



Traffic Impact Study for the School Property Rezoning Project



Prepared for the City of Willits

Submitted by
W-Trans

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Executive Summary

The property at 1277 Blosser Lane in the City of Willits that is owned by the Willits School District is proposed to be rezoned from its current Heavy Industrial zoning to Residential Medium Density. To assess the potential impacts associated with the increased traffic that a residential development could generate compared to an industrial complex, an analysis was performed assuming a maximum of 165 multifamily units for the future potential development; there is not currently a specific development proposal at this time. Based on this assumed maximum development, the potential residential project that would generate the greatest number of trips with the proposed rezoning would generate an average of 1,208 trips per day, including 76 a.m. peak hour trips and 92 trips during the p.m. peak hour. This assumed project would be expected to generate a VMT of 14,363 miles per day.

During the five-year period studied, all the study intersections had lower collision rates than the statewide average for similar facilities, with the exception of SR 20/Blosser Lane. Though this intersection had an above-average collision rate, there were an insufficient number of crashes to establish any patterns or trends and the above-average crash rate is generally attributed to the low traffic volumes at this location. Based on existing volumes, the study intersections are all operating acceptably at LOS C or better during both studied peak periods. With the assumed maximum potential trips that would be generated by a project allowed with the proposed rezoning, the study intersections would continue to operate at the same Levels of Service. The future intersection of Walnut Street-Walnut Street Extension/Locust Street should be configured as a standard tee intersection with a stop control on the northbound Locust Street approach.

With 20-year horizon growth rates applied to existing volumes, the study intersections are expected to operate acceptably at LOS C or better overall. With potential traffic associated with the rezoning added to the street networks, the study intersections would be expected to continue operating acceptably at the same Levels of Service, experiencing minor increases in delay.

Existing transit and bicycle facilities are adequate for anticipated demand, though it is noted that while there are plans to install bicycle lanes along Walnut Street, the existing road width is insufficient to accommodate these facilities. There are gaps in sidewalks and connecting pedestrian facilities along both Walnut Street and Locust Street near the subject parcel.

Introduction

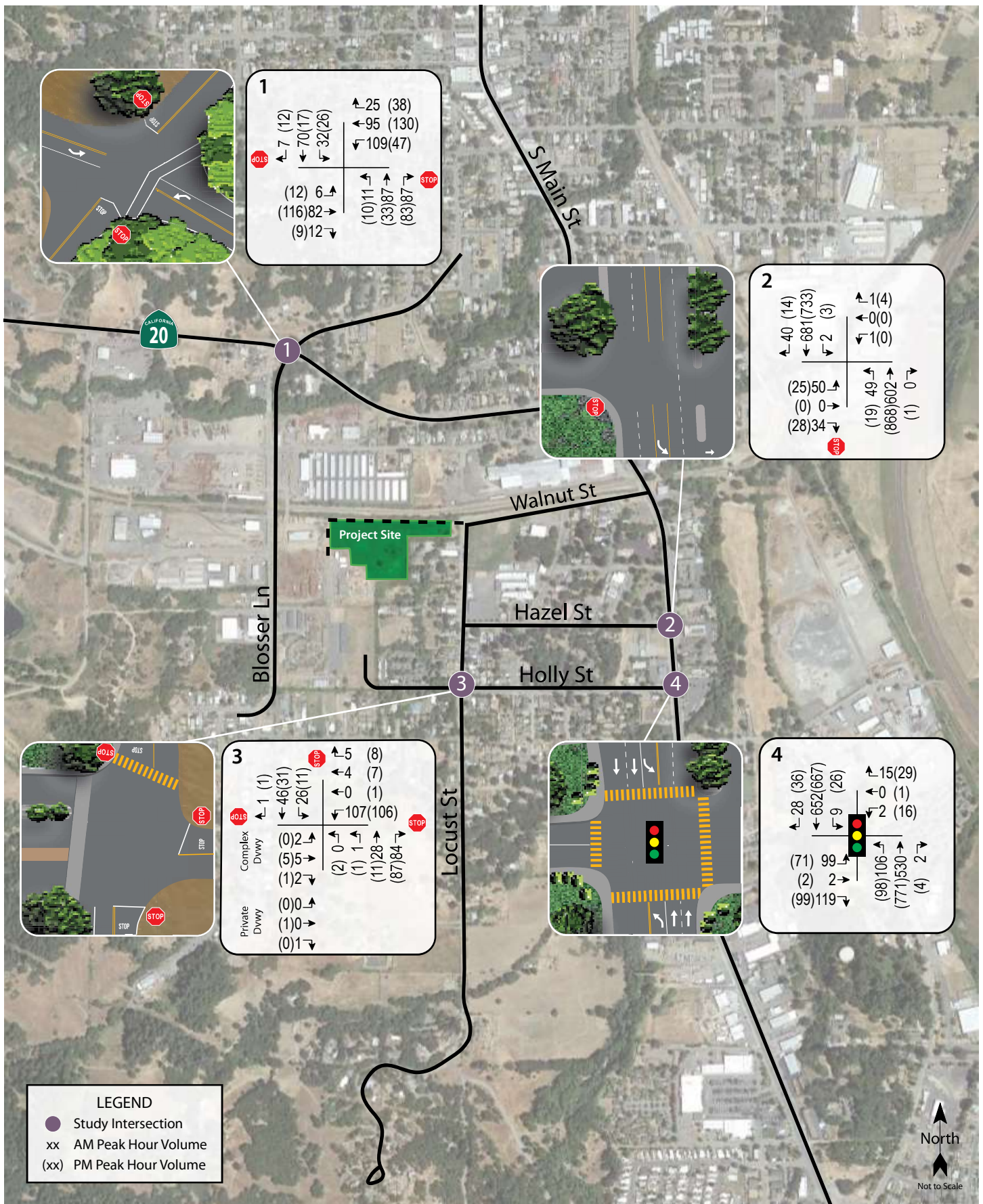
This report presents an analysis of the potential traffic impacts that would be associated with rezoning the property at 1277 Blosser Lane in the City of Willits from Heavy Industrial (HI) to Residential Medium Density (R2) zoning and subsequent development of that land use. The property is currently owned by the Willits Unified School District. The traffic study was completed in accordance with the criteria established by the City of Willits and is consistent with standard traffic engineering techniques.

Prelude

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

Project Profile

There is currently no specific development proposal for the project site. However, as the proposed rezoning would result in an increase in the parcel's potential trip generation, this study provides an evaluation the potential impacts that would be expected if the Willits School District's 5.68-acre property were to be developed under R2 zoning rather than the existing HI zoning. The project site is located at 1277 Blosser Lane, as shown in Figure 1.



Traffic Impact Study for the School Property Rezoning Project
Figure 1 – Study Area, Lane Configurations and Existing Traffic Volumes

Transportation Setting

Operational Analysis

Study Area and Periods

The study area consists of the following intersections:

1. State Route (SR) 20/Blosser Lane
2. South Main Street/Hazel Street
3. Holly Street/Locust Street
4. South Main Street/Holly Street

Operating conditions during the a.m. and p.m. peak periods were evaluated to capture the highest potential impacts for the proposed change in land use 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.

The intersection of South Main Street/Walnut Street was considered in the evaluation on a more qualitative basis. The intersection is currently limited to right turns on the Walnut Street approach, so traffic from the subject property would likely travel to Main Street to the south via the signalized intersection at Holly Street. The future intersection of Walnut Street-Walnut Street Extension/Locust Street was also addressed based on its alignment and anticipated design.

Study Intersections

State Route 20 (SR 20)/Blosser Lane is a four-legged two-way stop-controlled intersection. Stop controls are located on the northbound and southbound Blosser Lane approaches. There is a crosswalk on the east leg that is 100 feet long and angled in the middle. There are 35 mile per hour (mph) radar feedback signs at the intersection for eastbound traffic on SR 20.

South Main Street/Hazel Street is a tee intersection with stop controls on the terminating eastbound approach. There are sidewalks along both sides of South Main Street as well as along the north side of Hazel Street. A driveway to a motel connects to the intersection on the east side and was treated as the fourth leg of the intersection.

Holly Street/Locust Street is all-way stop-controlled and has five legs. The two eastbound approaches are private driveways, one from a single-family residence and the other for the Glenn Oaks Apartments. There is a crosswalk on the north leg, connecting to continuous sidewalks along both sides of Locust Street north of the intersection, as well as the north side of Holly Street. The entrance to the Blosser Lane Trail is between the two private driveways on the east leg.

South Main Street/Holly Street is a signalized four-legged intersection with protected left-turn phasing on the northbound and southbound South Main Street approaches. High-visibility crosswalks with associated pedestrian signal phasing are present at all four legs.

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

Collision History

The collision history for the study area was 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 September 1, 2014 through August 31, 2019.

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 *2016 Collision Data on California State Highways*, California Department of Transportation (Caltrans). Based on the most recent five-year period, all of the intersections with the exception of SR 20/Blosser Lane had lower collisions rates than the statewide average 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 (2014-2019)	Calculated Collision Rate (c/mve)	Statewide Average Collision Rate (c/mve)
1. SR 20/Blosser Ln	3	0.31	0.13
2. S Main St/Hazel St	0	0.00	0.13
3. Holly St/Locust St	0	0.00	0.19
4. S Main St/Holly St	1	0.03	0.24

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

Though the collision rate for the intersection of SR 20/Blosser Lane exceeds the statewide average, with only three crashes, there is insufficient data to determine any type of trend. The above-average rate is generally attributable to the low volumes of traffic at the intersections, resulting in a high collision rate for even a single collision. Of the three collisions, one was a rear-end, one broadside, and one head-on. Due to the lack of a trend with the collisions, no specific safety concerns were identified relative to the intersection.

Alternative Modes

Pedestrian Facilities

Pedestrian facilities include sidewalks, crosswalks, pedestrian signal phases, curb ramps, curb extensions, and various streetscape amenities such as lighting, benches, etc. In general, sidewalks, crosswalks, and curb ramps are discontinuous or non-existent within the project vicinity with the exception of section of Blosser Lane near the Blosser Lane Elementary School frontage and a portion of the west side of Locust Street in the study area. Existing gaps and obstacles along the connecting roadways impact convenient and continuous access for pedestrians and present safety concerns in those locations. For example, sidewalk is missing for about 700 feet along the south side of Walnut Street between Locust Street and Magnolia Street, limiting pedestrian access from the project site to the downtown.

The intersection of SR 20/Blosser Lane was not evaluated in terms of pedestrian safety and need for enhancements. As noted, the existing uncontrolled crosswalk on the east leg is 100 feet in length with a bend in the middle. There are no pedestrian warning signs or markings at the crosswalk. Since the crossing is located on SR 20, it is recommended that the City of Willits request that Caltrans conduct a pedestrian safety assessment for this crosswalk.

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.

Within the project vicinity, the Blosser Lane Trail connects between Blosser Lane and Locust Street, running east-west just south of the project site. According to the *City of Willits Bicycle and Pedestrian Specific Plan*, 2009, bicycle lanes are proposed along SR 20, Walnut Street, Blosser Lane and Locust Street. 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.

Table 2 – Bicycle Facility Summary

Status Facility	Class	Length (miles)	Begin Point	End Point
Existing				
Blosser Ln Trail	I	0.25	Blosser Ln	Locust St
SR 20	III	0.47	Blosser Ln	Main St
Planned				
Blosser Ln	II	0.24	SR 20	Walnut St Ext
Walnut St Ext	II	0.26	Blosser Ln	Locust St
Walnut St	II	0.25	Main St	Locust St
Locust St	II	0.22	Walnut St	Holly St
Locust St*	II	0.39	Holly St	Maguire Ln Trail
SR 20	II	0.67	Main St	City Limits West

Notes: * All or portions of these bikeways are located within the County of Mendocino

Source: *City of Willits Bicycle and Pedestrian Specific Plan*, City of Willits Community Development Department, 2009

Transit Facilities

Mendocino Transit Authority (MTA) provides regional route bus service within the City of Willits and between Mendocino County and the City of Santa Rosa. Within a quarter mile walking distance of the project site, which is considered an acceptable distance for most pedestrians, there are four bus stops served by the MTA. When data for this study was accessed, services were reduced or canceled due to the COVID-19 pandemic, and it unknown when normal operation will resume.

MTA Route 1 provides local service between the Integrated Service Center and the New Howard Hospital, with stops throughout the City of Willits.

Route 20 provides regional service between the Cities of Willits and Ukiah, with stops at the Mendocino College and the Ukiah Community Clinic.

Route 65 provides regional service between the Santa Rosa Coddington Mall Transit Hub and City of Fort Bragg downtown, with stops in Windsor, Hopland, Ukiah, and Willits. The route provides service Monday through Saturday, with approximately two- to three-hour headways between 6:30 a.m. and 7:48 p.m. A single bus runs on Sundays, operating between 6:30 a.m. and 10:35 a.m. southbound and between 1:25 p.m. and 5:52 p.m. northbound.

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

Dial-a-ride, also known as paratransit, or door-to-door service, is available for those who are unable to independently use the transit system due to a physical or mental disability. MTA Paratransit is designed to serve the needs of individuals with disabilities within the City of Willits and the greater Mendocino County 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 methodologies published in the *Highway Capacity Manual* (HCM), 6th Edition, Transportation Research Board, 2018. This source contains methodologies for various types of intersection control, all of which are related to a measurement of delay in average number of seconds per vehicle.

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

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

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

The ranges of delay associated with the various levels of service are indicated in Table 3.

Table 3 – Intersection Level of Service Criteria

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

Reference: *Highway Capacity Manual*, Transportation Research Board, 2018

Traffic Operation Standards

According to the City's *General Plan Revision* from 1992, in General Plan Policy 2.210 sets standard of LOS D or better for local streets. For the individual movements at two-way stop-controlled intersections, LOS D operation was assumed to be the minimum acceptable level.

Since the study intersection SR 20/Blosser Lane is along a state route, the Caltrans standard of significance was applied. Caltrans indicates that they endeavor to maintain operation at the transition from LOS C to LOS D.

On sections of certain arterial streets, it is typical to have all of the side streets operating at LOS E or F with long traffic delays, even where side street volumes are very low. In fact, it may be operationally, physically, and/or financially infeasible to provide mitigation which would allow Level of Service D conditions or better from all side streets during peak hours. The most typical mitigation measure used to improve operation for the side street is a traffic signal, and it is both operationally and financially undesirable to provide a traffic signal at every intersection along most street segments.

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 when local schools were in session.

Intersection Levels of Service

Under existing conditions, all the study intersections are operating acceptably at LOS B or better overall and at LOS D or better on minor approaches during both studied peak periods. The existing traffic volumes are shown in Figure 1. 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 <i>Approach</i>	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. SR 20/Blosser Ln	11.4	B	4.9	A
<i>Northbound (Blosser Ln) Approach</i>	18.5	C	11.3	B
<i>Southbound (Blosser Ln) Approach</i>	25.3	D	13.5	B
2. S Main St/Hazel St	1.3	A	0.6	A
<i>Eastbound (Hazel St) Approach</i>	17.0	C	14.3	B
<i>Westbound (Driveway) Approach</i>	13.7	B	11.7	B
3. Holly St/Locust St	8.4	A	7.8	A
4. S Main St/Holly St	12.3	B	10.6	B

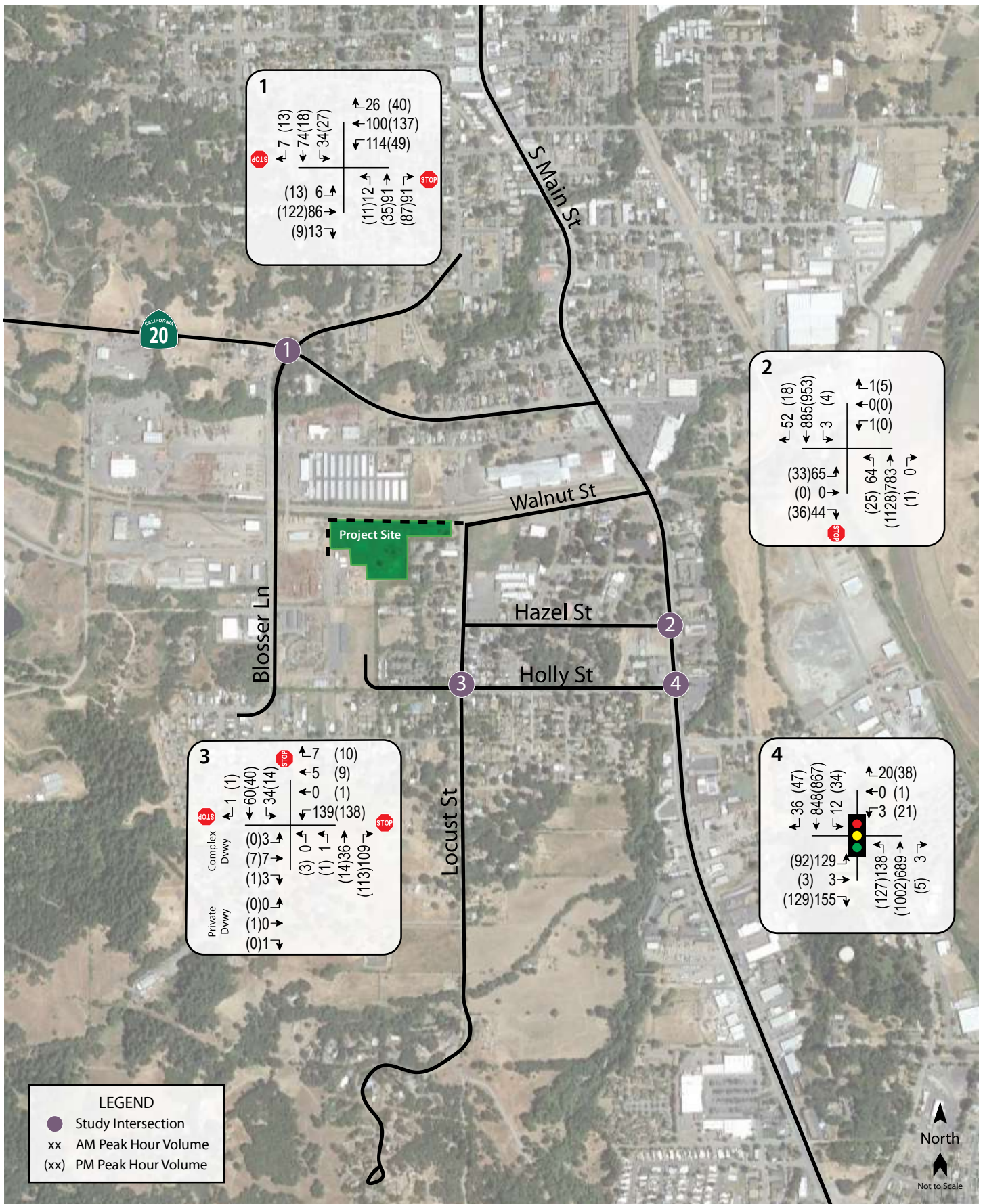
Notes: Delay is measured in average seconds per vehicle; LOS = Level of Service; Results for minor approaches to two-way stop-controlled intersections are indicated in *italics*

Baseline Conditions

Based on information provided by the City, there are currently no approved development projects expected to generate additional traffic in the study area. Baseline, or “Existing plus Approved Projects” conditions were therefore not evaluated.

Future Conditions

Caltrans segment growth factors were used to estimate future volumes. A horizon year of 2040 and growth factor of 1.05 along SR 20 was applied to SR 20/Blosser Lane and the factor of 1.30 for Main Street was used for the other study intersections. Under the anticipated Future volumes, the study intersections are expected to continue operating acceptably at LOS C or better overall and LOS D or better on stop-controlled approaches. Future volumes are shown in Figure 2 and operating conditions are summarized in Table 5.



Traffic Impact Study for the School Property Rezoning Project
Figure 2 – Future Traffic Volumes

Table 5 – Future Peak Hour Intersection Levels of Service

Study Intersection Approach	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. SR 20/Blosser Ln	12.5	B	5.0	A
<i>Northbound (Blosser Ln) Approach</i>	<i>20.1</i>	<i>C</i>	<i>11.6</i>	<i>B</i>
<i>Southbound (Blosser Ln) Approach</i>	<i>29.1</i>	<i>D</i>	<i>13.9</i>	<i>B</i>
2. S Main St/Hazel St	1.9	A	0.75	A
<i>Eastbound (Hazel St) Approach</i>	<i>26.2</i>	<i>D</i>	<i>18.4</i>	<i>C</i>
<i>Westbound (Driveway) Approach</i>	<i>17.0</i>	<i>C</i>	<i>13.2</i>	<i>B</i>
3. Holly St/Locust St	9.1	A	8.2	A
4. S Main St/Holly St	15.3	B	12.8	B

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

Rezoning Description

It is understood that Willits Unified School District is proposing a change in the zoning of the parcel that is the focus of this study from HI to R2 to allow for a mix of residential types. While there is currently no specific development proposal, the School District will be seeking a buyer for the property and the change in zoning would provide more options for a potential buyer. While the R2 zoning allows for different kinds of residential land uses, multi-family apartments were used for the purpose of the study since this land use would result in more units than single family residential and would also result in a higher volume of vehicle trips generated. To be conservative, no reductions to account for residential driveways or parking areas were applied. The maximum density allowed for the multi-family zoning of one unit per 1,500 square feet was used for the analysis. Based on this assumption and the project site size of 5.68 acres, 165 multi-family apartment units were assumed. Access to the potential development was assumed to be located on the west leg of the Walnut Street/Locust Street intersection.

Trip Generation

The anticipated vehicle trip generation for a potential project with the proposed rezoning was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 10th Edition, 2017. The land use Multifamily Housing (Low-Rise) (Land Use 220) was applied. The expected trip generation potential for a potential project with this zoning designation is indicated in Table 6. Based on application of these assumptions, development of the site under the proposed zoning would be expected to generate an average of 1,208 trips per day, including 76 a.m. peak hour trips and 92 trips during the p.m. peak hour. It is noted that a single-family residential project with up to 91 units would generate a similar volume of vehicle traffic during the more critical p.m. peak hour, although only 82 single-family units would be possible with the R2 zoning.

Table 6 – Trip Generation Summary

Land Use	Units	Daily		AM Peak Hour				PM Peak Hour			
		Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Apartments	165 du	7.32	1,208	0.46	76	17	59	0.56	92	58	34

Note: du = dwelling unit

Trip Distribution

The pattern used to allocate these potential trips to the street network was determined by reviewing employment patterns for residents of the City of Willits as indicated by the 2010 Census. The applied distribution assumptions and resulting trips are shown in Table 7.

Table 7 – Trip Distribution Assumptions				
Route	Percent	Daily Trips	AM Trips	PM Trips
To/From North via S Main St	45%	544	34	41
To/From South via S Main St	40%	483	30	37
To/From West via SR 20	15%	181	11	14
TOTAL	100%	1,208	75*	92

Note: * Trips do not equal the calculated trip generation due to rounding

Vehicle Miles Traveled

Senate Bill (SB) 743 established a change in the metric to be applied to determining traffic impacts associated with development projects. Rather than the delay-based criteria associated with a Level of Service analysis, the increase in vehicle-miles-travelled (VMT) as a result of a project will be the basis for determining impacts once this new metric is fully vetted and standards of significance have been adopted by the City. While the City has not yet adopted a policy regarding vehicle miles traveled (VMT), the project's VMT was estimated for informational purposes only. Vehicle miles traveled associated with the and though there is no proposed project, the potential VMT of developing the site with residential uses was calculated by multiplying the estimated daily trips and the average home-to-work based trip distance for the Traffic Analysis Zone (TAZ) in which the parcel is located. For 1,208 daily trips and an average distance for the area of 11.89 miles traveled per daily trip as available from the Caltrans Statewide Travel Demand Model, the estimated VMT for a residential development at the site would be 14,363 vehicle miles traveled. These results are shown in Table 8.

Table 8 – VMT Summary			
Land Use	Daily Trips	Average Trip Length	Calculated Daily VMT
Residential	1,208	11.89 mi	14,363 mi

Since there is not a specific development proposal to be evaluated, this information is provided for information only.

Intersection Operation

Existing plus Rezoning Conditions

Upon the addition of trips that could be generated by a residential project to existing volumes, the study intersections are expected to operate at the same Levels of Service. Traffic volumes associated with the assumed residential development are shown in Figure 3. These results are summarized in Table 9.

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

Study Intersection Approach	Existing Conditions				Existing plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. SR 20/Blosser Ln	11.4	B	4.9	A	11.9	B	4.9	A
<i>Northbound (Blosser Ln) Approach</i>	<i>18.5</i>	<i>C</i>	<i>11.3</i>	<i>B</i>	<i>20.1</i>	<i>C</i>	<i>11.5</i>	<i>B</i>
<i>Southbound (Blosser Ln) Approach</i>	<i>25.3</i>	<i>D</i>	<i>13.5</i>	<i>B</i>	<i>25.5</i>	<i>D</i>	<i>13.6</i>	<i>B</i>
2. S Main St/Hazel St	1.3	A	0.6	A	1.3	A	0.6	A
<i>Eastbound (Hazel St) Approach</i>	<i>17.0</i>	<i>C</i>	<i>14.3</i>	<i>B</i>	<i>17.1</i>	<i>C</i>	<i>14.5</i>	<i>B</i>
<i>Westbound (Driveway) Approach</i>	<i>13.7</i>	<i>B</i>	<i>11.7</i>	<i>B</i>	<i>14.0</i>	<i>B</i>	<i>11.8</i>	<i>B</i>
3. Holly St/Locust St	8.4	A	7.8	A	8.9	A	8.1	A
4. S Main St/Holly St	12.3	B	10.6	B	14.0	B	11.9	B

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

Finding – The study intersections are expected to continue operating acceptably at the same levels of service upon the addition of potential-project traffic.

Future plus Rezoning Conditions

Upon the addition of trips from the potential residential project to the anticipated Future volumes, the study intersections are expected to continue operating acceptably. The Future plus Project operating conditions are summarized in Table 10.

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

Study Intersection Approach	Future Conditions				Future plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. SR 20/Blosser Ln	12.5	B	5.0	A	13.2	B	5.1	A
<i>Northbound (Blosser Ln) Approach</i>	<i>20.1</i>	<i>C</i>	<i>11.6</i>	<i>B</i>	<i>22.1</i>	<i>C</i>	<i>11.9</i>	<i>B</i>
<i>Southbound (Blosser Ln) Approach</i>	<i>29.1</i>	<i>D</i>	<i>13.9</i>	<i>B</i>	<i>29.3</i>	<i>D</i>	<i>14.0</i>	<i>B</i>
2. S Main St/Hazel St	1.9	A	0.75	A	1.9	A	0.7	A
<i>Eastbound (Hazel St) Approach</i>	<i>26.2</i>	<i>D</i>	<i>18.4</i>	<i>C</i>	<i>26.5</i>	<i>D</i>	<i>18.8</i>	<i>C</i>
<i>Westbound (Driveway) Approach</i>	<i>17.0</i>	<i>C</i>	<i>13.2</i>	<i>B</i>	<i>17.4</i>	<i>C</i>	<i>13.3</i>	<i>B</i>
3. Holly St/Locust St	9.1	A	8.2	A	9.8	A	8.5	A
4. S Main St/Holly St	15.3	B	12.8	B	17.3	B	14.1	B

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

Finding – The study intersections will continue operating acceptably with trips from a potential residential project added, at the same Levels of Service as for Future Conditions without the potential project.

Alternative Modes

Pedestrian Facilities

Given the proximity of the subject parcel to downtown and schools, it is reasonable to assume that some potential residents would want to walk, bicycle, and/or use transit to reach their destinations. There are two primary gaps in pedestrian facilities that would impact pedestrian access between a residential development and downtown and between the site and Blosser Lane Elementary School. Sidewalk is missing for approximately 700 feet along Walnut Street between Locust Street and Magnolia Street, limiting pedestrian access from the subject parcel to the downtown. Either sidewalks or all-weather pedestrian walkways are needed along the south side of Walnut Street between Locust Street and Magnolia Street to complete the pedestrian connection to South Main Street. Also, there is a gap of approximately 650 feet in the sidewalk on Locust Street between the site and Hazel Street. Sidewalks should be installed on the west side of Locust Street as part of the site development to close this gap and give pedestrians access to the Blosser Lane trail.

Finding – Pedestrian facilities are limited within the vicinity of the subject parcel. Sidewalks are needed along the south side of Walnut Street between the parcel access and Magnolia Street and on the west side of Locust Street between the parcel access and Hazel Street.

Bicycle Facilities

Existing bicycle facilities, including the Blosser Lane Trail, together with shared use of minor low-volume streets provide adequate access for bicyclists in the study area. According to the *City of Willits Bicycle and Pedestrian Specific Plan, 2009*, there are plans to stripe bicycle lanes on Walnut Street. Based on the existing street width and condition of Walnut Street, bicycle lanes would not be possible under current geometric conditions. The inclusion of bike lanes would be at the discretion of the City.

Finding – Bicycle facilities serving the project site are adequate and future inclusion of bike lanes on Walnut Street would enhance these conditions. The need for any site-specific amenities would need to be evaluated when there is a proposal for developing the site.

Transit

Typical transit routes are adequate to accommodate transit trips that would be generated by residential development on the subject parcel. Existing stops are within an acceptable walking distance of the site.

Finding – Transit facilities serving the parcel are adequate.

Access and Circulation

Site Access

The site would be accessible from an extension of Walnut Street as the west leg of the Walnut Street/Locust Street intersection. Walnut Street would be extended into the site, though it would not go through to Blosser Lane. There could also be a connection of the Walnut Street Extension to the school drop-off loop southwest of the subject parcel for emergency vehicle access only. This connection to the school drop-off loop could also serve pedestrian and bike access to the School.

Access Design

The intersection of Walnut Street-Walnut Street Extension/Locust Street should be designed as a tee-intersection with development of a project at the site. The intersection should be realigned and repaved to ensure a standard tee intersection alignment with Locust Street as the minor leg. It is recommended that the northbound Locust Street approach be stop-controlled.

Sight Distance

Sight distance at the intersection of Walnut Street-Walnut Street Extension/Locust Street was field measured. Based on a design speed of 25 mph, the minimum corner sight distance needed is 150 feet. There is an overgrown hedge on the south side of the Walnut Street Extension approach to the intersection that could limit sight distance. Existing sight lines from the Locust Street approach are more than adequate in both directions. The existing hedge would likely be removed to make way for any development.

Emergency Vehicle Access

As noted above, the Walnut Street Extension into the subject parcel would connect to the school drop-off loop southwest of the site for emergency vehicle access. Emergency response vehicles would be able to access the site via this connection and exit the site via Walnut Street-Walnut Street Extension/Locust Street. It is assumed that this entrance would be blocked to eliminate the potential for public use since it connects to the school's playground.

Conclusions and Recommendations

Conclusions

- Based on the assumed maximum development for the subject parcel of 165 multi-family units, development of a potential residential project that would be allowed with the proposed rezoning would generate 1,208 trips per day, including 76 a.m. peak hour trips and 92 trips during the p.m. peak hour.
- Based on the assumed trip generation for a residential development of up to 165 multi-family units, this findings in this analysis would also be valid for up to 92 single-family units or any combination of residential units with a total trip generation of 92 p.m. peak hour trips.
- Based on existing volumes the study intersections are operating acceptably at LOS C or better overall during both peak periods. Existing delays would experience a minimal increase with volumes from a potential residential development added, and the study intersections would be expected to continue operating at the same Levels of Service as without these added trips.
- With assumed future growth rates applied, the study intersections are expected to continue operating acceptably at LOS C or better overall. With traffic from the assumed residential developed added the study intersections would continue to operate acceptably with minor increases in delay but no changes to service levels.
- There are gaps in the sidewalk facilities on Walnut Street and Locust Street which would impact pedestrian access from the subject parcel to downtown and points south. Bicycle lanes are planned on Walnut Street, but the existing width is insufficient for the bike lanes. Existing transit facilities serving the project site are adequate.

Recommendation

- Walnut Street-Walnut Street Extension/Locust Street should be configured as a standard tee intersection with the northbound Locust Street approach stop-controlled.

Study Participants and References

Study Participants

Principal in Charge	Steve Weinberger, PE, PTOE
Assistant Planner	Julia Walker
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Quality Control	Dalene J. Whitlock, PE, PTOE

References

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WIL051





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Appendix A

Collision Rate Calculations



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Intersection Collision Rate Calculations

TIS for the School Property Rezoning Project

Intersection # 1: State Route 20 & Blosser Lane

Date of Count: Wednesday, February 5, 2020

Number of Collisions: 3

Number of Injuries: 0

Number of Fatalities: 0

ADT: 5300

Start Date: September 1, 2014

End Date: August 31, 2019

Number of Years: 5

Intersection Type: Four-Legged

Control Type: Stop & Yield Controls

Area: Urban

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

$$\text{collision rate} = \frac{3}{5,300} \times \frac{1,000,000}{365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.31 c/mve	0.0%	0.0%
Statewide Average*	0.13 c/mve	1.1%	43.8%

ADT = average daily total vehicles entering intersection

c/mve = collisions per million vehicles entering intersection

* 2016 Collision Data on California State Highways, Caltrans

Intersection # 2: South Main Street & Hazel Street

Date of Count: Wednesday, February 5, 2020

Number of Collisions: 0

Number of Injuries: 0

Number of Fatalities: 0

ADT: 17000

Start Date: September 1, 2014

End Date: August 31, 2019

Number of Years: 5

Intersection Type: Four-Legged

Control Type: Stop & Yield Controls

Area: Urban

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

$$\text{collision rate} = \frac{0}{17,000} \times \frac{1,000,000}{365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.00 c/mve	0.0%	0.0%
Statewide Average*	0.13 c/mve	1.1%	43.8%

ADT = average daily total vehicles entering intersection

c/mve = collisions per million vehicles entering intersection

* 2016 Collision Data on California State Highways, Caltrans

Intersection Collision Rate Calculations

TIS for the School Property Rezoning Project

Intersection # 3: Holly Street & Locust Street
Date of Count: Wednesday, February 5, 2020

Number of Collisions: 0
Number of Injuries: 0
Number of Fatalities: 0
ADT: 2700
Start Date: September 1, 2014
End Date: August 31, 2019
Number of Years: 5

Intersection Type: Four-Legged
Control Type: 4 Way Stop
Area: Urban

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

$$\text{collision rate} = \frac{0}{2,700} \times \frac{1,000,000}{365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.00 c/mve	0.0%	0.0%
Statewide Average*	0.19 c/mve	0.4%	29.2%

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2016 Collision Data on California State Highways, Caltrans

Intersection # 4: South Main Street & Holly Street
Date of Count: Wednesday, February 5, 2020

Number of Collisions: 1
Number of Injuries: 0
Number of Fatalities: 0
ADT: 18200
Start Date: September 1, 2014
End Date: August 31, 2019
Number of Years: 5

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

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

$$\text{collision rate} = \frac{1}{18,200} \times \frac{1,000,000}{365 \times 5}$$

	Collision Rate	Fatality Rate	Injury Rate
Study Intersection	0.03 c/mve	0.0%	0.0%
Statewide Average*	0.24 c/mve	0.5%	44.6%

ADT = average daily total vehicles entering intersection
c/mve = collisions per million vehicles entering intersection
* 2016 Collision Data on California State Highways, Caltrans

Appendix B

Intersection Level of Service Calculations



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Intersection Level Of Service Report

Intersection 1: SR 20/Blosser Ln

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 30.6
Level Of Service: D
Volume to Capacity (v/c): 0.197

Intersection Setup

Name	Blosser Ln		Blosser Ln		SR 20		SR 20	
Approach	Northbound		Southbound		Eastbound		Westbound	
Lane Configuration	+		+		+ +		+	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru
	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	1	0	1	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	78.00	100.00	98.00	100.00
Speed [mph]	25.00		25.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00		0.00	
Crosswalk	No		No		No		Yes	

Volumes

Name	Blosser Ln		Blosser Ln		SR 20		SR 20	
Base Volume Input [veh/h]	11	87	32	70	7	6	82	12
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	87	32	70	7	6	82	12
Peak Hour Factor	0.740	0.740	0.740	0.740	0.740	0.740	0.740	0.740
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	4	29	11	24	2	2	28	4
Total Analysis Volume [veh/h]	15	118	43	95	9	8	111	16
Pedestrian Volume [ped/h]	0		0		0		3	

Intersection Settings

Priority Scheme	Stop	Stop	Stop	Free	Free
Flared Lane	No	No	No		
Storage Area [veh]	0	0	0	0	0
Two-Stage Gap Acceptance	No	No	No		
Number of Storage Spaces in Median	0	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.05	0.31	0.13	0.20	0.25	0.01	0.01	0.00	0.00	0.10	0.00	0.00
d_M, Delay for Movement [s/veh]	23.65	20.98	15.33	30.64	23.60	18.11	7.56	0.00	0.00	7.74	0.00	0.00
Movement LOS	C	C	C	C	D	C	C	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.65	2.65	2.65	2.29	2.29	2.29	0.02	0.00	0.00	0.34	0.00	0.00
95th-Percentile Queue Length [ft/ln]	66.16	66.16	66.16	57.26	57.26	57.26	0.43	0.00	0.00	8.39	0.00	0.00
d_A, Approach Delay [s/veh]	18.49		25.32		0.45		3.68					
Approach LOS	C		D		A		A					
d_I, Intersection Delay [s/veh]	11.36											
Intersection LOS	D											

Intersection Level Of Service Report

Intersection 3: Holly St/Locust St

Control Type: All-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 8.4
Level Of Service: A
Volume to Capacity (v/c): 0.213

Intersection Setup

Name	Locust St				Locust St				Driveway			
Approach	Northbound				Southbound				Eastbound			
Lane Configuration	+ + + +				+ + + +				+ + + +			
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00				25.00				25.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Locust St				Locust St				Driveway			
Base Volume Input [veh/h]	0	1	28	84	26	46	0	1	2	5	0	2
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	28	84	26	46	0	1	2	5	0	2
Peak Hour Factor	1.000	0.710	0.710	0.710	0.710	0.710	1.000	0.710	0.710	0.710	1.000	0.710
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	0	0	10	30	9	16	0	0	1	2	0	1
Total Analysis Volume [veh/h]	0	1	39	118	37	65	0	1	3	7	0	3
Pedestrian Volume [ped/h]	6				11				16			

Intersection Settings

Lanes	Capacity per Entry Lane [veh/h]	890	782	777
Degree of Utilization, x		0.18	0.13	0.02

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]	0.64	0.45	0.05
95th-Percentile Queue Length [ft]	16.08	11.33	1.28
Approach Delay [s/veh]	7.92	8.30	7.71
Approach LOS	A	A	A
Intersection Delay [s/veh]		8.39	
Intersection LOS		A	

Intersection Setup

Name	Holly St				SF Driveway			
Approach	Westbound				Northeastbound			
Lane Configuration	+ LeftThruRight				* LeftThruRight			
Turning Movement	Left	Thru	Right		Left	Thru	Right	
Lane Width [ft]	12.00	12.00	12.00		12.00	12.00	12.00	
No. of Lanes in Pocket	0	0	0		0	0	0	
Pocket Length [ft]	100.00	100.00	100.00		100.00	100.00	100.00	
Speed [mph]	25.00				25.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Holly St				SF Driveway			
Base Volume Input [veh/h]	107	0	4	5	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	107	0	4	5	0	0	0	1
Peak Hour Factor	0.7100	1.0000	0.7100	0.7100	0.7100	0.7100	0.7100	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	0	1	2	0	0	0	0
Total Analysis Volume [veh/h]	151	0	6	7	0	0	0	1
Pedestrian Volume [ped/h]	1				0			

Intersection Settings

Lanes	Capacity per Entry Lane [veh/h]	768	871
Degree of Utilization, x		0.21	0.00
Movement, Approach, & Intersection Results			
95th-Percentile Queue Length [veh]		0.81	0.00
95th-Percentile Queue Length [ft]		20.14	0.09
Approach Delay [s/veh]		8.95	7.14
Approach LOS		A	A
Intersection Delay [s/veh]		8.39	
Intersection LOS			A

Intersection Level Of Service Report

Intersection 4: S Main St/Holly St

Control Type: Signalized
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 12.3
Level Of Service: B
Volume to Capacity (v/c): 0.401

Intersection Setup

Name	S Main St		S Main St		Holly St		Holly St		Driveway	
Approach	Northbound		Southbound		Eastbound		Westbound			
Lane Configuration	TTL		TTL		TTL		TTL		TTL	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	0	0	0	0	0
Pocket Length [ft]	135.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		25.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00		0.00		0.00	
Curb Present	Yes		Yes		Yes		Yes		Yes	
Crosswalk	Yes		Yes		Yes		Yes		Yes	

Volumes

Name	S Main St		S Main St		Holly St		Holly St		Driveway	
Base Volume Input [veh/h]	106	530	2	9	652	28	99	2	119	2
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	2	0	0	51	0
Total Hourly Volume [veh/h]	106	530	2	9	652	26	99	2	68	2
Peak Hour Factor	0.880	0.880	0.880	0.880	0.880	0.880	0.880	0.880	0.880	0.880
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	30	151	1	3	185	7	28	1	19	1
Total Analysis Volume [veh/h]	120	602	2	10	741	30	113	2	77	2
Presence of On-Street Parking	No	No	No	No	No	No	No	No	No	No
On-Street Parking Maneuver Rate [1/h]	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [1/h]	0	0	0	0	0	0	0	0	0	0
v_d0, Outbound Pedestrian Volume crossing major street [ped/h]	1		3		3		3		0	
v_d1, Inbound Pedestrian Volume crossing major street [ped/h]	3		0		1		1		3	
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	0		2		3		3		4	
v_ci1, Inbound Pedestrian Volume crossing minor street [ped/h]	4		3		2		2		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0	
Bicycle Volume [bicycles/h]	0		1		0		0		0	

TIS for the School Property Rezoning

AM Existing Conditions



W-Trans
3/31/2020

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	0	0
Auxiliary Signal Groups	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	5	0	5	0	5	0
Maximum Green [s]	30	30	0	30	30	0	30	0	30	0	30	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	22	33	0	9	20	0	0	28	0	0	28	0	28	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	5	0
Pedestrian Clearance [s]	0	19	0	0	11	0	0	19	0	0	19	0	19	0
Rest In Walk	No	No	0.0	No	No	0.0	No	No	0.0	No	No	0.0	No	No
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Pedestrian Recall	No	No	0.0	No	No	0.0	No	No	0.0	No	No	0.0	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

TIS for the School Property Rezoning

AM Existing Conditions



W-Trans
3/31/2020

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00
I2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g, I, Effective Green Time [s]	6	46	46	1	41	41	11	11	11
g / C, Green / Cycle	0.09	0.66	0.66	0.01	0.58	0.58	0.16	0.16	0.16
(v / s) , Volume / Saturation Flow Rate	0.07	0.16	0.16	0.01	0.21	0.21	0.13	0.13	0.00
s, saturation flow rate [veh/h]	1781	1870	1868	1781	1870	1840	1531	1688	
c, Capacity [veh/h]	157	1229	1227	24	1089	1072	324	331	
d1, Uniform Delay [s]	31.23	4.91	4.91	34.28	7.71	7.72	28.19	24.95	
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
d2, Incremental Delay [s]	7.48	0.48	0.48	11.05	0.91	0.93	1.74	0.03	
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	

Lane Group Results

X, volume / capacity	0.76	0.25	0.25	0.42	0.36	0.36	0.59	0.02	
d, Delay for Lane Group [s/veh]	38.71	5.39	5.39	45.33	8.62	8.65	29.92	24.98	
Lane Group LOS	D	A	A	D	A	A	C	C	
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	
50th-Percentile Queue Length [veh/in]	2.21	1.44	1.44	0.24	2.72	2.69	3.16	0.11	
50th-Percentile Queue Length [ft/in]	55.23	35.93	35.90	5.89	67.99	67.27	79.04	2.83	
95th-Percentile Queue Length [veh/in]	3.98	2.59	2.58	0.42	4.80	4.84	5.69	0.20	
95th-Percentile Queue Length [ft/in]	99.42	64.68	64.62	10.60	122.39	121.08	142.28	5.09	

Movement, Approach, & Intersection Results

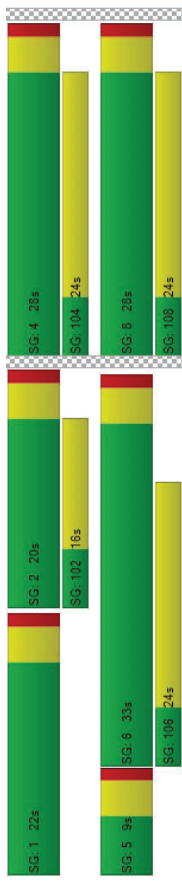
d, M, Delay for Movement [s/veh]	38.71	5.39	5.39	45.33	8.63	8.65	29.92	29.92	29.92	24.98	24.98	24.98
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d, A, Approach Delay [s/veh]	10.91				9.10		29.92			24.98		
Approach LOS	B				A		C			C		
d, I, Intersection Delay [s/veh]						12.29						
Intersection LOS						B						
Intersection V/C						0.401						

Other Modes

g, Walk, mit, Effective Walk Time [s]	9.0				9.0				9.0			9.0
M, corner, Corner Circulation Area [ft ² /ped]	0.00				0.00				0.00			0.00
M, CW, Crosswalk Circulation Area [ft ² /ped]	2491.82				3131.24				1863.79			2766.53
d, p, Pedestrian Delay [s]	26.58				26.58				26.58			26.58
I, p, int, Pedestrian LOS Score for Intersection	2.654				2.797				1.937			1.731
Crosswalk LOS	B				C				A			A
s, b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000				2000				2000			2000
c, b, Capacity of the bicycle lane [bicycles/h]	829				457				686			686
d, b, Bicycle Delay [s]	12.01				20.84				15.11			15.11
I, b, int, Bicycle LOS Score for Intersection	2.157				2.206				1.961			1.589
Bicycle LOS	B				B				A			A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 1: SR 20/Blosser Ln

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 15.1
Level Of Service: C
Volume to Capacity (v/c): 0.073

Intersection Setup

Name	Blosser Ln		Blosser Ln		SR 20		SR 20		Westbound	
Approach	Northbound		Southbound		Eastbound		Westbound			
Lane Configuration	+		+		+		+		+	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	1	0	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	78.00	100.00	100.00	98.00	100.00
Speed [mph]	25.00		25.00		35.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00		0.00		0.00	
Crosswalk	No		No		No		No		Yes	

Volumes

Name	Blosser Ln		Blosser Ln		SR 20		SR 20	
Base Volume Input [veh/h]	10	33	83	26	17	12	116	9
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	10	33	83	26	17	12	116	9
Peak Hour Factor	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	3	9	23	7	5	3	32	2
Total Analysis Volume [veh/h]	11	36	91	29	19	13	127	10
Pedestrian Volume [ped/h]	0		0		0		0	

Intersection Settings

Priority Scheme	Stop	Stop	Stop	Free	Free
Flared Lane	No	No	No		
Storage Area [veh]	0	0	0	0	0
Two-Stage Gap Acceptance	No	No	No		
Number of Storage Spaces in Median	0	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.02	0.07	0.10	0.07	0.04	0.01	0.01	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	13.59	13.63	10.15	15.08	13.36	10.15	7.62	0.00	0.00	7.58	0.00	0.00
Movement LOS	B	B	B	C	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.72	0.72	0.72	0.43	0.43	0.43	0.03	0.00	0.00	0.11	0.00	0.00
95th-Percentile Queue Length [ft/ln]	18.03	18.03	18.03	10.71	10.71	10.71	0.71	0.00	0.00	2.79	0.00	0.00
d_A, Approach Delay [s/veh]	11.33		13.49		B		A		1.66		A	
Approach LOS	B		B		B		A		A		A	
d_I, Intersection Delay [s/veh]							4.91					
Intersection LOS							C					

Intersection Setup

Name	Holly St				SF Driveway			
Approach	Westbound				Northeastbound			
Lane Configuration	+ LeftThruRight				* LeftThruRight			
Turning Movement	Left2	Left	Thru	Right	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00				25.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Holly St				SF Driveway			
Base Volume Input [veh/h]	106	1	7	8	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	106	1	7	8	0	0	1	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	0	2	2	0	0	0	0
Total Analysis Volume [veh/h]	116	1	8	9	0	0	1	0
Pedestrian Volume [ped/h]	3				3			

Intersection Settings

Lanes	Capacity per Entry Lane [veh/h]	817	814
Degree of Utilization, x	0.16		
Movement, Approach, & Intersection Results			
95th-Percentile Queue Length [veh]	0.58		
95th-Percentile Queue Length [ft]	14.61		
Approach Delay [s/veh]	8.27		
Approach LOS	A		
Intersection Delay [s/veh]	7.79		
Intersection LOS	A		

Intersection Level Of Service Report

Intersection 4: S Main St/Holly St

Control Type: Signalized
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 10.6
Level Of Service: B
Volume to Capacity (v/c): 0.343

Intersection Setup

Name	S Main St			S Main St			Holly St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTL			TTL			TTL			TTL		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	135.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S Main St		S Main St		Holly St		Driveway					
Base Volume Input [veh/h]	98	771	4	26	667	36	71	2	99	16	1	29
Base Volume Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	5	0	0	36	0	0	17
Total Hourly Volume [veh/h]	98	771	4	26	667	31	71	2	63	16	1	12
Peak Hour Factor	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960	0.960
Other Adjustment Factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Total 15-Minute Volume [veh/h]	26	201	1	7	174	8	18	1	16	4	0	3
Total Analysis Volume [veh/h]	102	803	4	27	695	32	74	2	66	17	1	13
Presence of On-Street Parking	No	No	No	No	No	No	No	No	No	No	No	No
On-Street Parking Maneuver Rate [h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [h]	0	0	0	0	0	0	0	0	0	0	0	0
v_do, Outbound Pedestrian Volume crossing major street [ped/h]	1		3		2		1		1		3	
v_dli, Inbound Pedestrian Volume crossing major street [ped/h]	2		1		1		1		1		3	
v_co, Outbound Pedestrian Volume crossing minor street [ped/h]	2		4		1		1		1		3	
v_cli, Inbound Pedestrian Volume crossing minor street [ped/h]	1		1		4		1		2		0	
v_ab, Corner Pedestrian Volume [ped/h]	0		0		0		0		0		0	
Bicycle Volume [bicycles/h]	1		1		1		0		0		0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	0	0
Auxiliary Signal Groups	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	5	0	5	0	5	0
Maximum Green [s]	30	30	0	30	30	0	30	0	30	0	30	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	22	33	0	9	20	0	0	28	0	0	28	0	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	0	5
Pedestrian Clearances [s]	0	19	0	0	11	0	0	19	0	0	19	0	0	19
Rest in Walk	No	No	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Pedestrian Recall	No	No	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L C C C L C C C L C C C											
	L	C	C	C	L	C	C	C	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_l, Effective Green Time [s]	5	48	48	2	45	45	45	8				8
g / C, Green / Cycle	0.08	0.68	0.68	0.03	0.64	0.64	0.64	0.12				0.12
(v / s)_l Volume / Saturation Flow Rate	0.06	0.22	0.22	0.02	0.20	0.20	0.20	0.09				0.02
s, saturation flow rate [veh/h]	1781	1870	1866	1781	1870	1836		1585				1577
c, Capacity [veh/h]	135	1273	1270	54	1188	1167		265				265
d1, Uniform Delay [s]	31.75	4.55	4.56	33.46	5.80	5.80		29.73				27.75
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50		0.11				0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00				1.00
d2, Incremental Delay [s]	8.39	0.66	0.66	7.15	0.67	0.69		1.68				0.19
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00		0.00				0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00		1.00				1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00				1.00

Lane Group Results

X, volume / capacity	0.76 0.32 0.32 0.50 0.31 0.31 0.54											
	0.76	0.32	0.32	0.50	0.31	0.31	0.54					0.12
d, Delay for Lane Group [s/veh]	40.15	5.21	5.21	40.61	6.47	6.49	31.41					27.95
Lane Group LOS	D	A	A	D	A	A	C					C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes					No
	1.92	1.82	1.81	0.54	2.03	2.00	2.38					0.47
50th-Percentile Queue Length [veh/in]	48.09	45.38	45.31	13.46	50.63	50.04	59.46					11.82
95th-Percentile Queue Length [veh/in]	3.46	3.27	3.26	0.97	3.65	3.60	4.28					0.85
95th-Percentile Queue Length [ft/in]	86.57	81.68	81.57	24.24	91.14	90.07	107.03					21.27

Movement, Approach, & Intersection Results

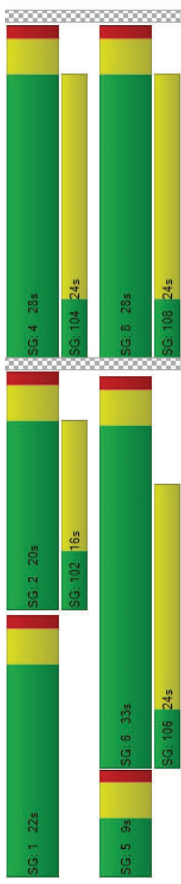
d_M, Delay for Movement [s/veh]	40.15 5.21 5.21 40.61 6.48 6.49 31.41 31.41 31.41 31.41 31.41 31.41											
	D	A	A	D	A	A	C	C	C	C	C	C
Movement LOS												
d_A, Approach Delay [s/veh]	9.13				7.70							27.95
Approach LOS	A				A							C
d_I, Intersection Delay [s/veh]							10.59					
Intersection LOS							B					
Intersection V/C							0.343					

Other Modes

g, Walk/mt, Effective Walk Time [s]	9.0				9.0				9.0			9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00				0.00				0.00			0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	3303.90				2463.19				1854.21			3680.93
d_p, Pedestrian Delay [s]	26.58				26.58				26.58			26.58
l_p.int, Pedestrian LOS Score for Intersection	2.705				2.780				1.884			1.761
Crosswalk LOS	B				C				A			A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000				2000				2000			2000
c_b, Capacity of the bicycle lane [bicycles/h]	829				457				686			686
d_b, Bicycle Delay [s]	12.01				20.84				15.11			15.11
l_b.int, Bicycle LOS Score for Intersection	2.310				2.166				1.853			1.639
Bicycle LOS	B				B				A			A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: S Main St/Hazel St

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes
Delay (sec / veh): 29.5
Level Of Service: D
Volume to Capacity (v/c): 0.324

Intersection Setup

Name	S Main St			S Main St			Hazel St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTL			TTL			TTL			TTL		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	S Main St			S Main St			Hazel St			Driveway		
Base Volume Input [veh/h]	49	602	0	2	681	40	50	0	34	1	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	763	0	3	885	52	65	0	44	1	0	1
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	225	0	1	254	15	19	0	13	0	0	0
Total Analysis Volume [veh/h]	74	900	0	3	1017	60	75	0	51	1	0	1
Pedestrian Volume [ped/h]	0			0			4			2		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	5	5

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.01	0.00	0.00	0.01	0.00	0.32	0.00	0.11	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.38	0.00	0.00	9.83	0.00	0.00	29.51	29.28	21.41	22.34	23.33	11.58
Movement LOS	B	A	A	A	A	A	D	D	C	C	C	B
95th-Percentile Queue Length [veh/ln]	0.39	0.00	0.00	0.01	0.00	0.00	2.06	2.06	2.06	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	9.78	0.00	0.00	0.30	0.00	0.00	51.47	51.47	51.47	0.50	0.50	0.50
d_A, Approach Delay [s/veh]	0.86			0.03			26.23			16.96		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]							1.93					
Intersection LOS							D					

Intersection Level Of Service Report
Intersection 3: Holly St/Locust St

Control Type: All-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes
Delay (sec / veh): 9.1
Level Of Service: A
Volume to Capacity (v/c): 0.290

Intersection Setup

Name	Locust St				Locust St				Driveway			
Approach	Northbound				Southbound				Eastbound			
Lane Configuration	+ + + +				+ + + +				+ + + +			
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00				25.00				25.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Locust St				Locust St				Driveway			
Base Volume Input [veh/h]	0	1	28	84	26	46	0	1	2	5	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.0000	1.3000	1.3000	1.3000	1.0000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	36	109	34	60	0	1	3	7	0	3
Peak Hour Factor	1.0000	0.7100	0.7100	0.7100	0.7100	0.7100	1.0000	0.7100	0.7100	0.7100	1.0000	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	13	38	12	21	0	0	1	2	0	1
Total Analysis Volume [veh/h]	0	1	51	154	48	85	0	1	4	10	0	4
Pedestrian Volume [ped/h]	6				11				16			



Intersection Settings

Lanes					
Capacity per Entry Lane [veh/h]		847	745	730	
Degree of Utilization, x		0.24	0.18	0.02	
Movement, Approach, & Intersection Results					
95th-Percentile Queue Length [veh]		0.95	0.65	0.08	
95th-Percentile Queue Length [ft]		23.84	16.32	1.90	
Approach Delay [s/veh]		8.62	8.89	8.06	
Approach LOS		A	A	A	
Intersection Delay [s/veh]			9.13		
Intersection LOS			A		



Intersection Setup

Name Approach	Holly St Westbound				SF Driveway Northeastbound			
Lane Configuration	+ LeftThruRight				* LeftThruRight			
Turning Movement	Left	Thru	Right		Left	Thru	Right	
Lane Width [ft]	12.00	12.00	12.00		12.00	12.00	12.00	
No. of Lanes in Pocket	0	0	0		0	0	0	
Pocket Length [ft]	100.00	100.00	100.00		100.00	100.00	100.00	
Speed [mph]	25.00				25.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Holly St				SF Driveway			
Base Volume Input [veh/h]	107	0	4	5	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	139	0	5	7	0	0	0	1
Peak Hour Factor	0.7100	1.0000	0.7100	0.7100	0.7100	0.7100	0.7100	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	0	2	2	0	0	0	0
Total Analysis Volume [veh/h]	196	0	7	10	0	0	0	1
Pedestrian Volume [ped/h]	1				0			

Intersection Settings

Lanes	Capacity per Entry Lane [veh/h]	735	811
Degree of Utilization, x		0.29	0.00
Movement, Approach, & Intersection Results			
95th-Percentile Queue Length [veh]	1.20		0.00
95th-Percentile Queue Length [ft]	30.04		0.09
Approach Delay [s/veh]	9.88		7.44
Approach LOS	A		A
Intersection Delay [s/veh]	9.13		
Intersection LOS	A		

Intersection Level Of Service Report		
Intersection 4: S Main StHolly St		
Control Type:	Signalized	15.3
Analysis Method:	HCM 6th Edition	B
Analysis Period:	15 minutes	0.535
Delay (sec / veh):		
Level Of Service:		
Volume to Capacity (v/c):		

Intersection Setup

Name	S Main St			S Main St			Holly St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTL			TTL			+			+		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	135.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S Main St		S Main St		Holly St		Driveway	
Base Volume Input [veh/h]	106	530	2	9	652	28	99	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	2	0	0	0
Total Hourly Volume [veh/h]	138	669	3	12	848	34	129	3
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	39	196	1	3	241	10	37	1
Total Analysis Volume [veh/h]	157	783	3	14	964	39	147	3
Presence of On-Street Parking	No	No	No	No	No	No	No	No
On-Street Parking Maneuver Rate [1/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [1/h]	0	0	0	0	0	0	0	0
v_db, Outbound Pedestrian Volume crossing major street	1	0	0	0	0	0	0	0
v_di, Inbound Pedestrian Volume crossing major street	3	0	0	0	0	1	1	3
v_co, Outbound Pedestrian Volume crossing minor street	0	0	2	0	0	3	0	4
v_ci, Inbound Pedestrian Volume crossing minor street	4	0	3	0	0	2	0	0
v_ab, Corner Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0
Bicycle Volume [bicydeash]	0	0	1	0	0	0	0	0



Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0		
Auxiliary Signal Groups	Lead	-	-	Lead	-	-	-	-	-	-	-	-		
Minimum Green [s]	5	5	0	5	5	0	5	0	5	0	5	0		
Maximum Green [s]	30	30	0	30	30	0	30	0	30	0	30	0		
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0		
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0		
Split [s]	22	33	0	9	20	0	0	28	0	0	28	0		
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0		
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0		
Pedestrian Clearance [s]	0	19	0	0	11	0	0	19	0	0	19	0		
Rest in Walk	No	No	No	No	No	No	No	No	No	No	No	No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0		
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0		
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	No		
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	No		
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
I, Upstream Filtering 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		

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



Lane Group Calculations

Lane Group	L C C C L C C C L C C C											
	L	C	C	C	L	C	C	C	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_l, Effective Green Time [s]	8	42	42	42	1	36	36	36	15	15	15	15
g / C, Green / Cycle	0.11	0.60	0.60	0.60	0.02	0.51	0.51	0.51	0.21	0.21	0.21	0.21
(v / s)_J Volume / Saturation Flow Rate	0.09	0.21	0.21	0.21	0.01	0.27	0.27	0.27	0.18	0.18	0.18	0.01
s, saturation flow rate [veh/h]	1781	1870	1867	1781	1870	1840	1840	1840	1525	1525	1525	1668
c, Capacity [veh/h]	201	1126	1125	32	949	934	397	397	408	408	408	408
d1, Uniform Delay [s]	30.25	7.01	7.01	34.06	11.64	11.65	26.41	26.41	22.14	22.14	22.14	22.14
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
l, Upstream Filtering 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
d2, Incremental Delay [s]	6.52	0.85	0.86	9.20	2.13	2.18	2.00	2.00	0.03	0.03	0.03	0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.78 0.35 0.35 0.44 0.53 0.53 0.67 0.67 0.03											
	0.78	0.35	0.35	0.44	0.53	0.53	0.67	0.67	0.03	0.03	0.03	0.03
d, Delay for Lane Group [s/veh]	36.77	7.87	7.87	43.25	13.77	13.83	28.41	28.41	22.17	22.17	22.17	22.17
Lane Group LOS	D	A	A	D	B	B	C	C	C	C	C	C
	Yes	No	No	No	No	Yes	Yes	Yes	No	No	No	No
Critical Lane Group												
50th-Percentile Queue Length [veh/in]	2.80	2.56	2.56	0.31	5.02	4.97	4.35	4.35	0.18	0.18	0.18	0.18
50th-Percentile Queue Length [ft/in]	70.03	63.98	63.90	7.68	125.56	124.22	108.84	108.84	4.60	4.60	4.60	4.60
95th-Percentile Queue Length [veh/in]	5.04	4.61	4.60	0.55	8.70	8.62	7.78	7.78	0.33	0.33	0.33	0.33
95th-Percentile Queue Length [ft/in]	126.05	115.16	115.03	13.83	217.45	215.61	194.39	194.39	8.28	8.28	8.28	8.28

Movement, Approach, & Intersection Results

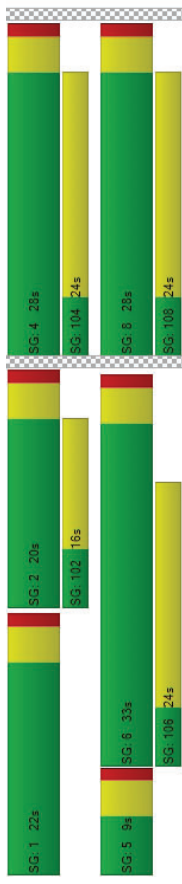
d, M, Delay for Movement [s/veh]	36.77 7.87 7.87 43.25 13.80 13.83 28.41 28.41 28.41 28.41 28.41 28.41											
	D	A	A	D	B	B	C	C	C	C	C	C
Movement LOS												
d_A, Approach Delay [s/veh]	12.68				14.20							
Approach LOS		B			B					C		C
d_I, Intersection Delay [s/veh]						15.31						
Intersection LOS						B						
Intersection V/C						0.536						

Other Modes

g, Walk/mt, Effective Walk Time [s]	9.0		9.0				9.0					9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00		0.00				0.00					0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	2341.51		2945.16				1922.85					2762.95
d_p, Pedestrian Delay [s]	26.58		26.58				26.58					26.58
I_p.int, Pedestrian LOS Score for Intersection	2.766		2.949				1.966					1.736
Crosswalk LOS	C		C				A					A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000		2000				2000					2000
c_b, Capacity of the bicycle lane [bicycles/h]	829		457				686					686
d_b, Bicycle Delay [s]	12.01		20.84				15.11					15.11
I_b.int, Bicycle LOS Score for Intersection	2.338		2.400				2.066					1.599
Bicycle LOS	B		B				B					A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 1: SR 20/Blosser Ln

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 15.7
Level Of Service: C
Volume to Capacity (v/c): 0.079

Intersection Setup

Name	Blosser Ln		Blosser Ln		SR 20		SR 20	
Approach	Northbound		Southbound		Eastbound		Westbound	
Lane Configuration	+		+		TTL		T	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	1	0	1	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	78.00	100.00	98.00	100.00
Speed [mph]	25.00		25.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00		0.00	
Crosswalk	No		No		No		Yes	

Volumes

Name	Blosser Ln			Blosser Ln			SR 20			SR 20		
Base Volume Input [veh/h]	10	33	83	26	17	12	116	9	47	130	38	
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	11	35	87	27	18	13	122	9	49	137	40	
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	3	10	24	7	5	4	34	2	13	38	11	
Total Analysis Volume [veh/h]	12	38	96	30	20	14	134	10	54	151	44	
Pedestrian Volume [ped/h]	0			0			0			2		

Intersection Settings

Priority Scheme	Stop	Stop	Stop	Free	Free
Flared Lane	No	No	No		
Storage Area [veh]	0	0	0	0	0
Two-Stage Gap Acceptance	No	No	No		
Number of Storage Spaces in Median	0	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.03	0.08	0.11	0.08	0.04	0.02	0.01	0.00	0.00	0.04	0.00	0.00
d_M, Delay for Movement [s/veh]	14.06	14.03	10.35	15.72	13.74	10.36	7.64	0.00	0.00	7.60	0.00	0.00
Movement LOS	B	B	B	C	B	B	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.80	0.80	0.80	0.47	0.47	0.47	0.03	0.00	0.00	0.12	0.00	0.00
95th-Percentile Queue Length [ft/ln]	19.89	19.89	19.89	11.80	11.80	11.80	0.77	0.00	0.00	2.92	0.00	0.00
d_A, Approach Delay [s/veh]	11.61			13.93			0.68			1.65		
Approach LOS	B			B			A			A		
d_I, Intersection Delay [s/veh]				5.03			C					
Intersection LOS												

Intersection Level Of Service Report

Intersection 2: S Main St/Hazel St

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 22.3
Level Of Service: C
Volume to Capacity (v/c): 0.137

Intersection Setup

Name	S Main St Northbound			S Main St Southbound			Hazel St Eastbound			Driveway Westbound		
Approach												
Lane Configuration	TTL			TTL			TTL			TTL		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	S Main St			S Main St			Hazel St			Driveway		
Base Volume Input [veh/h]	19	868	1	3	733	14	25	0	28	0	0	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	25	1128	1	4	953	18	33	0	36	0	0	5
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	6	291	0	1	246	5	9	0	9	0	0	1
Total Analysis Volume [veh/h]	26	1163	1	4	982	19	34	0	37	0	0	5
Pedestrian Volume [ped/h]	0			0			4			11		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	5	5

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.01	0.00	0.01	0.01	0.00	0.14	0.00	0.07	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	10.48	0.00	0.00	11.21	0.00	0.00	22.35	24.33	14.85	25.48	21.81	13.20
Movement LOS	B	A	A	B	A	A	C	C	B	D	C	B
95th-Percentile Queue Length [veh/ln]	0.12	0.00	0.00	0.02	0.00	0.00	0.78	0.78	0.78	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	2.97	0.00	0.00	0.52	0.00	0.00	19.46	19.46	19.46	0.85	0.85	0.85
d_A, Approach Delay [s/veh]	0.23		0.04		A		C		18.44		13.20	
Approach LOS	A		A		A		C		B		B	
d_I, Intersection Delay [s/veh]	0.75											
Intersection LOS	C											

Intersection Setup

Name Approach	Holly St Westbound				SF Driveway Northeastbound			
Lane Configuration	+ LeftThruRight				* LeftThruRight			
Turning Movement	Left	Thru	Right		Left	Thru	Right	
Lane Width [ft]	12.00	12.00	12.00		12.00	12.00	12.00	
No. of Lanes in Pocket	0	0	0		0	0	0	
Pocket Length [ft]	100.00	100.00	100.00		100.00	100.00	100.00	
Speed [mph]	25.00				25.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Holly St				SF Driveway			
Base Volume Input [veh/h]	106	1	7	8	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	1	9	10	0	0	1	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	0	2	3	0	0	0	0
Total Analysis Volume [veh/h]	152	1	10	11	0	0	1	0
Pedestrian Volume [ped/h]	3				3			

Intersection Settings

Lanes			
Capacity per Entry Lane [veh/h]	797		785
Degree of Utilization, x	0.22		0.00
Movement, Approach, & Intersection Results			
95th-Percentile Queue Length [veh]	0.83		0.00
95th-Percentile Queue Length [ft]	20.73		0.10
Approach Delay [s/veh]	8.78		7.59
Approach LOS	A		A
Intersection Delay [s/veh]	8.20		
Intersection LOS	A		

Intersection Level Of Service Report

Intersection 4: S Main St/Holly St

Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c):

12.8
B
0.455

Control Type:
Analysis Method:
Analysis Period:

Signalized
HCM 6th Edition
15 minutes

Intersection Setup

Name	S Main St		S Main St		Holly St		Driveway	
Approach	Northbound		Southbound		Eastbound		Westbound	
Lane Configuration	TTL		TTL		TTL		TTL	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	0	0	0
Pocket Length [ft]	135.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00		0.00	
Curb Present	Yes		Yes		Yes		Yes	
Crosswalk	Yes		Yes		Yes		Yes	

Volumes

Name	S Main St		S Main St		Holly St		Driveway	
Base Volume Input [veh/h]	98	771	4	26	667	36	71	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	127	1002	5	34	867	42	92	3
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	33	261	1	9	226	11	24	1
Total Analysis Volume [veh/h]	132	1044	5	35	903	44	96	3
Presence of On-Street Parking	No	No	No	No	No	No	No	No
On-Street Parking Maneuver Rate [1/h]	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [1/h]	0	0	0	0	0	0	0	0
v_db, Outbound Pedestrian Volume crossing major street	1	0	0	0	0	0	0	0
v_di, Inbound Pedestrian Volume crossing major street	2	1	1	1	1	1	1	3
v_co, Outbound Pedestrian Volume crossing minor street	2	1	1	1	1	1	1	1
v_ci, Inbound Pedestrian Volume crossing minor street	1	1	1	1	1	1	1	2
v_ab, Corner Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0
Bicycle Volume [bicydeash]	1	1	1	1	1	1	1	0

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	0	0
Auxiliary Signal Groups	Lead	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead / Lag	5	5	0	5	5	0	5	0	5	0	5	0	5	0
Minimum Green [s]	30	30	0	30	30	0	30	0	30	0	30	0	30	0
Maximum Green [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0
Amber [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
All red [s]	22	33	0	9	20	0	0	28	0	0	28	0	0	0
Split [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0
Vehicle Extension [s]	0	5	0	0	5	0	0	5	0	0	5	0	0	0
Walk [s]	0	19	0	0	11	0	0	19	0	0	19	0	0	0
Pedestrian Clearance [s]	Rest in Walk	No	No	No	No	No	No	No	No	No	No	No	No	No
11, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
12, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L C C C L C C C L C C C											
	L	C	C	C	L	C	C	C	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_l, Effective Green Time [s]	7	45	45	3	40	40	40	11	11	11	11	11
g / C, Green / Cycle	0.10	0.64	0.64	0.04	0.58	0.58	0.58	0.15	0.15	0.15	0.15	0.15
s, saturation flow rate [veh/h]	0.07	0.28	0.28	0.02	0.26	0.26	0.26	0.12	0.12	0.12	0.12	0.03
c, Capacity [veh/h]	1781	1870	1866	1781	1870	1834	1573	1488	1488	1488	1488	1488
d1, Uniform Delay [s]	172	1191	1189	64	1079	1038	321	310	310	310	310	310
k, delay calibration	30.69	6.42	6.42	33.20	8.42	8.43	28.28	25.65	25.65	25.65	25.65	25.65
l, Upstream Filtering Factor	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11	0.11	0.11	0.11
d2, Incremental Delay [s]	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d3, Initial Queue Delay [s]	7.07	1.18	1.19	6.95	1.32	1.35	1.87	0.21	0.21	0.21	0.21	0.21
Rp, platoon ratio	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PF, progression 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

Lane Group Results

X, volume / capacity	0.77	0.44	0.44	0.54	0.44	0.44	0.61	0.15
d, Delay for Lane Group [s/veh]	37.96	7.60	7.61	40.14	9.74	9.78	30.16	25.87
Lane Group LOS	D	A	A	D	A	A	C	C
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/ln]	2.40	3.26	3.25	0.68	3.66	3.61	3.24	0.66
50th-Percentile Queue Length [ft/ln]	60.02	81.41	81.31	17.07	91.56	90.36	80.97	16.39
95th-Percentile Queue Length [veh/ln]	4.32	5.86	5.85	1.23	6.59	6.51	5.83	1.18
95th-Percentile Queue Length [ft/ln]	108.03	146.54	146.36	30.73	164.81	162.64	145.75	29.50

Movement, Approach, & Intersection Results

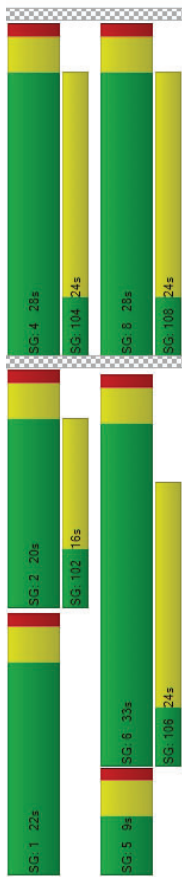
d_M, Delay for Movement [s/veh]	37.96	7.60	7.61	40.14	9.78	9.78	30.16	30.16	30.16	25.87	25.87	25.87
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	11.00				10.85		30.16			25.87		
Approach LOS	B				B		C			C		
d_I, Intersection Delay [s/veh]					12.78							
Intersection LOS					B							
Intersection V/C					0.456							

Other Modes

g, Walk/mt, Effective Walk Time [s]	9.0				9.0				9.0			9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00				0.00				0.00			0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	3132.09				2352.25				1799.63			3676.15
d_p, Pedestrian Delay [s]	26.58				26.58				26.58			26.58
I_p.int, Pedestrian LOS Score for Intersection	2.829				2.925				1.923			1.771
Crosswalk LOS	C				C				A			A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000				2000				2000			2000
c_b, Capacity of the bicycle lane [bicycles/h]	829				457				686			686
d_b, Bicycle Delay [s]	12.01				20.84				15.11			15.11
I_b.int, Bicycle LOS Score for Intersection	2.534				2.374				1.942			1.662
Bicycle LOS	B				B				A			A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: S Main St/Hazel St

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 19.1
Level Of Service: C
Volume to Capacity (v/c): 0.177

Intersection Setup

Name	S Main St		S Main St		Hazel St		Driveway	
Approach	Northbound		Southbound		Eastbound		Westbound	
Lane Configuration	TTL		TTL		TTL		TTL	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00		35.00		25.00		25.00	
Grade [%]	0.00		0.00		0.00		0.00	
Crosswalk	No		No		Yes		Yes	

Volumes

Name	S Main St			S Main St			Hazel St			Driveway		
Base Volume Input [veh/h]	49	602	0	2	681	40	50	0	34	1	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	26	0	0	0	7	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	49	628	0	2	681	47	50	0	34	1	0	1
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	180	0	1	196	14	14	0	10	0	0	0
Total Analysis Volume [veh/h]	56	722	0	2	783	54	57	0	39	1	0	1
Pedestrian Volume [ped/h]	0			0			4			2		



Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane	No	No	No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	5	5

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.07	0.01	0.00	0.00	0.01	0.00	0.18	0.00	0.07	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	9.92	0.00	0.00	0.00	9.13	0.00	19.08	19.39	14.16	17.20	17.60	10.74
Movement LOS	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.23	0.00	0.00	0.00	0.01	0.00	0.04	0.94	0.94	0.01	0.01	0.01
95th-Percentile Queue Length [ft/ln]	5.73	0.00	0.00	0.17	0.00	0.00	23.61	23.61	23.61	0.37	0.37	0.37
d_A, Approach Delay [s/veh]	0.71			0.02			17.08			13.97		
Approach LOS	A			A			C			B		
d_I, Intersection Delay [s/veh]				1.31								
Intersection LOS				C								



Control Type: All-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Intersection Level Of Service Report
Intersection 3: Holly St/Locust St

Delay (sec / veh): 8.9
Level Of Service: A
Volume to Capacity (v/c): 0.242

Intersection Setup

Name	Locust St			Locust St			Driveway		
Approach	Northbound			Southbound			Eastbound		
Lane Configuration	+ + + +			+ + + +			+ + + +		
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00		
Crosswalk	Yes			Yes			Yes		

Volumes

Name	Locust St				Locust St				Driveway			
Base Volume Input [veh/h]	0	1	28	84	26	46	0	1	2	5	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	3	0	50	9	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	31	84	76	55	0	1	2	5	0	2
Peak Hour Factor	1.0000	0.7100	0.7100	0.7100	0.7100	0.7100	1.0000	0.7100	0.7100	1.0000	0.7100	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	11	30	27	19	0	0	1	2	0	1
Total Analysis Volume [veh/h]	0	1	44	118	107	77	0	1	3	7	0	3
Pedestrian Volume [ped/h]	6				11				16			

Intersection Settings

Lanes			
Capacity per Entry Lane [veh/h]	857		765
Degree of Utilization, x	0.19		0.24
Movement, Approach, & Intersection Results			
95th-Percentile Queue Length [veh]	0.70		0.95
95th-Percentile Queue Length [ft]	17.50		23.63
Approach Delay [s/veh]	8.19		9.21
Approach LOS	A		A
Intersection Delay [s/veh]			8.91
Intersection LOS			A

Intersection Setup

Name Approach	Holly St Westbound				SF Driveway Northeastbound			
Lane Configuration	+ LeftThruRight				* LeftThruRight			
Turning Movement	Left	Thru	Right		Left	Thru	Right	
Lane Width [ft]	12.00	12.00	12.00		12.00	12.00	12.00	
No. of Lanes in Pocket	0	0	0		0	0	0	
Pocket Length [ft]	100.00	100.00	100.00		100.00	100.00	100.00	
Speed [mph]	25.00				25.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Holly St					SF Driveway				
Base Volume Input [veh/h]	107	0	4	5	0	0	0	0	1	
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Site-Generated Trips [veh/h]	0	0	0	7	0	0	0	0	0	
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	
Total Hourly Volume [veh/h]	107	0	4	12	0	0	0	0	1	
Peak Hour Factor	0.7100	1.0000	0.7100	0.7100	0.7100	0.7100	0.7100	0.7100	0.7100	
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Total 15-Minute Volume [veh/h]	38	0	1	4	0	0	0	0	0	
Total Analysis Volume [veh/h]	151	0	6	17	0	0	0	0	1	
Pedestrian Volume [ped/h]	1					0				

Intersection Settings

Lanes		Capacity per Entry Lane [veh/h]	740	821
		Degree of Utilization, x	0.24	0.00
Movement, Approach, & Intersection Results				
		95th-Percentile Queue Length [veh]	0.91	0.00
		95th-Percentile Queue Length [ft]	22.77	0.09
		Approach Delay [s/veh]	9.35	7.39
		Approach LOS	A	A
		Intersection Delay [s/veh]	8.91	
		Intersection LOS	A	

Intersection Level Of Service Report

Intersection 4: S Main St/Holly St

Control Type: Signalized
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 14.0
Level Of Service: B
Volume to Capacity (v/c): 0.444

Intersection Setup

Name	S Main St			S Main St			Holly St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTL			TTL			TTL			TTL		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	135.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S Main St		S Main St		Holly St		Driveway					
Base Volume Input (veh/h)	106	530	2	9	652	28	99	2	119	2	0	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips (veh/h)	7	0	0	0	0	0	26	0	24	0	0	0
Diverted Trips (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume (veh/h)	0	0	0	0	0	2	0	0	0	51	0	10
Total Hourly Volume (veh/h)	113	530	2	9	652	26	125	2	92	2	0	5
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume (veh/h)	32	151	1	3	185	7	36	1	26	1	0	1
Total Analysis Volume (veh/h)	128	602	2	10	741	30	142	2	105	2	0	6
Presence of On-Street Parking	No	No	No	No	No	No	No	No	No	No	No	No
On-Street Parking Maneuver Rate (1/h)	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate (1/h)	0	0	0	0	0	0	0	0	0	0	0	0
v_db, Outbound Pedestrian Volume crossing major street	1	3	0	0	0	0	0	0	0	0	0	0
v_dli, Inbound Pedestrian Volume crossing major street	3	0	0	0	0	0	0	0	1	0	3	0
v_co, Outbound Pedestrian Volume crossing minor street	0	0	2	0	0	0	0	0	3	0	4	0
v_dli, Inbound Pedestrian Volume crossing minor street	4	0	3	0	0	0	0	0	2	0	0	0
v_ab, Corner Pedestrian Volume (ped/h)	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle Volume (bicydes/h)	0	0	1	0	0	0	0	0	0	0	0	0

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	0	0
Auxiliary Signal Groups	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	5	0	5	0	5	0
Maximum Green [s]	30	30	0	30	30	0	30	0	30	0	30	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	22	33	0	9	20	0	0	28	0	0	28	0	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	0	5
Pedestrian Clearance [s]	0	19	0	0	11	0	0	19	0	0	19	0	0	19
Rest in Walk	No	No	No	No	No	No	No	No	No	No	No	No	No	No
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	L	C	C	C	C
C, Cycle Length [s]		70	70	70	70	70	70	70	C
L, Total Lost Time per Cycle [s]		4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00
l2, Clearance Lost Time [s]		2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_l, Effective Green Time [s]		7	43	43	1	38	38	14	14
g / C, Green / Cycle		0.09	0.62	0.62	0.01	0.54	0.54	0.20	0.20
(v / s)_j Volume / Saturation Flow Rate		0.07	0.16	0.16	0.01	0.21	0.21	0.16	0.00
s, saturation flow rate [veh/h]		1781	1870	1868	1781	1870	1840	1523	1652
c, Capacity [veh/h]		167	1157	1155	24	1007	991	380	389
d1, Uniform Delay [s]		31.00	6.08	6.08	34.28	9.42	9.42	26.83	22.72
k, delay calibration		0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		7.19	0.55	0.55	11.05	1.12	1.14	1.92	0.02
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.77	0.26	0.26	0.42	0.39	0.39	0.66	0.02
d, Delay for Lane Group [s/veh]		38.20	6.63	6.63	45.33	10.53	10.56	28.75	22.74
Lane Group LOS		D	A	A	D	B	B	C	C
Critical Lane Group		Yes	No	No	No	No	Yes	Yes	No
50th-Percentile Queue Length [veh/in]		2.34	1.72	1.72	0.24	3.17	3.14	4.06	0.11
50th-Percentile Queue Length [ft/in]		58.42	43.02	42.98	5.89	79.36	78.51	101.42	2.67
95th-Percentile Queue Length [veh/in]		4.21	3.10	3.09	0.42	5.71	5.65	7.30	0.19
95th-Percentile Queue Length [ft/in]		105.16	77.43	77.36	10.60	142.85	141.32	182.55	4.80

Movement, Approach, & Intersection Results

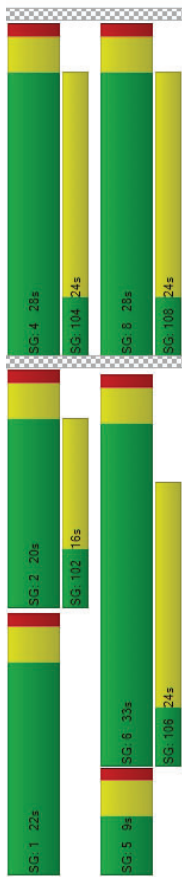
d_M, Delay for Movement [s/veh]		38.20	6.63	6.63	45.33	10.55	10.56	28.75	28.75	28.75	28.74	22.74	22.74
Movement LOS		D	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]		12.15				10.99		28.75				22.74	
Approach LOS		B				B		C				C	
d_I, Intersection Delay [s/veh]							14.02						
Intersection LOS							B						
Intersection V/C							0.444						

Other Modes

g, Walk/mt, Effective Walk Time [s]		9.0				9.0			9.0				9.0
M_corner, Corner Circulation Area [ft ² /ped]		0.00				0.00			0.00				0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]		2391.61				2992.88			1863.79				2766.53
d_p, Pedestrian Delay [s]		26.58				26.58			26.58				26.58
l_p.int, Pedestrian LOS Score for Intersection		2.663				2.845			1.963				1.731
Crosswalk LOS		B				C			A				A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]		2000				2000			2000				2000
c_b, Capacity of the bicycle lane [bicycles/h]		829				457			686				686
d_b, Bicycle Delay [s]		12.01				20.84			15.11				15.11
l_b.int, Bicycle LOS Score for Intersection		2.164				2.206			2.055				1.589
Bicycle LOS		B				B			B				A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 2: S Main St/Hazel St

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 16.9
Level Of Service: C
Volume to Capacity (v/c): 0.078

Intersection Setup

Name	S Main St			S Main St			Hazel St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTL			TTL			TTL			TTL		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	S Main St			S Main St			Hazel St			Driveway		
Base Volume Input [veh/h]	19	868	1	3	733	14	25	0	28	0	0	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	15	0	0	0	26	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	19	883	1	3	733	40	25	0	28	0	0	4
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	5	228	0	1	189	10	6	0	7	0	0	1
Total Analysis Volume [veh/h]	20	910	1	3	756	41	26	0	29	0	0	4
Pedestrian Volume [ped/h]	0			0			4			11		

Intersection Settings

Priority Scheme	Free	Free	Stop	Stop
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	5	5

Movement, Approach, & Intersection Results



V/C, Movement V/C Ratio	0.02	0.01	0.00	0.00	0.01	0.00	0.00	0.08	0.00	0.05	0.00	0.00	0.01
d_M, Delay for Movement [s/veh]	9.53	0.00	0.00	9.96	0.00	9.96	0.00	16.92	18.36	12.24	18.88	17.40	11.75
Movement LOS	A	A	A	A	A	A	A	C	C	B	C	C	B
95th-Percentile Queue Length [veh/ln]	0.08	0.00	0.00	0.01	0.00	0.01	0.00	0.43	0.43	0.43	0.02	0.02	0.02
95th-Percentile Queue Length [ft/ln]	1.89	0.00	0.00	0.31	0.00	0.31	0.00	10.74	10.74	10.74	0.56	0.56	0.56
d_A, Approach Delay [s/veh]	0.20			0.04			14.45			11.75			
Approach LOS	A			A			B			B			
d_I, Intersection Delay [s/veh]							0.59			C			
Intersection LOS													

Intersection Level Of Service Report
Intersection 3: Holly St/Locust St

Control Type:	All-way stop
Analysis Method:	HCM 6th Edition
Analysis Period:	15 minutes

Delay (sec / veh):	8.1
Level Of Service:	A
Volume to Capacity (v/c):	0.19

Intersection Setup

Name		Locust St		Locust St		
Approach		Northbound		Southbound		Driveway
Lane Configuration						
Turning Movement		Left	Thru	Right	Left	Right
Lane Width [ft]		12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket		0	0	0	0	0
Pocket Length [ft]		100.00	100.00	100.00	100.00	100.00
Speed [mph]		25.00		25.00		25.00
Grade [%]		0.00		0.00		0.00
Crosswalk		Yes		Yes		Yes

Volumes

Name	Locust St			Locust St			Driveway					
	2	1	11	87	11	31	0	1	0	5	0	1
Base Volume Input [veh/h]	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Base Volume Adjustment Factor	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Heavy Vehicles Percentage [%]	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Growth Factor	0	0	0	0	0	0	0	0	0	0	0	0
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	9	0	29	5	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	2	1	20	87	40	36	0	1	0	5	0	1
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.0000	0.9100	0.9100	0.9100	1.0000	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	5	24	11	10	0	0	0	1	0	0
Total Analysis Volume [veh/h]	2	1	22	96	44	40	0	1	0	5	0	1
Pedestrian Volume [ped/h]	0			1			0			0		

Intersection Settings

Lanes				
Capacity per Entry Lane [veh/h]	912	793	805	
Degree of Utilization, x	0.13	0.11	0.01	
Movement, Approach, & Intersection Results				
95th-Percentile Queue Length [veh]	0.46	0.36	0.02	
95th-Percentile Queue Length [ft]	11.41	8.97	0.56	
Approach Delay [s/veh]	7.55	8.09	7.50	
Approach LOS	A	A	A	
Intersection Delay [s/veh]		8.07		
Intersection LOS		A		

Intersection Setup

Name Approach	Holly St Westbound				SF Driveway Northeastbound			
Lane Configuration	+ LeftThruRight				* LeftThruRight			
Turning Movement	Left	Thru	Right		Left	Thru	Right	
Lane Width [ft]	12.00	12.00	12.00		12.00	12.00	12.00	
No. of Lanes in Pocket	0	0	0		0	0	0	
Pocket Length [ft]	100.00	100.00	100.00		100.00	100.00	100.00	
Speed [mph]	25.00				25.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Holly St							SF Driveway		
Base Volume Input [veh/h]	106	1	7	8	0	0	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	23	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	106	1	7	31	0	0	0	0	1	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	29	0	2	9	0	0	0	0	0	0
Total Analysis Volume [veh/h]	116	1	8	34	0	0	0	0	1	0
Pedestrian Volume [ped/h]	3							3		

Intersection Settings

Lanes		Capacity per Entry Lane [veh/h]	816	787
Degree of Utilization, x		0.19		0.00
Movement, Approach, & Intersection Results				
95th-Percentile Queue Length [veh]		0.72		0.00
95th-Percentile Queue Length [ft]		17.98		0.10
Approach Delay [s/veh]		8.47		7.58
Approach LOS		A		A
Intersection Delay [s/veh]		8.07		
Intersection LOS		A		





Intersection Level Of Service Report

Intersection 4: S Main St/Holly St

Delay (sec / veh): 11.9
Level Of Service: B
Volume to Capacity (v/c): 0.377

Control Type: Signalized
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Intersection Setup

Name	S Main St			S Main St			Holly St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	135.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S Main St		S Main St		Holly St		Driveway					
Base Volume Input (veh/h)	98	771	4	26	667	36	71	2	99	16	1	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips (veh/h)	23	0	0	0	0	0	15	0	14	0	0	0
Diverted Trips (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume (veh/h)	0	0	0	0	0	5	0	0	36	0	0	17
Total Hourly Volume (veh/h)	121	771	4	26	667	31	86	2	77	16	1	12
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume (veh/h)	32	201	1	7	174	8	22	1	20	4	0	3
Total Analysis Volume (veh/h)	126	803	4	27	695	32	90	2	80	17	1	13
Presence of On-Street Parking	No	No	No	No	No	No	No	No	No	No	No	No
On-Street Parking Maneuver Rate (/h)	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate (/h)	0	0	0	0	0	0	0	0	0	0	0	0
v_db, Outbound Pedestrian Volume crossing major street	1				3			2				1
v_di, Inbound Pedestrian Volume crossing major street	2			1		1		1			3	
v_co, Outbound Pedestrian Volume crossing minor street	2			4		1		1			1	
v_ci, Inbound Pedestrian Volume crossing minor street	1			1		1		4			2	
v_ab, Corner Pedestrian Volume (ped/h)	0			0		0		0			0	
Bicycle Volume (bicydes/h)	1			1		1		0			0	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0		
Auxiliary Signal Groups	Lead	-	-	Lead	-	-	-	-	-	-	-	-		
Minimum Green [s]	5	5	0	5	5	0	5	0	5	0	5	0		
Maximum Green [s]	30	30	0	30	30	0	30	0	30	0	30	0		
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0		
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0		
Split [s]	22	33	0	9	20	0	0	28	0	0	28	0		
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0		
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0		
Pedestrian Clearance [s]	0	19	0	0	11	0	0	19	0	0	19	0		
Rest in Walk	No	No	No	No	No	No	No	No	No	No	No	No		
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0		
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0		
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	No		
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	No		
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	No		
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
I, Upstream Filtering 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		

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_l, Effective Green Time [s]	6	46	46	2	42	42	10	10	10
g / C, Green / Cycle	0.09	0.66	0.66	0.03	0.60	0.60	0.14	0.14	0.14
(v / s)_l Volume / Saturation Flow Rate	0.07	0.22	0.22	0.02	0.20	0.20	0.11	0.11	0.02
s, saturation flow rate [veh/h]	1781	1870	1866	1781	1870	1836	1567	1505	1505
c, Capacity [veh/h]	164	1232	1229	54	1115	1095	298	290	290
d1, Uniform Delay [s]	31.06	5.21	5.21	33.46	7.10	7.10	28.88	26.38	26.38
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.26	0.71	0.71	7.15	0.79	0.81	1.77	0.16	0.16
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.77	0.33	0.33	0.50	0.33	0.33	0.58	0.11	
d, Delay for Lane Group [s/veh]	38.32	5.92	5.92	40.61	7.88	7.91	30.65	26.54	
Lane Group LOS	D	A	A	D	A	A	C	C	
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	
50th-Percentile Queue Length [veh/ln]	2.30	2.05	2.05	0.54	2.39	2.36	2.86	0.46	
50th-Percentile Queue Length [ft/ln]	57.62	51.21	51.13	13.46	59.78	59.07	71.43	11.44	
95th-Percentile Queue Length [veh/ln]	4.15	3.69	3.68	0.97	4.30	4.25	5.14	0.82	
95th-Percentile Queue Length [ft/ln]	103.72	92.17	92.04	24.24	107.60	106.32	128.58	20.59	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	38.32	5.92	5.92	40.61	7.89	7.91	30.65	30.65	30.65	26.54	26.54	26.54
Movement LOS	D	A	A	D	A	A	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	10.29			9.07			30.65			26.54		
Approach LOS	B			A			C			C		
d_I, Intersection Delay [s/veh]				11.92								
Intersection LOS				B								
Intersection V/C				0.377								

Other Modes

g, Walk/mt, Effective Walk Time [s]	9.0			9.0			9.0			9.0		
M_corner, Corner Circulation Area [ft ² /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft ² /ped]	3237.09			2405.93			1854.21			3680.93		
d_p, Pedestrian Delay [s]	26.58			26.58			26.58			26.58		
l_p.int, Pedestrian LOS Score for Intersection	2.714			2.806			1.906			1.761		
Crosswalk LOS	B			C			A			A		
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000			2000			2000			2000		
c_b, Capacity of the bicycle lane [bicycles/h]	829			457			686			686		
d_b, Bicycle Delay [s]	12.01			20.84			15.11			15.11		
l_b.int, Bicycle LOS Score for Intersection	2.329			2.166			1.903			1.639		
Bicycle LOS	B			B			A			A		

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 1: SR 20/Blosser Ln

Control Type:	Two-way stop
Analysis Method:	HCM 6th Edition
Analysis Period:	15 minutes

Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c):

Intersection Setup

Name	Blosser Ln Northbound			Blosser Ln Southbound			SR 20 Eastbound			SR 20 Westbound		
Approach	+			+			+			+		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	1	0	1	1	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	78.00	100.00	100.00	96.00	100.00	100.00
Speed [mph]	25.00			25.00			35.00			35.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			No			Yes		

Volumes

Name		Blosser Ln		Blosser Ln		Blosser Ln		SR 20		SR 20		SR 20	
Existing	Base Volume Input [veh/h]	11	87	87	32	70	7	6	82	12	109	95	25
	Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
	Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process	Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
	Site-Generated Trips [veh/h]	9	0	0	0	0	0	0	0	3	0	0	0
	Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
	Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total	Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
	Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
	Total Hourly Volume [veh/h]	21	91	91	34	74	7	6	86	16	114	100	26
	Peak Hour Factor	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400	0.7400
Total	Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
	Total 15-Minute Volume [veh/h]	7	31	31	11	25	2	2	29	5	39	34	9
	Total Analysis Volume [veh/h]	28	123	123	46	100	9	8	116	22	154	135	35
	Pedestrian Volume [ped/h]		0	0		0	0		0	0		3	

Intersection Settings

	Stop	Stop	Free	Free
Priority Scheme	No	No		
Flared Lane				
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance	No	No		
Number of Storage Spaces in Median	0	0	0	0

Movement, Approach, & Intersection Results

V/C Movement V/C Ratio	0.10	0.34	0.13	0.23	0.01	0.01	0.00	0.00	0.11	0.00	0.00
d_M Delay for Movement [s/veh]	27.71	24.50	18.47	35.42	21.31	7.57	0.00	0.00	7.79	0.00	0.00
Movement LOS	D	C	C	E	D	C	A	A	A	A	A
95th-Percentile Queue Length [veh/in]	3.53	3.53	3.53	2.80	2.80	2.80	0.02	0.00	0.36	0.00	0.00
95th-Percentile Queue Length [ft/in]	88.27	88.27	88.27	69.92	69.92	69.92	0.43	0.00	8.92	0.00	0.00
d_A Approach Delay [s/veh]	22.12	22.12	22.12	29.32	29.32	29.32	0.41		3.70		
Approach LOS	C	C	C	D	D	D	A		A		
d_I Intersection Delay [s/veh]					13.20						
Intersection LOS					E						

Intersection Level Of Service Report

Intersection 2: S Main St/Hazel St

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 29.8
Level Of Service: D
Volume to Capacity (v/c): 0.326

Intersection Setup

Name	S Main St			S Main St			Hazel St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTL			TTL			TTL			TTL		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	S Main St			S Main St			Hazel St			Driveway		
Base Volume Input [veh/h]	49	602	0	2	681	40	50	0	34	1	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	26	0	0	0	7	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	64	809	0	3	885	59	65	0	44	1	0	1
Peak Hour Factor	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700	0.8700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	232	0	1	254	17	19	0	13	0	0	0
Total Analysis Volume [veh/h]	74	930	0	3	1017	68	75	0	51	1	0	1
Pedestrian Volume [ped/h]	0			0			4			2		

Intersection Settings

Priority Scheme	Free	Free	Free	Stop	Stop
Flared Lane				No	No
Storage Area [veh]	0	0	0	0	0
Two-Stage Gap Acceptance				Yes	Yes
Number of Storage Spaces in Median	0	0	0	5	5

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.12	0.01	0.00	0.00	0.01	0.00	0.33	0.00	0.11	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	11.43	0.00	0.00	9.96	0.00	9.96	0.00	29.78	29.63	21.62	23.08	23.08
Movement LOS	B	A	A	A	A	A	A	D	D	C	C	C
95th-Percentile Queue Length [veh/ln]	0.39	0.00	0.00	0.01	0.00	0.01	0.00	2.08	2.08	2.08	0.02	0.02
95th-Percentile Queue Length [ft/ln]	9.85	0.00	0.00	0.31	0.00	0.31	0.00	52.00	52.00	52.00	0.52	0.52
d_A, Approach Delay [s/veh]	0.84			0.03			26.48			17.41		
Approach LOS	A			A			D			C		
d_I, Intersection Delay [s/veh]							1.91					
Intersection LOS							D					

Intersection Level Of Service Report

Intersection 3: Holly St/Locust St

Control Type: All-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 9.8
Level Of Service: A
Volume to Capacity (v/c): 0.316

Intersection Setup

Name	Locust St				Locust St				Driveway			
Approach	Northbound				Southbound				Eastbound			
Lane Configuration	+ + + +				+ + + +				+ + + +			
Turning Movement	Left2	Left	Thru	Right	Left	Thru	Right	Right	Left	Thru	Right	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00				25.00				25.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Locust St				Locust St				Driveway			
Base Volume Input [veh/h]	0	1	28	84	26	46	0	1	2	5	0	2
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.0000	1.3000	1.3000	1.3000	1.0000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	3	0	50	9	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	0	1	39	109	84	69	0	1	3	7	0	3
Peak Hour Factor	1.0000	0.7100	0.7100	0.7100	0.7100	0.7100	1.0000	0.7100	0.7100	0.7100	1.0000	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	14	38	30	24	0	0	1	2	0	1
Total Analysis Volume [veh/h]	0	1	55	154	118	97	0	1	4	10	0	4
Pedestrian Volume [ped/h]	6				11				16			

Intersection Settings

Lanes			
Capacity per Entry Lane [veh/h]	813		728
Degree of Utilization, x	0.26		0.30

Movement, Approach, & Intersection Results

95th-Percentile Queue Length [veh]			
95th-Percentile Queue Length [ft]	25.75		31.01
Approach Delay [s/veh]			
Approach LOS	A		B
Intersection Delay [s/veh]			
Intersection LOS			A

Intersection Setup

Name Approach	Holly St Westbound				SF Driveway Northeastbound			
Lane Configuration	+ LeftThruRight				* LeftThruRight			
Turning Movement	Left2	Left	Thru	Right	Left2	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00				25.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Holly St				SF Driveway			
Base Volume Input [veh/h]	107	0	4	5	0	0	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	7	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	139	0	5	14	0	0	0	1
Peak Hour Factor	0.7100	1.0000	0.7100	0.7100	0.7100	0.7100	0.7100	0.7100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	49	0	2	5	0	0	0	0
Total Analysis Volume [veh/h]	196	0	7	20	0	0	0	1
Pedestrian Volume [ped/h]	1				0			

Intersection Settings

Lanes		Capacity per Entry Lane [veh/h]	707	764
		Degree of Utilization, x	0.32	0.00
Movement, Approach, & Intersection Results				
		95th-Percentile Queue Length [veh]	1.35	0.00
		95th-Percentile Queue Length [ft]	33.82	0.10
		Approach Delay [s/veh]	10.42	7.72
		Approach LOS	B	A
		Intersection Delay [s/veh]	9.77	
		Intersection LOS	A	

Intersection Level Of Service Report

Intersection 4: S Main St/Holly St

Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c):

17.3
B
0.577

Intersection Setup

Name	S Main St			S Main St			Holly St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	TTL			TTL			TTL			TTL		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	135.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S Main St		S Main St		Holly St		Driveway					
Base Volume Input [veh/h]	106	530	2	9	652	28	99	2	119	2	0	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	7	0	0	0	0	0	26	0	24	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	2	0	0	0	51	0	10
Total Hourly Volume [veh/h]	145	689	3	12	848	34	155	3	128	3	0	10
Peak Hour Factor	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800	0.8800
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	41	196	1	3	241	10	44	1	36	1	0	3
Total Analysis Volume [veh/h]	165	783	3	14	964	39	176	3	145	3	0	11
Presence of On-Street Parking	No	No	No	No	No	No	No	No	No	No	No	No
On-Street Parking Maneuver Rate [1/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [1/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_pb, Outbound Pedestrian Volume crossing major street	1	0	0	0	0	0	0	0	0	0	0	0
v_di, Inbound Pedestrian Volume crossing major street	3	0	0	0	0	0	3	1	0	3	0	3
v_co, Outbound Pedestrian Volume crossing minor street	0	0	0	0	2	0	0	3	0	3	4	0
v_di, Inbound Pedestrian Volume crossing minor street	4	0	0	0	3	0	0	2	0	2	0	0
v_ab, Corner Pedestrian Volume [ped/h]	0	0	0	0	0	0	0	0	0	0	0	0
Bicycle Volume [bicycles/h]	0	0	0	0	1	0	0	0	0	0	0	0

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0	0	0
Auxiliary Signal Groups	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-	-
Minimum Green [s]	5	5	0	5	5	0	5	0	5	0	5	0	5	0
Maximum Green [s]	30	30	0	30	30	0	30	0	30	0	30	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	22	33	0	9	20	0	0	28	0	0	28	0	0	0
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	0	0
Pedestrian Clearance [s]	0	19	0	0	11	0	0	19	0	0	19	0	0	0
Rest in Walk	No	No	No	No	No	No	No	No	No	No	No	No	No	No
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L C C C L C C C L C C C											
	L	C	C	C	L	C	C	C	L	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_l, Effective Green Time [s]	8	40	40	1	33	33			17			17
g / C, Green / Cycle	0.12	0.57	0.57	0.02	0.47	0.47			0.24			0.24
(v / s)_J Volume / Saturation Flow Rate	0.09	0.21	0.21	0.01	0.27	0.27			0.21			0.01
s, saturation flow rate [veh/h]	1781	1870	1867	1781	1870	1840			1518			1636
c, Capacity [veh/h]	211	1056	1054	33	869	855			452			464
d1, Uniform Delay [s]	30.03	8.42	8.42	34.03	13.75	13.77			25.16			20.13
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50			0.11			0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00			1.00
d2, Incremental Delay [s]	6.22	1.01	1.01	8.12	2.83	2.89			2.15			0.03
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00			0.00			0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00			1.00			1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00			1.00			1.00

Lane Group Results

X, volume / capacity	0.78	0.37	0.37	0.42	0.58	0.58			0.72			0.03
d, Delay for Lane Group [s/veh]	36.25	9.43	9.43	42.14	16.58	16.65			27.31			20.16
Lane Group LOS	D	A	A	D	B	B			C			C
Critical Lane Group	Yes	No	No	No	No	Yes			Yes			No
50th-Percentile Queue Length [veh/ln]	2.92	2.95	2.95	0.30	5.71	5.65			5.22			0.17
50th-Percentile Queue Length [ft/ln]	73.03	73.72	73.63	7.53	142.80	141.30			130.40			4.34
95th-Percentile Queue Length [veh/ln]	5.26	5.31	5.30	0.54	9.63	9.65			8.96			0.31
95th-Percentile Queue Length [ft/ln]	131.45	132.69	132.53	13.56	240.79	238.77			224.04			7.81

Movement, Approach, & Intersection Results

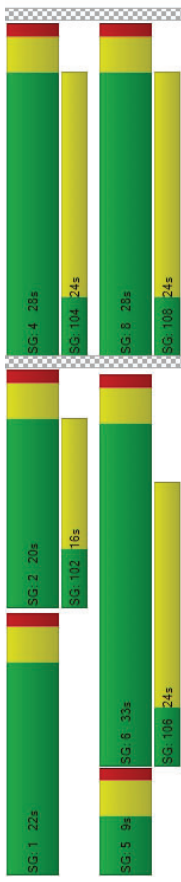
d_M, Delay for Movement [s/veh]	36.25	9.43	9.43	42.14	16.62	16.85	27.31	27.31	27.31	20.16	20.16	20.16
Movement LOS	D	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	14.08				16.97		27.31			20.16		
Approach LOS	B				B		C			C		
d_I, Intersection Delay [s/veh]						17.25						
Intersection LOS						B						
Intersection V/C						0.577						

Other Modes

g, Walk/mt, Effective Walk Time [s]	9.0				9.0				9.0			9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00				0.00				0.00			0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	2244.89				2806.80				1822.85			2762.95
d_p, Pedestrian Delay [s]	26.58				26.58				26.58			26.58
l_p.int, Pedestrian LOS Score for Intersection	2.774				2.997				2.012			1.736
Crosswalk LOS	C				C				B			A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000				2000				2000			2000
c_b, Capacity of the bicycle lane [bicycles/h]	829				457				686			686
d_b, Bicycle Delay [s]	12.01				20.84				15.11			15.11
l_b.int, Bicycle LOS Score for Intersection	2.344				2.400				2.178			1.599
Bicycle LOS	B				B				B			A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report

Intersection 1: SR 20/Blosser Ln

Control Type: Two-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 15.8
Level Of Service: C
Volume to Capacity (v/c): 0.080

Intersection Setup

Name	Blosser Ln		Blosser Ln		SR 20		SR 20	
Approach	Northbound		Southbound		Eastbound		Westbound	
Lane Configuration	+		+		+ +		+	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	1	0	1	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	78.00	100.00	98.00	100.00
Speed [mph]	25.00		25.00		35.00		35.00	
Grade [%]	0.00		0.00		0.00		0.00	
Crosswalk	No		No		No		Yes	

Volumes

Name	Blosser Ln			Blosser Ln			SR 20			SR 20		
Base Volume Input [veh/h]	10	33	83	26	17	12	12	116	9	47	130	38
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500	1.0500
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	0	0	0	0	0	9	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	35	87	27	18	13	13	122	18	49	137	40
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	10	24	7	5	4	4	34	5	13	38	11
Total Analysis Volume [veh/h]	18	38	96	30	20	14	14	134	20	54	151	44
Pedestrian Volume [ped/h]	0			0			0			2		

Intersection Settings

Priority Scheme	Stop	Stop	Stop	Free	Free
Flared Lane	No	No	No		
Storage Area [veh]	0	0	0	0	0
Two-Stage Gap Acceptance	No	No	No		
Number of Storage Spaces in Median	0	0	0	0	0

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio												
d_M, Delay for Movement [s/veh]	14.20	14.17	10.48	15.82	10.38	7.64	0.01	0.00	0.00	0.04	0.00	0.00
Movement LOS												
	B	B	B	C	B	A	A	A	A	A	A	A
95th-Percentile Queue Length [veh/ln]	0.86	0.86	0.86	0.48	0.48	0.03	0.00	0.00	0.12	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	21.42	21.42	21.42	11.92	11.92	11.92	0.77	0.00	0.00	2.95	0.00	0.00
d_A, Approach Delay [s/veh]	11.85			14.02			0.64			1.65		
Approach LOS												
	B			B			A			A		
d_I, Intersection Delay [s/veh]	5.08											
Intersection LOS												
	C											





Intersection Level Of Service Report

Intersection 2: S Main St/Hazel St

Control Type:	Two-way stop
Analysis Method:	HCM 6th Edition
Analysis Period:	15 minutes

Delay (sec / veh):
Level Of Service:
Volume to Capacity (v/c):

Intersection Setup

Name	S Main St Northbound			S Main St Southbound			Hazel St Eastbound			Hazel St Westbound		
Approach												
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	200.00	100.00	100.00	200.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	No			No			Yes			Yes		

Volumes

Name	S Main St			S Main St			Hazel St			Driveway		
Base Volume Input (veh/h)	19	868	1	3	733	14	25	0	28	0	0	4
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage (%)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips (veh/h)	0	15	0	0	0	26	0	0	0	0	0	0
Diverted Trips (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume (veh/h)	25	1143	1	4	953	44	33	0	36	0	0	5
Peak Hour Factor	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700	0.9700
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume (veh/h)	6	295	0	1	246	11	9	0	9	0	0	1
Total Analysis Volume (veh/h)	26	1178	1	4	952	45	34	0	37	0	0	5
Pedestrian Volume (ped/h)		0	0	0	0	4						11



Intersection Settings

	Free	Free	Stop	Stop
Priority Scheme				
Flared Lane			No	No
Storage Area [veh]	0	0	0	0
Two-Stage Gap Acceptance			Yes	Yes
Number of Storage Spaces in Median	0	0	5	5

Movement, Approach, & Intersection Results

V/C, Movement V/C Ratio	0.04	0.01	0.00	0.01	0.01	0.00	0.14	0.00	0.07	0.00	0.00	0.01
d, M, Delay for Movement [s/veh]	10.62	0.00	0.00	11.29	0.00	0.00	22.73	24.74	15.11	25.94	22.19	13.29
Movement LOS	B	A	A	B	A	A	C	C	C	D	C	B
95th-Percentile Queue Length [veh/ln]	0.12	0.00	0.00	0.02	0.00	0.00	0.80	0.80	0.80	0.03	0.03	0.03
95th-Percentile Queue Length [ft/ln]	3.04	0.00	0.00	0.52	0.00	0.00	19.90	19.90	19.90	0.86	0.86	0.86
d_A, Approach Delay [s/veh]		0.23										
Approach LOS	A			A				C			B	
d_I, Intersection Delay [s/veh]							0.74					
Intersection LOS							C					



Intersection Level Of Service Report
Intersection 3: Holly St/Locust St

Control Type: All-way stop
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Delay (sec / veh): 8.5
Level Of Service: A
Volume to Capacity (v/c): 0.251

Intersection Setup

Name	Locust St				Locust St				Driveway			
Approach	Northbound				Southbound				Eastbound			
Lane Configuration	+ + + +				+ + + +				+ + + +			
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	25.00				25.00				25.00			
Grade [%]	0.00				0.00				0.00			
Crosswalk	Yes				Yes				Yes			

Volumes

Name	Locust St				Locust St				Driveway			
Base Volume Input [veh/h]	2	1	11	87	11	31	0	1	0	5	0	1
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.0000	1.3000	1.3000	1.3000	1.0000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	9	0	29	5	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	3	1	23	113	43	45	0	1	0	7	0	1
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	1.0000	0.9100	0.9100	0.9100	1.0000	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	0	6	31	12	12	0	0	0	2	0	0
Total Analysis Volume [veh/h]	3	1	25	124	47	49	0	1	0	8	0	1
Pedestrian Volume [ped/h]	0				1				0			

Intersection Settings

Lanes				
Capacity per Entry Lane [veh/h]	885	767	770	
Degree of Utilization, x	0.17	0.13		0.01
Movement, Approach, & Intersection Results				
95th-Percentile Queue Length [veh]	0.62	0.43		0.04
95th-Percentile Queue Length [ft]	15.59	10.80		0.89
Approach Delay [s/veh]	7.92	8.37		7.73
Approach LOS	A	A		A
Intersection Delay [s/veh]		8.51		
Intersection LOS		A		

Intersection Setup

Name Approach	Holly St Westbound				SF Driveway Northeastbound			
Lane Configuration	+ LeftThruRight				* LeftThruRight			
Turning Movement	Left	Thru	Right		Left	Thru	Right	
Lane Width [ft]	12.00	12.00	12.00		12.00	12.00	12.00	
No. of Lanes in Pocket	0	0	0		0	0	0	
Pocket Length [ft]	100.00	100.00	100.00		100.00	100.00	100.00	
Speed [mph]	25.00				25.00			
Grade [%]	0.00				0.00			
Crosswalk	Yes				Yes			

Volumes

Name	Holly St				SF Driveway			
Base Volume Input [veh/h]	106	1	7	8	0	0	1	0
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	23	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	138	1	9	33	0	0	1	0
Peak Hour Factor	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100	0.9100
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	38	0	2	9	0	0	0	0
Total Analysis Volume [veh/h]	152	1	10	36	0	0	1	0
Pedestrian Volume [ped/h]	3				3			

Intersection Settings

Lanes		Capacity per Entry Lane [veh/h]	792	758
		Degree of Utilization, x	0.25	0.00
Movement, Approach, & Intersection Results				
95th-Percentile Queue Length [veh]			0.99	0.00
95th-Percentile Queue Length [ft]			24.86	0.10
Approach Delay [s/veh]			9.07	7.76
Approach LOS			A	A
Intersection Delay [s/veh]			8.51	
Intersection LOS			A	





Intersection Level Of Service Report

Intersection 4: S Main St/Holly St

Delay (sec / veh): 14.1
Level Of Service: B
Volume to Capacity (v/c): 0.488

Control Type: Signalized
Analysis Method: HCM 6th Edition
Analysis Period: 15 minutes

Intersection Setup

Name	S Main St			S Main St			Holly St			Driveway		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	0	1	0	0	0	0	0	0	0	0
Pocket Length [ft]	135.00	100.00	100.00	85.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	35.00			35.00			25.00			25.00		
Grade [%]	0.00			0.00			0.00			0.00		
Curb Present	Yes			Yes			Yes			Yes		
Crosswalk	Yes			Yes			Yes			Yes		

Volumes

Name	S Main St		S Main St		Holly St		Driveway					
Base Volume Input (veh/h)	98	771	4	26	667	36	71	2	99	16	1	29
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000	1.3000
In-Process Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips (veh/h)	23	0	0	0	0	0	15	0	14	0	0	0
Diverted Trips (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume (veh/h)	0	0	0	0	0	5	0	0	36	0	0	17
Total Hourly Volume (veh/h)	150	1002	5	34	867	42	107	3	107	21	1	21
Peak Hour Factor	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600	0.9600
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume (veh/h)	39	261	1	9	226	11	28	1	28	5	0	5
Total Analysis Volume (veh/h)	156	1044	5	35	903	44	111	3	111	22	1	22
Presence of On-Street Parking	No	No	No	No	No	No	No	No	No	No	No	No
On-Street Parking Maneuver Rate [1/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [1/h]	0	0	0	0	0	0	0	0	0	0	0	0
v_pb, Outbound Pedestrian Volume crossing major street	1			3		0		2				1
v_di, Inbound Pedestrian Volume crossing major street[2			1				1				3
v_co, Outbound Pedestrian Volume crossing minor stre	2			4				1				1
v_di, Inbound Pedestrian Volume crossing minor streel[1			1				4				2
v_ab, Corner Pedestrian Volume [ped/h]	0			0				0				0
Bicycle Volume [bicydes/h]	1			1				0				0

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis	Protect	Permis
Signal Group	1	6	0	5	2	0	0	8	0	0	4	0		
Auxiliary Signal Groups	Lead	-	-	Lead	-	-	-	-	-	-	-	-	-	-
Lead / Lag														
Minimum Green [s]	5	5	0	5	5	0	5	0	5	0	5	0	5	0
Maximum Green [s]	30	30	0	30	30	0	30	0	30	0	30	0	30	0
Amber [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0
All red [s]	1.0	1.0	0.0	1.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0	0.0
Split [s]	22	33	0	9	20	0	0	28	0	0	28	0		
Vehicle Extension [s]	3.0	3.0	0.0	3.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0	3.0	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0	5	0
Pedestrian Clearance [s]	0	19	0	0	11	0	0	19	0	0	19	0		
Rest in Walk	No	No	No	No	No	No	No	No	No	No	No	No	No	No
I1, Start-Up Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
I2, Clearance Lost Time [s]	2.0	2.0	0.0	2.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0
Minimum Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Maximum Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Pedestrian Recall	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering 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	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	C	C	L	C	C	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.00	2.00
l2, Clearance Lost Time [s]	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
g_l, Effective Green Time [s]	8	43	43	3	38	38	12	12	12
g / C, Green / Cycle	0.11	0.62	0.62	0.04	0.54	0.54	0.17	0.17	0.17
(v / s)_J Volume / Saturation Flow Rate	0.09	0.28	0.28	0.02	0.26	0.26	0.14	0.14	0.03
s, saturation flow rate [veh/h]	1781	1870	1866	1781	1870	1834	1561	1455	1455
c, Capacity [veh/h]	200	1154	1152	64	1012	993	351	332	332
d1, Uniform Delay [s]	30.27	7.14	7.15	33.20	9.91	9.92	27.55	24.45	24.45
k, delay calibration	0.11	0.50	0.50	0.11	0.50	0.50	0.11	0.11	0.11
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.54	1.30	1.30	6.95	1.58	1.62	1.96	0.18	0.18
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.78	0.45	0.46	0.54	0.47	0.47	0.64	0.14	
d, Delay for Lane Group [s/veh]	36.81	8.44	8.44	40.14	11.49	11.53	29.51	24.64	
Lane Group LOS	D	A	A	D	B	B	C	C	
Critical Lane Group	Yes	No	No	No	No	Yes	Yes	No	
50th-Percentile Queue Length [veh/ln]	2.79	3.56	3.56	0.68	4.16	4.10	3.70	0.64	
50th-Percentile Queue Length [ft/ln]	69.63	89.10	89.00	17.07	103.93	102.57	92.38	15.90	
95th-Percentile Queue Length [veh/ln]	5.01	6.42	6.41	1.23	7.48	7.38	6.65	1.14	
95th-Percentile Queue Length [ft/ln]	125.33	160.39	160.19	30.73	187.08	184.62	166.29	28.62	

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	36.81	8.44	8.44	40.14	11.51	11.53	29.51	29.51	29.51	24.64	24.64	24.64
Movement LOS	D	A	A	D	B	B	C	C	C	C	C	C
d_A, Approach Delay [s/veh]	12.11				12.53		29.51			24.64		
Approach LOS	B				B		C			C		
d_I, Intersection Delay [s/veh]					14.10							
Intersection LOS					B							
Intersection V/C					0.488							

Other Modes

g, Walk/mt, Effective Walk Time [s]	9.0				9.0				9.0			9.0
M_corner, Corner Circulation Area [ft ² /ped]	0.00				0.00				0.00			0.00
M_CW, Crosswalk Circulation Area [ft ² /ped]	3065.28				2298.57				1799.63			3676.15
d_p, Pedestrian Delay [s]	26.58				26.58				26.58			26.58
l_p.int, Pedestrian LOS Score for Intersection	2.838				2.950				1.945			1.771
Crosswalk LOS	C				C				A			A
s_b, Saturation Flow Rate of the bicycle lane [bicycles/h]	2000				2000				2000			2000
c_b, Capacity of the bicycle lane [bicycles/h]	829				457				686			686
d_b, Bicycle Delay [s]	12.01				20.84				15.11			15.11
l_b.int, Bicycle LOS Score for Intersection	2.554				2.374				1.990			1.662
Bicycle LOS	B				B				A			A

Sequence

Ring 1	1	2	-	4	-	-	-	-	-	-	-	-
Ring 2	5	6	-	8	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-

