461
Grp Volume(v), veh/h	565	0	101	358	674	57	365	0	439	67	0	391
Grp Sat Flow(s),veh/h/ln	1575	0	1570	1774	1696	1575	1821	0	1583	1774	0	1751
Q Serve(g_s), s	15.9	0.0	5.0	23.4	24.1	1.4	21.7	0.0	0.0	3.8	0.0	27.7
Cycle Q Clear(g_c), s	41.0	0.0	5.0	23.4	24.1	1.4	21.7	0.0	0.0	3.8	0.0	27.7
Prop In Lane	0.04		1.00	1.00		1.00	0.46		1.00	1.00		0.26
Lane Grp Cap(c), veh/h	344	0	648	449	1196	1110	319	0	678	396	0	391
V/C Ratio(X)	1.64	0.00	0.16	0.80	0.56	0.05	1.15	0.00	0.65	0.17	0.00	1.00
Avail Cap(c_a), veh/h	680	0	648	449	1196	1110	319	0	678	396	0	391
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.26	0.00	0.26	0.58	0.58	0.58	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	43.2	0.0	22.8	44.4	9.2	5.6	51.2	0.0	28.0	38.9	0.0	48.1
Incr Delay (d2), s/veh	292.9	0.0	0.1	5.4	1.1	0.1	95.9	0.0	2.5	0.1	0.0	45.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	11.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	38.7	0.0	2.2	14.9	12.3	0.6	19.4	0.0	12.3	1.9	0.0	18.3
LnGrp Delay(d),s/veh	336.1	0.0	23.0	61.0	10.4	5.7	147.1	0.0	30.5	39.0	0.0	93.6
LnGrp LOS	F		C	E	B	A	F		C	D		F
Approach Vol, veh/h		666			1089			804			458	
Approach Delay, s/veh		288.6			26.8			83.4			85.6	
Approach LOS		F			C			F			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		27.0	37.0	56.0		32.0		93.0
Change Period (Y+Rc), s		* 5.3	* 4.8	* 4.8		4.3		* 4.8
Max Green Setting (Gmax), s		* 22	* 5	* 51		27.7		* 60
Max Q Clear Time (g_c+I1), s		23.7	25.4	43.0		29.7		26.1
Green Ext Time (p_c), s		0.0	0.0	1.9		0.0		3.4

Intersection Summary	
HCM 2010 Ctrl Delay	108.6
HCM 2010 LOS	F

Notes

HCM 2010 Signalized Intersection Summary
3: Caulfield Ln & Lakeville St

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	801	133	424	992	311	123	409	201	202	332	350
Future Volume (veh/h)	250	801	133	424	992	311	123	409	201	202	332	350
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1718	1900	1863	1696	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	250	801	130	424	992	287	123	409	188	202	332	308
Adj No. of Lanes	1	2	0	1	2	1	1	2	0	1	1	1
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
Percent Heavy Veh, %	2	12	12	2	12	2	2	2	2	2	2	2
Cap, veh/h	259	799	130	395	1163	570	275	367	167	339	356	530
Arrive On Green	0.15	0.28	0.28	0.22	0.36	0.36	0.16	0.16	0.16	0.19	0.19	0.19
Sat Flow, veh/h	1774	2813	456	1774	3223	1581	1774	2367	1076	1774	1863	1568
Grp Volume(v), veh/h	250	465	466	424	992	287	123	305	292	202	332	308
Grp Sat Flow(s),veh/h/ln	1774	1632	1637	1774	1612	1581	1774	1770	1673	1774	1863	1568
Q Serve(g_s), s	18.3	37.0	37.0	29.0	37.0	18.5	8.2	20.2	20.2	13.5	22.9	21.1
Cycle Q Clear(g_c), s	18.3	37.0	37.0	29.0	37.0	18.5	8.2	20.2	20.2	13.5	22.9	21.1
Prop In Lane	1.00		0.28	1.00		1.00	1.00		0.64	1.00		1.00
Lane Grp Cap(c), veh/h	259	464	465	395	1163	570	275	274	259	339	356	530
V/C Ratio(X)	0.97	1.00	1.00	1.07	0.85	0.50	0.45	1.11	1.13	0.60	0.93	0.58
Avail Cap(c_a), veh/h	259	464	465	395	1163	570	275	274	259	339	356	531
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.3	46.6	46.6	50.6	38.4	32.5	50.0	55.0	55.0	48.1	51.9	35.7
Incr Delay (d2), s/veh	46.2	42.5	42.4	66.3	6.5	1.0	0.8	87.1	94.5	2.5	30.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.3	22.1	22.1	21.4	17.4	8.2	4.1	16.5	16.1	6.9	14.9	9.3
LnGrp Delay(d),s/veh	101.5	89.1	89.1	117.0	45.0	33.5	50.8	142.2	149.5	50.6	82.8	37.0
LnGrp LOS	F	F	F	F	D	C	D	F	F	D	F	D
Approach Vol, veh/h		1181			1703			720			842	
Approach Delay, s/veh		91.7			61.0			129.6			58.3	
Approach LOS		F			E			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	33.0	42.3		30.0	23.0	52.3		25.0
Change Period (Y+Rc), s	4.0	* 5.3		* 5.1	4.0	5.3		4.8
Max Green Setting (Gmax), s	29.0	* 37		* 25	19.0	46.7		20.2
Max Q Clear Time (g_c+I1), s	31.0	39.0		24.9	20.3	39.0		22.2
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	5.3		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	79.7
HCM 2010 LOS	E

Notes

HCM 2010 Signalized Intersection Summary
4: In-n-Out Driveway/US 101 SB Ramps & Lakeville St/Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	1119	15	32	1371	289	25	5	10	691	5	377
Future Volume (veh/h)	160	1119	15	32	1371	289	25	5	10	691	5	377
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1792	1793	1900	1863	1792	1792	1900	1863	1900	1792	1793	1792
Adj Flow Rate, veh/h	160	1119	14	32	1371	61	25	5	-4	695	0	207
Adj No. of Lanes	2	2	0	1	2	1	0	1	0	2	0	1
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
Percent Heavy Veh, %	6	6	6	2	6	6	2	2	2	6	2	6
Cap, veh/h	214	1206	15	508	1992	889	163	33	0	829	0	468
Arrive On Green	0.06	0.35	0.35	0.09	0.19	0.19	0.00	0.00	0.00	0.24	0.00	0.24
Sat Flow, veh/h	3312	3446	43	1774	3406	1520	1754	351	-281	3414	0	1524
Grp Volume(v), veh/h	160	553	580	32	1371	61	0	0	0	695	0	207
Grp Sat Flow(s),veh/h/ln	1656	1704	1786	1774	1703	1520	0	0	0	1707	0	1524
Q Serve(g_s), s	6.6	43.8	43.8	2.3	52.5	4.6	0.0	0.0	0.0	27.1	0.0	15.2
Cycle Q Clear(g_c), s	6.6	43.8	43.8	2.3	52.5	4.6	0.0	0.0	0.0	27.1	0.0	15.2
Prop In Lane	1.00		0.02	1.00		1.00	0.96		-0.15	1.00		1.00
Lane Grp Cap(c), veh/h	214	596	625	508	1992	889	0	0	0	829	0	468
V/C Ratio(X)	0.75	0.93	0.93	0.06	0.69	0.07	0.00	0.00	0.00	0.84	0.00	0.44
Avail Cap(c_a), veh/h	568	596	625	508	1992	889	0	0	0	1097	0	588
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.22	0.22	0.22	0.68	0.68	0.68	0.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.3	43.8	43.8	46.3	44.6	25.3	0.0	0.0	0.0	50.4	0.0	38.9
Incr Delay (d2), s/veh	1.1	6.9	6.6	0.0	1.3	0.1	0.0	0.0	0.0	5.2	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	21.7	22.7	1.1	25.2	2.0	0.0	0.0	0.0	13.3	0.0	6.6
LnGrp Delay(d),s/veh	65.5	50.7	50.4	46.3	46.0	25.4	0.0	0.0	0.0	55.6	0.0	39.8
LnGrp LOS	E	D	D	D	D	C				E		D
Approach Vol, veh/h		1293			1464			0			902	
Approach Delay, s/veh		52.4			45.1			0.0			52.0	
Approach LOS		D			D						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	46.1	55.0		38.9	13.3	87.9		0.0
Change Period (Y+Rc), s	6.0	* 6		4.9	* 4.2	6.0		4.2
Max Green Setting (Gmax), s	13.7	* 49		45.0	* 24	38.7		13.0
Max Q Clear Time (g_c+I1), s	4.3	45.8		29.1	8.6	54.5		0.0
Green Ext Time (p_c), s	0.0	2.6		4.9	0.4	0.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	49.4
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
5: Lakeville Hwy & US 101 NB Ramps

06/28/2018

Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	159	1631	1517	852	282	237		
Future Volume (veh/h)	159	1631	1517	852	282	237		
Number	5	2	6	16	7	14		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1827	1827	1863	1863	1827	1827		
Adj Flow Rate, veh/h	159	1631	1517	6	282	108		
Adj No. of Lanes	1	2	2	1	2	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	4	4	2	2	4	4		
Cap, veh/h	137	2836	2495	1116	352	284		
Arrive On Green	0.08	0.82	0.47	0.47	0.10	0.10		
Sat Flow, veh/h	1740	3563	3632	1583	3375	1553		
Grp Volume(v), veh/h	159	1631	1517	6	282	108		
Grp Sat Flow(s),veh/h/ln	1740	1736	1770	1583	1688	1553		
Q Serve(g_s), s	11.0	22.7	44.4	0.3	11.4	8.5		
Cycle Q Clear(g_c), s	11.0	22.7	44.4	0.3	11.4	8.5		
Prop In Lane	1.00			1.00	1.00	1.00		
Lane Grp Cap(c), veh/h	137	2836	2495	1116	352	284		
V/C Ratio(X)	1.16	0.58	0.61	0.01	0.80	0.38		
Avail Cap(c_a), veh/h	137	2836	2495	1116	699	444		
HCM Platoon Ratio	1.00	1.00	0.67	0.67	1.00	1.00		
Upstream Filter(I)	0.65	0.65	0.39	0.39	1.00	1.00		
Uniform Delay (d), s/veh	64.5	4.4	22.6	11.0	61.3	50.2		
Incr Delay (d2), s/veh	112.9	0.6	0.4	0.0	4.2	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9.6	10.9	21.9	0.1	5.5	7.7		
LnGrp Delay(d),s/veh	177.4	5.0	23.1	11.0	65.5	51.1		
LnGrp LOS	F	A	C	B	E	D		
Approach Vol, veh/h		1790	1523		390			
Approach Delay, s/veh		20.3	23.0		61.5			
Approach LOS		C	C		E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		120.4		19.6	15.7	104.7		
Change Period (Y+Rc), s		6.0		5.0	* 4.7	6.0		
Max Green Setting (Gmax), s		100.0		29.0	* 11	84.3		
Max Q Clear Time (g_c+I1), s		24.7		13.4	13.0	46.4		
Green Ext Time (p_c), s		45.0		1.2	0.0	26.3		

Intersection Summary	
HCM 2010 Ctrl Delay	25.7
HCM 2010 LOS	C

Notes

HCM 2010 Signalized Intersection Summary
6: Baywood Dr & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	1373	32	18	1581	40	119	37	19	27	12	157
Future Volume (veh/h)	221	1373	32	18	1581	40	119	37	19	27	12	157
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1778	1900	1863	1778	1900	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	221	1373	30	18	1581	38	119	37	2	27	12	22
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	246	1777	39	324	1948	47	146	150	8	125	143	341
Arrive On Green	0.09	0.35	0.35	0.06	0.19	0.19	0.08	0.09	0.09	0.07	0.08	0.08
Sat Flow, veh/h	1774	3379	74	1774	3371	81	1774	1750	95	1774	1863	1583
Grp Volume(v), veh/h	221	686	717	18	791	828	119	0	39	27	12	22
Grp Sat Flow(s),veh/h/ln	1774	1689	1765	1774	1689	1763	1774	0	1845	1774	1863	1583
Q Serve(g_s), s	17.3	50.6	50.7	1.3	62.7	63.0	9.2	0.0	2.8	2.0	0.8	1.5
Cycle Q Clear(g_c), s	17.3	50.6	50.7	1.3	62.7	63.0	9.2	0.0	2.8	2.0	0.8	1.5
Prop In Lane	1.00		0.04	1.00		0.05	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	246	888	928	324	976	1019	146	0	158	125	143	341
V/C Ratio(X)	0.90	0.77	0.77	0.06	0.81	0.81	0.81	0.00	0.25	0.22	0.08	0.06
Avail Cap(c_a), veh/h	274	888	928	324	976	1019	266	0	422	125	266	446
HCM Platoon Ratio	0.67	0.67	0.67	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.77	0.77	0.55	0.55	0.55	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.5	37.9	37.9	54.4	49.3	49.4	63.2	0.0	59.8	61.4	60.0	43.7
Incr Delay (d2), s/veh	23.1	5.0	4.8	0.0	4.1	4.0	20.0	0.0	0.8	1.8	0.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.1	24.8	25.9	0.7	30.5	32.0	5.3	0.0	1.4	1.1	0.4	0.7
LnGrp Delay(d),s/veh	85.6	42.9	42.8	54.4	53.4	53.4	83.2	0.0	60.6	63.3	60.3	43.8
LnGrp LOS	F	D	D	D	D	D	F		E	E	E	D
Approach Vol, veh/h		1624			1637			158			61	
Approach Delay, s/veh		48.7			53.5			77.6			55.6	
Approach LOS		D			D			E			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.9	78.9	15.2	15.0	23.6	86.2	14.0	16.2				
Change Period (Y+Rc), s	5.3	* 5.3	3.7	* 4.2	* 4.2	5.3	* 4.2	* 4.2				
Max Green Setting (Gmax), s	8.0	* 74	21.0	* 20	* 22	60.0	* 9	* 32				
Max Q Clear Time (g_c+I1), s	3.3	52.7	11.2	3.5	19.3	65.0	4.0	4.8				
Green Ext Time (p_c), s	0.0	15.4	0.4	0.1	0.1	0.0	0.0	0.1				

Intersection Summary	
HCM 2010 Ctrl Delay	52.4
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
7: Casa Grande Rd & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	299	1243	155	50	1487	80	141	82	26	20	69	140
Future Volume (veh/h)	299	1243	155	50	1487	80	141	82	26	20	69	140
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	0.99		0.99	0.99		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1785	1900	1863	1776	1863	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	299	1243	138	50	1487	0	141	82	20	20	69	5
Adj No. of Lanes	1	2	0	1	2	1	1	1	0	0	1	1
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
Percent Heavy Veh, %	2	7	7	2	7	2	2	2	2	2	2	2
Cap, veh/h	291	1916	212	174	1882	883	211	248	60	78	247	269
Arrive On Green	0.33	1.00	1.00	0.20	1.00	0.00	0.17	0.17	0.17	0.17	0.17	0.17
Sat Flow, veh/h	1774	3079	341	1774	3374	1583	1313	1445	352	269	1440	1572
Grp Volume(v), veh/h	299	683	698	50	1487	0	141	0	102	89	0	5
Grp Sat Flow(s),veh/h/ln	1774	1696	1724	1774	1687	1583	1313	0	1798	1709	0	1572
Q Serve(g_s), s	23.0	0.0	0.0	3.4	0.0	0.0	14.8	0.0	7.0	0.0	0.0	0.4
Cycle Q Clear(g_c), s	23.0	0.0	0.0	3.4	0.0	0.0	21.8	0.0	7.0	7.0	0.0	0.4
Prop In Lane	1.00		0.20	1.00		1.00	1.00		0.20	0.22		1.00
Lane Grp Cap(c), veh/h	291	1055	1073	174	1882	883	211	0	308	324	0	269
V/C Ratio(X)	1.03	0.65	0.65	0.29	0.79	0.00	0.67	0.00	0.33	0.27	0.00	0.02
Avail Cap(c_a), veh/h	291	1055	1073	174	1882	883	230	0	334	349	0	292
HCM Platoon Ratio	2.00	2.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.75	0.75	0.75	1.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	47.0	0.0	0.0	52.1	0.0	0.0	60.5	0.0	51.0	50.5	0.0	48.2
Incr Delay (d2), s/veh	52.6	2.3	2.3	0.3	3.5	0.0	4.8	0.0	0.2	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.4	0.7	0.7	1.7	0.9	0.0	5.6	0.0	3.5	3.0	0.0	0.2
LnGrp Delay(d),s/veh	99.6	2.3	2.3	52.5	3.5	0.0	65.3	0.0	51.2	50.6	0.0	48.2
LnGrp LOS	F	A	A	D	A		E		D	D		D
Approach Vol, veh/h		1680			1537			243			94	
Approach Delay, s/veh		19.6			5.1			59.4			50.5	
Approach LOS		B			A			E			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	19.2	92.6		28.2	28.2	83.6		28.2
Change Period (Y+Rc), s	5.5	* 5.5		* 4.2	* 5.2	5.5		* 4.2
Max Green Setting (Gmax), s	12.0	* 87		* 26	* 23	76.1		* 26
Max Q Clear Time (g_c+I1), s	5.4	2.0		9.0	25.0	2.0		23.8
Green Ext Time (p_c), s	0.0	6.6		0.2	0.0	8.9		0.1

Intersection Summary	
HCM 2010 Ctrl Delay	16.9
HCM 2010 LOS	B

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	914	123	15	1011	226	536	371	11	67	90	15
Future Volume (veh/h)	14	914	123	15	1011	226	536	371	11	67	90	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	18	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1863	1786	1900	1863	1791	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	14	914	106	15	1011	210	536	371	9	67	90	8
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	1	2	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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	59	1011	117	335	1400	290	484	920	20	141	230	20
Arrive On Green	0.07	0.66	0.66	0.20	0.51	0.51	0.26	0.25	0.25	0.08	0.07	0.07
Sat Flow, veh/h	1774	3063	355	1774	2808	582	1774	3531	86	1774	3292	289
Grp Volume(v), veh/h	14	506	514	15	612	609	536	186	194	67	48	50
Grp Sat Flow(s),veh/h/ln	1774	1696	1722	1774	1701	1688	1774	1770	1847	1774	1770	1812
Q Serve(g_s), s	1.0	35.2	35.2	1.0	38.7	39.0	37.0	12.3	12.3	5.1	3.6	3.7
Cycle Q Clear(g_c), s	1.0	35.2	35.2	1.0	38.7	39.0	37.0	12.3	12.3	5.1	3.6	3.7
Prop In Lane	1.00		0.21	1.00		0.34	1.00		0.05	1.00		0.16
Lane Grp Cap(c), veh/h	59	560	569	335	849	842	484	460	479	141	124	127
V/C Ratio(X)	0.24	0.90	0.90	0.04	0.72	0.72	1.11	0.40	0.41	0.48	0.39	0.40
Avail Cap(c_a), veh/h	139	636	646	350	863	856	469	632	660	190	367	375
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.7	21.9	21.9	46.5	27.5	27.6	50.6	43.9	44.0	61.7	62.2	62.3
Incr Delay (d2), s/veh	2.1	20.5	20.3	0.1	5.3	5.4	73.9	0.6	0.6	2.5	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	4.3	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	19.2	19.5	0.5	19.7	19.7	28.1	8.2	8.4	2.6	1.8	1.9
LnGrp Delay(d),s/veh	65.8	42.4	42.2	46.6	32.8	33.0	124.4	49.1	48.8	64.1	64.2	64.3
LnGrp LOS	E	D	D	D	C	C	F	D	D	E	E	E
Approach Vol, veh/h		1034			1236			916			165	
Approach Delay, s/veh		42.6			33.0			93.1			64.2	
Approach LOS		D			C			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.1	51.7	41.2	14.0	8.3	76.5	15.8	39.4
Change Period (Y+Rc), s	5.5	* 5.5	* 4.2	* 4.2	3.7	5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	4.4	* 53	* 37	* 29	11.0	45.9	* 15	* 50
Max Q Clear Time (g_c+I1), s	3.0	37.2	39.0	5.7	3.0	41.0	7.1	14.3
Green Ext Time (p_c), s	0.0	9.0	0.0	0.4	0.0	4.0	0.1	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	53.9
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	1052	726	38	841	65	98	11	206	272	15	5
Future Volume (veh/h)	5	1052	726	38	841	65	98	11	206	272	15	5
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	15	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1810	1900	1863	1782	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	5	1052	625	38	841	57	98	11	201	272	15	2
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	2	1	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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	510	1299	537	114	983	67	373	265	237	337	67	9
Arrive On Green	0.58	1.00	1.00	0.06	0.31	0.31	0.21	0.15	0.15	0.10	0.04	0.04
Sat Flow, veh/h	1774	2120	1197	1774	3218	218	1774	1770	1580	3442	1609	214
Grp Volume(v), veh/h	5	843	834	38	442	456	98	11	201	272	0	17
Grp Sat Flow(s),veh/h/ln	1774	1720	1598	1774	1693	1743	1774	1770	1580	1721	0	1823
Q Serve(g_s), s	0.2	0.0	0.0	2.6	30.7	30.7	5.8	0.7	15.5	9.7	0.0	1.1
Cycle Q Clear(g_c), s	0.2	0.0	0.0	2.6	30.7	30.7	5.8	0.7	15.5	9.7	0.0	1.1
Prop In Lane	1.00		0.75	1.00		0.13	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	510	934	888	114	517	533	373	265	237	337	0	75
V/C Ratio(X)	0.01	0.90	0.94	0.33	0.86	0.86	0.26	0.04	0.85	0.81	0.00	0.23
Avail Cap(c_a), veh/h	510	934	868	156	567	584	373	467	417	551	0	423
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.0	0.0	0.0	55.9	40.8	40.8	41.2	45.5	51.8	55.2	0.0	58.0
Incr Delay (d2), s/veh	0.0	13.6	18.7	1.7	16.4	16.0	0.4	0.1	8.3	4.6	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	4.8	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.8	6.7	1.3	16.7	17.2	2.9	0.3	7.3	4.8	0.0	0.6
LnGrp Delay(d),s/veh	19.0	18.4	27.3	57.6	57.2	56.9	41.6	45.5	60.1	59.8	0.0	59.5
LnGrp LOS	B	B	C	E	E	E	D	D	E	E		E
Approach Vol, veh/h		1682			936			310			289	
Approach Delay, s/veh		22.8			57.1			53.7			59.7	
Approach LOS		C			E			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	73.4	30.5	9.4	41.4	43.7	17.0	22.9
Change Period (Y+Rc), s	3.7	5.5	* 4.2	* 4.2	5.5	* 5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	11.0	42.9	* 25	* 29	12.0	* 42	* 20	* 33
Max Q Clear Time (g_c+I1), s	4.6	2.0	7.8	3.1	2.2	32.7	11.7	17.5
Green Ext Time (p_c), s	0.0	30.8	0.2	0.0	0.0	5.5	0.6	1.0

Intersection Summary	
HCM 2010 Ctrl Delay	39.1
HCM 2010 LOS	D

Notes

HCM 2010 Signalized Intersection Summary
8: McDowell Bl & Lakeville Hwy

06/28/2018

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	914	123	15	1011	226	536	371	11	67	90	15
Future Volume (veh/h)	14	914	123	15	1011	226	536	371	11	67	90	15
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	18	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	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 Sat Flow, veh/h/ln	1863	1786	1900	1863	1791	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	14	914	106	15	1011	210	536	371	9	67	90	8
Adj No. of Lanes	1	2	0	1	2	0	1	2	0	2	1	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
Percent Heavy Veh, %	2	7	7	2	7	7	2	2	2	2	2	2
Cap, veh/h	59	1011	117	335	1400	290	484	920	20	273	118	10
Arrive On Green	0.07	0.66	0.66	0.20	0.51	0.51	0.26	0.25	0.25	0.08	0.07	0.07
Sat Flow, veh/h	1774	3063	355	1774	2808	582	1774	3531	86	3442	1686	150
Grp Volume(v), veh/h	14	506	514	15	612	609	536	186	194	67	0	98
Grp Sat Flow(s),veh/h/ln	1774	1696	1722	1774	1701	1688	1774	1770	1847	1721	0	1836
Q Serve(g_s), s	1.0	35.2	35.2	1.0	38.7	39.0	37.0	12.3	12.3	2.6	0.0	7.3
Cycle Q Clear(g_c), s	1.0	35.2	35.2	1.0	38.7	39.0	37.0	12.3	12.3	2.6	0.0	7.3
Prop In Lane	1.00		0.21	1.00		0.34	1.00		0.05	1.00		0.08
Lane Grp Cap(c), veh/h	59	560	568	335	849	842	484	460	479	273	0	128
V/C Ratio(X)	0.24	0.90	0.90	0.04	0.72	0.72	1.11	0.40	0.41	0.25	0.00	0.76
Avail Cap(c_a), veh/h	139	636	646	350	863	856	469	632	660	369	0	380
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.7	21.9	21.9	46.5	27.5	27.6	50.6	43.9	44.0	60.5	0.0	64.0
Incr Delay (d2), s/veh	2.1	20.5	20.3	0.1	5.3	5.4	73.9	0.6	0.6	0.5	0.0	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	4.3	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	19.2	19.5	0.5	19.7	19.7	28.1	8.2	8.4	1.2	0.0	4.1
LnGrp Delay(d),s/veh	65.8	42.4	42.2	46.6	32.8	33.0	124.4	49.1	48.8	61.0	0.0	73.0
LnGrp LOS	E	D	D	D	C	C	F	D	D	E		E
Approach Vol, veh/h		1034			1236			916			165	
Approach Delay, s/veh		42.6			33.0			93.1			68.1	
Approach LOS		D			C			F			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.1	51.7	41.2	14.0	8.3	76.5	15.8	39.4
Change Period (Y+Rc), s	5.5	* 5.5	* 4.2	* 4.2	3.7	5.5	* 4.7	* 4.2
Max Green Setting (Gmax), s	4.4	* 53	* 37	* 29	11.0	45.9	* 15	* 50
Max Q Clear Time (g_c+I1), s	3.0	37.2	39.0	9.3	3.0	41.0	4.6	14.3
Green Ext Time (p_c), s	0.0	9.0	0.0	0.4	0.0	4.0	0.1	2.3

Intersection Summary	
HCM 2010 Ctrl Delay	54.1
HCM 2010 LOS	D

Notes