

**MINUTES
STREET COMMITTEE
REGULAR MEETING
TUESDAY, APRIL 23RD, 2024
5:30 P.M.**

THE STREET COMMITTEE MET IN REGULAR SESSION IN THE COUNCIL CHAMBER, 12 NORTH ROWE STREET, PRYOR, OKLAHOMA AT THE ABOVE-MENTIONED DATE AND TIME.

COMMITTEE MEMBERS: TRAVIS MILEUR, BRUCE SMITH, TERRY LAMAR, RANDY CHITWOOD (ALT)

1. CALL MEETING TO ORDER.

The meeting was called to order at 5:30 p.m. by Travis Mileur. Members present: Travis Mileur, Bruce Smith and Terry Lamar. Members absent: none.

Others present: Mayor Zac Doyle, Street Superintendent Buddy Glenn and Terry Aylward.

2. DISCUSSION AND POSSIBLE ACTION TO APPROVE MINUTES OF THE MARCH 26TH, 2024 REGULAR MEETING.

Motion was made by Lamar, second by Smith to approve the minutes of the March 26th, 2024 regular meeting with one amendment to add Joel Bowling's first name to item three. Voting yes: Lamar, Smith and Mileur. Voting no: none.

3. PETITIONS FROM THE AUDIENCE.

There were no petitions from the audience.

Chair moved to item 5.

5. DISCUSSION REGARDING THE DRAINAGE DITCH AT SOUTHEAST 17TH STREET AND SOUTH OKLAHOMA STREET.

No action taken. Committee discussed an estimate on the repairs necessary to the drainage ditch at Southeast 17th Street and South Oklahoma Street and considered alternative methods to make the repairs. Item tabled until later in the meeting.

6. DISCUSS, POSSIBLY RECOMMEND COUNCIL ACTION REGARDING ALLEYWAY REPAVEMENT PROJECT.

Motion was made by Smith, second by Mileur to discuss the alleyway repavement project. Committee discussed the condition of alley "I". Glenn stated that he will contact Dunham's to return when they are available to complete the overlay. No action taken.

Chair moved back to item 5.

5. DISCUSSION REGARDING THE DRAINAGE DITCH AT SOUTHEAST 17TH STREET AND SOUTH OKLAHOMA STREET.

No action taken. Committee discussed obtaining a permanent easement and engineering plans that would allow the Street Department to make the repairs. Mayor stated that he will contact the property owners to discuss a potential easement.

Chair moved to item 7.

7. DISCUSS, POSSIBLY APPROVE STREET SUPERINTENDENT TO BEGIN BID PROCESS FOR MOWING OF RIGHTS-OF-WAY FOR THE CITY OF PRYOR CREEK.

Motion was made by Smith, second by Lamar to approve Street Superintendent to begin the bid process for Mowing of Rights-of-Way for the City of Pryor Creek and include the wording “trim and spray” rather than “trim or spray” in the bid request. Voting yes: Lamar, Smith and Mileur. Voting no: none.

Chair moved to item 4.

4. STREET SUPERINTENDENT REPORT - BUDDY GLENN.

Glenn reported that the department will be cleaning up smaller trees, poison ivy and other brush from the highway corridor as they take on the maintenance. He stated that he is interested in renting a forester machine to grind debris and stumps as they clean. He also reported that they are making progress on the skate park pad but they are working around the rain. Glenn stated that they have been working to repair several ditches, mow around the city, patch potholes, repair vandalism on street signs and maintain equipment as time allows.

8. UNFORESEEABLE BUSINESS. (Any matter not foreseeable prior to posting the agenda.)

There was no unforeseeable business.

9. ADJOURN.

Motion was made by Lamar, second by Smith to adjourn. Voting yes: Smith, Lamar and Mileur. Voting no: none.

Traffic Engineering Report

INTERSECTION STUDY

SE 9TH STREET AND S. ELLIOTT STREET INTERSECTION PRYOR, OKLAHOMA

Prepared by:



Seratran

April 30, 2024

Traffic Engineering Report

INTERSECTION STUDY

SE 9TH STREET AND S. ELLIOTT STREET INTERSECTION

PRYOR, OKLAHOMA

Prepared for:

Infrastructure Solutions Group, LLC
500 Village Boulevard, Suite A, McAlester, Oklahoma 74501

Prepared by:

Seratran, LLC

Oklahoma Registered Engineering Firm CA-9325
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Seratran Project No. 240001

Final Report



A handwritten signature in blue ink that reads "Jimmie A. Sitz".

Jimmie A. Sitz, PE, PTOE, PTP

April 30, 2024

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1. Site Study Area Map
2. Recommended Intersection Modifications
3. Recommended Modifications (Eastbound Approach)
4. Recommended Modifications (Westbound Approach)

References

1. Transportation Impact Analyses for Site Development, An ITE Recommended Practice
2. Trip Generation Manual, ITE 9th Edition
3. Highway Capacity Manual, 7th Edition
4. Manual on Uniform Traffic Control Devices for Streets and Highways
5. A Policy on Geometric Design of Highways and Streets
6. Traffic Engineering Handbook, ITE, 6th Edition
7. Transportation Planning Handbook, ITE, 3rd Edition
8. Manual of Transportation Engineering Studies, ITE
9. FHWA - Highway Performance Monitoring System Field Manual

Abbreviations

ADT	Average Daily Traffic
AADT	Annual Average Daily Traffic
AGR	Annual Growth Rate
A/B/C/D/E/F	HCM Level-of-Service Scores (see context)
AM	Ante Meridiem (before midday)
Ave.	Avenue
AWSC	All-Way Stop Control Intersection
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LOS	Level-of-Service
LT	Left turn
MPH	Miles per hour
MUTCD	Manual of Uniform Traffic Control Devices for Streets and Highways
NI	No Improvement
N, S, E, W	North, South, East, West
NTS	Not-to-scale
ODOT	Oklahoma Department of Transportation
PH	Peak-Hour
PM	Post Meridiem (after midday)
RT	Right turn
Synchro	Synchro Studio Traffic Design Software by Trafficware, Ltd.
TIS	Traffic Impact Study
TWLTL	Two-Way Left-Turn Lane
TWSC	Two-Way Stop Control Intersection
HSFS	High School Football Stadium
MS	Middle School

Executive Summary

Seratran, LLC (Seratran) was retained by Infrastructure Solutions Group, LLC (ISG) to conduct a traffic engineering study of the SE 9th Street and S. Elliott Street Intersection in Pryor, Oklahoma. The purpose of this study is to assess the operational performance of the intersection and to recommend improvements if needed. The study analysis considered both current and projected 10-year peak hour background traffic volumes in addition to computed peak traffic volumes associated with a planned middle school and high school football stadium.

The study methodology included field investigation, data collection, site trip generation and distribution, operational analysis, and evaluation of conceptual intersection modifications. Twelve study scenarios, which represent the existing and planned peak hour traffic conditions, were developed for the analysis. Synchro, a traffic modeling software, was used to complete a Highway Capacity Manual (HCM) 7th Edition analysis of each of these study scenarios and seven additional scenarios to evaluate the effectiveness of various conceptual intersection modifications.

This Synchro analysis indicated that the intersection operates at an acceptable performance level for existing and ten-year projected background traffic including site trips associated with maximum capacity events at the planned high school football stadium. However, the intersection does not operate at an acceptable level during the projected ten-year (2034) peak AM travel period, which includes site trips associated with the proposed middle school.

The study scenarios, which did not yield acceptable operational performance, were revised to include conceptual intersection modifications and reevaluated. The conceptual intersection modifications included:

1. Signal timing optimization.
2. Signal equipment modifications.
3. Modification of the eastbound and westbound approaches to include an exclusive left-turn lane, a through lane and a through-right lane with associated signal updates.
4. Modification No. 3 plus addition of exclusive right-turn lanes and associated signal modifications.

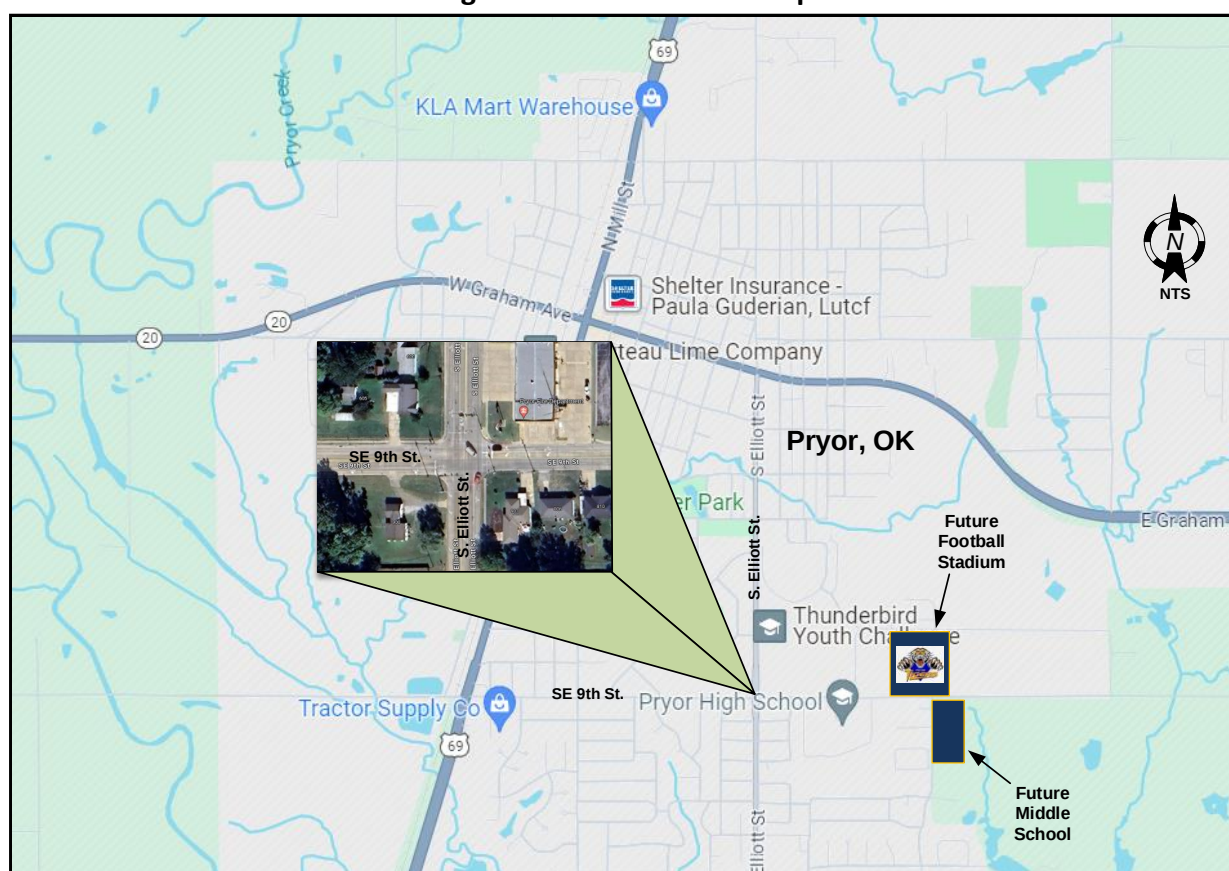
Conceptual modifications number one and two were not able to improve the intersection's operational performance to an acceptable level. Conceptual Modification number three would allow the intersection to operate at an acceptable performance level during the projected ten-year AM peak travel period including the addition of middle school site traffic. This modification would significantly improve intersection operational performance during all other lesser peak travel periods. While the addition of a right-turn lane on the westbound approach would provide a notable improvement, it is not necessary to maintain acceptable operational performance for the projected traffic conditions. The addition of right-turn lanes at the other approaches yields negligible improvements to operational performance. Therefore, it is

recommended that conceptual intersection modification number three, as described above, be completed prior to the opening day of the planned middle school.

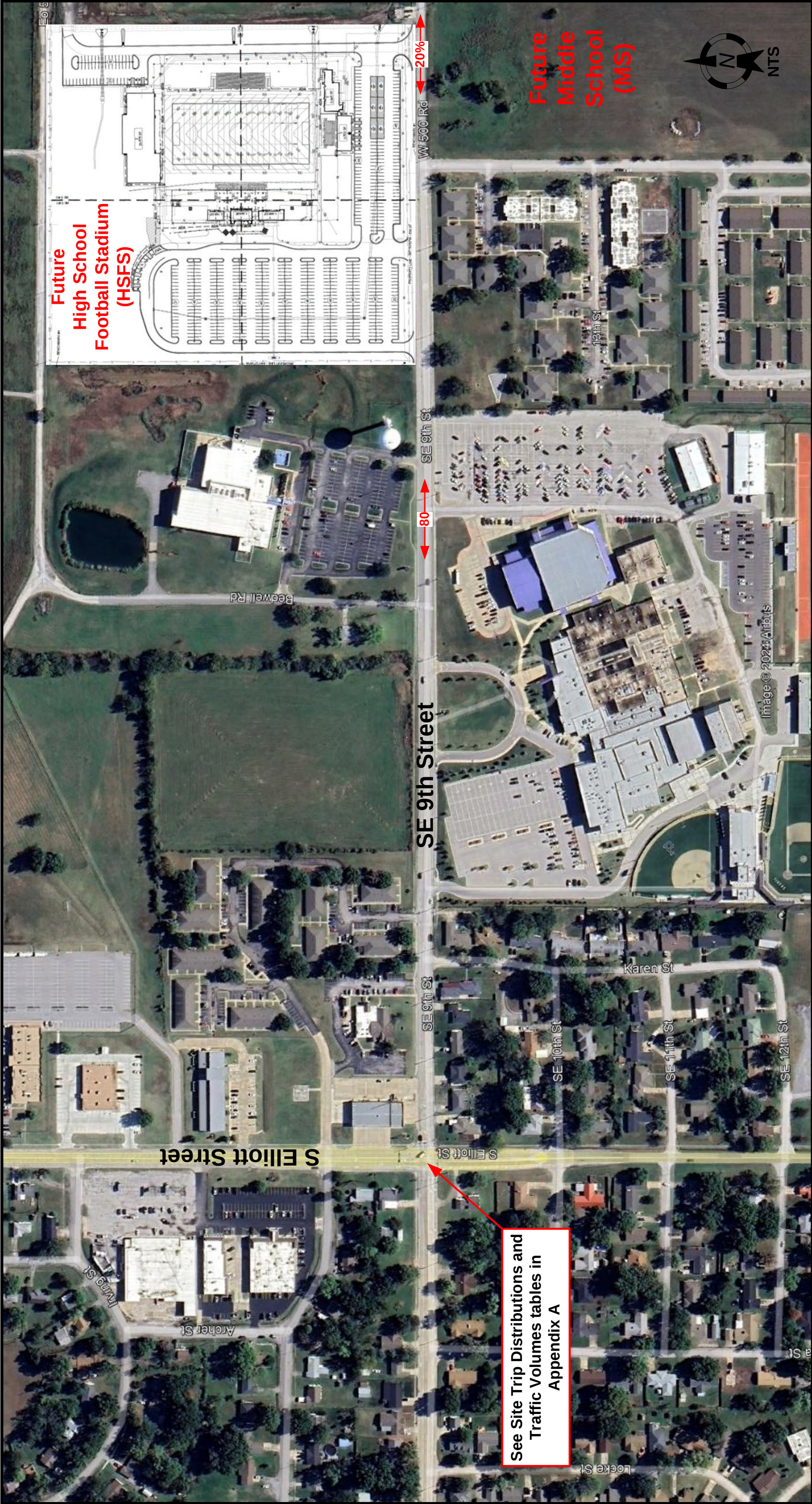
Introduction

This intersection study, as shown on Figure 1 and Exhibit 1, was completed to analyze the operational performance of the SE 9th Street and S. Elliott Street Intersection in Pryor, Oklahoma and to identify conceptual improvements as needed. The analysis considered both current and projected 10-year peak hour background traffic volumes in addition to computed peak traffic volumes associated with the planned new high school football stadium (HSFS) and middle school (MS).

Figure 1 – Site Location Map



Source: Seratran



 Seratran Improving Mobility www.seratran.com 918-720-7625	STUDY AREA MAP INTERSECTION STUDY - SE 9TH STREET & S. ELLIOTT STREET, PRYOR, OKLAHOMA ← Site Trips →			Project No. 240001	EXHIBIT
				Date: April, 2024	
				Prepared by: JAS	
					1

Study Methodology

The tasks required for this study were as follows:

- Field investigation and observation of traffic movements and signal operations.
- Data acquisition including signal timing data, proposed development information and collision data.
- Traffic data collection including AM and PM peak hour turning movement counts (TMCs) and video.
- Traffic growth rate computation using ODOT's historical AADT counts.
- Site trip generation for the planned high school football stadium and middle school.
- Site trip distribution at the intersection approaches for multiple existing and projected traffic condition scenarios.
- Intersection operational analysis of each of the study scenarios.
- Development and analysis of conceptual intersection modifications which would allow the intersection to operate at an acceptable performance during peak travel periods.

This study used the Institute of Transportation Engineers (ITE) 9th Edition Trip Generation Manual for the middle school site trip generation, published traffic engineering reports, see Appendix A, for the high school trip generation and Synchro 12 software to perform intersection capacity analysis using the Highway Capacity Manual (HCM) 7th edition methodology.

Existing Conditions



The study intersection is located at the intersection of SE 9th Street and S Elliott Street in Pryor, Oklahoma. The northbound and southbound approaches of the intersection include exclusive left-turn lanes with a protected signal, through lanes and through-right lanes. The eastbound and westbound approaches include an exclusive left-turn lane with a protected-permitted signal and a through-right lane. The intersection is lighted, via streetlights attached to each signal pole, and includes

pedestrian-activated signals and crosswalks. The posted speeds on the roadways, as they approach the intersection, are 35 MPH, 30 MPH, 25 MPH and 35 MPH from the North, South,

East and West respectively. Significant queuing was observed on each approach during both the peak AM and PM travel times which coincide with the high school's start and end times. Two pedestrians were observed crossing the intersection during the AM peak hour and 11 were counted crossing the intersection during the PM peak hour. No bicyclists were observed in the travel lanes. One bicyclist was observed in the pedestrian crosswalk during the PM peak hour.

A collision history report for this intersection was obtained from ODOT, see Appendix D. The report indicated 17 collisions were reported at or near this intersection between 2017 and 2021, of which four included injuries. There were no reported fatalities during this five-year period. The primary collision types were angle turning (52%) and rear-end (29%). Twenty-nine percent of the collisions occurred during the AM peak travel period and thirty-five percent occurred during the PM peak travel period. The



southbound outside travel lane ends on the south leg of the intersection via a 290-foot merge lane. The Portland Cement (PC) concrete pavement at the intersection is in fair condition and includes 12-foot-wide travel lanes at the eastbound approach, 11-foot-wide travel lanes on the north and southbound approaches and approximately 10-foot-wide travel lanes at the westbound approach. The roadway pavement markings and signage are in fair condition. Both roadways include curb and gutter. The roadways intersect at ninety degrees with no sight-distance issues.

Proposed Developments

The planned developments near the study intersection, as shown on Exhibit 1, include a high school football stadium (HSFS) and middle school. The HSFS will have a maximum capacity of 3,032 people. A total of 758 trip-ends was computed for a maximum capacity event (MCE) at the HSFS by using a trip generation rate (TGR) of 0.25 trip-ends per seat. This TGR was based on the findings of two independent traffic studies, see Appendix A. The Garland Associates study, which was prepared for the Santa Ana Unified School District, used a trip generation rate for a HSFS event of 0.20 trip-ends per seat and indicated that "the peak for this analysis represents the one-hour time period prior to the beginning of an event at the stadium, which would typically occur on a Friday evening between 6:00 and 7:00 PM." Ninety-five percent of the pre-event trip-ends were inbound. The DeShazo Group study, which was prepared for the

June Shelton School and Evaluation Center, used a trip generation rate for a HSFS event of 0.30 trip-ends per seat. For this intersection study, an average TGR of 0.25 trip-ends per seat was applied to the maximum seating capacity of the planned HSFS to compute the total trip-ends of 758 for a maximum capacity event. Eighty percent of the HSFS site trips were distributed into the intersection to evaluate its operational performance both before and after MCE traffic conditions. The eighty-percent distribution figure was provided by school leadership in consultation with their transportation department. Per the findings of the Santa Ana study, all the pre-event site trips were considered as arriving and distributed to the intersection based on existing traffic patterns. Fifty percent of the post-event site trips were distributed into the westbound approach per existing traffic patterns as detailed in Appendix A.

The middle school will house approximately 600 students with school hours from 8:10 AM to 3:30 PM. Per the ITE Trip Generation Manual this school would generate 327 (179 arriving and 146 departing) AM peak hour site trips and 180 (81 arriving and 99 departing) PM peak hour site trips. These approaching and departing site trips were distributed into the intersection approach lanes per existing traffic patterns, see Appendix A.

Traffic Operations Analysis

Traffic development included growth projections of existing peak hour background traffic and site trip generation and distribution of the proposed developments into the public roadway network. The traffic count data indicated that the AM and PM peak travel hours begin at 7:15AM and 3:15PM respectively. These times coincide both with the high school's current start/end times and with the planned start/end times for the planned middle school. ODOT's 2019 and 2022 AADT counts from three locations near the intersection were used to compute an average annual growth rate (AGR). Because of the wide disparity in the computed values, a one percent AGR was used for traffic projections, see Appendix A.

The existing peak hour background traffic was projected to 2034 and added to the distributed site traffic for Synchro analysis via the following traffic study scenarios:

1. Current (2024) AM peak traffic.
2. Projected 10-year (2034) AM peak traffic.
3. Projected 10-year (2034) AM peak traffic plus middle school site traffic.
4. Current (2024) PM peak traffic.
5. Projected 10-year (2034) PM peak traffic.
6. Projected 10-year (2034) PM peak traffic plus middle school site traffic.
7. Current (2024) background volumes for HSFS (before a maximum capacity event).
8. Projected (2034) background volumes for HSFS (after a maximum capacity event).
9. Current (2024) background volumes plus HSFS site traffic (before a MCE).
10. Current (2024) background volumes plus HSFS site traffic (after a MCE).
11. Projected (2034) background volumes plus HSFS site traffic (before a MCE)

12. Projected (2034) background volumes plus HSFS site traffic (after a MCE)

The traffic volumes used for each of these study scenarios can be found in Appendix A.

Findings

The study scenarios were evaluated in Synchro 12 using the Highway Capacity Manual (HCM) 7th Edition Methodology for capacity analysis of signalized intersections. The HCM Methodology, which considers numerous characteristics of a transportation system, is an industry standard and best practice for operational analysis of roadway intersections. The HCM qualifies intersection operational performance as level-of-service (LOS) using letter grades from A to F. These letter grades generally describe the intersection's operational performance as follows:

- LOS A = free, unobstructed flow
- LOS B = reasonably free flow
- LOS C = stable flow
- LOS D = approaching unstable flow
- LOS E = unstable flow, operating at design capacity
- LOS F = operating over design capacity

For signalized and unsignalized intersections, the HCM Methodology defines LOS scores based upon the calculated average seconds of delay per vehicle as follows:

	Signalized Intersection (Average Delay per Vehicle)	Unsignalized Intersection (Average Delay per Vehicle)
LOS A	≤ 10	≤ 10
LOS B	$>10 - \leq 20$	$>10 - \leq 15$
LOS C	$>20 - \leq 35$	$>15 - \leq 25$
LOS D	$>35 - \leq 55$	$>25 - \leq 35$
LOS E	$>55 - \leq 80$	$>35 - \leq 50$
LOS F	>80	>50

Traffic operational analysis typically focuses on peak hour weekday travel conditions. In most urban settings, LOS C is desirable for peak hour flows; however, LOS D is normally considered acceptable. Short periods of LOS E or F are not uncommon, especially near major traffic generators with concentrated arrival/departure times such as schools, theaters, and sports arenas. A significant modification of a transportation facility may be required to improve operational performance at locations where prolonged periods of unacceptable LOS are commonly experienced.

A summary of the Synchro analysis of the various study scenarios is shown in Figure 3 and the corresponding Synchro HCM 7th Edition Signalized Intersection Capacity Analysis Reports can

be found in Appendix B. These values were obtained directly from the software output and may differ slightly from actual traffic signal operations.

Figure 2 – Study Scenarios Summary

Scenario Number & Name		Scenario Description	Int. LOS	Approach LOS (1)				Notes/Findings
				EB	WB	NB	SB	
1.0	2024 AM Peak	Current 2024 AM peak traffic	C	C	C	D	C	Acceptable intersection LOS
2.0	2034 AM Peak	Projected 2034 AM peak traffic	D	D	D	D	D	Acceptable intersection LOS
3.0	2034 AM Peak + MS	Projected 2034 AM peak traffic plus MS	F	F	F	E	D	Unacceptable intersection LOS
4.0	2024 PM Peak	Current 2024 PM peak traffic	C	B	C	C	C	Acceptable intersection LOS
5.0	2034 PM Peak	Projected 2034 PM peak traffic	C	B	C	C	C	Acceptable intersection LOS
6.0	2034 PM Peak + MS	Projected 2034 PM peak traffic plus MS	C	C	C	C	C	Acceptable intersection LOS
7.0	2024 BV before HSFS	Current 2024 background volumes before HSFS	B	B	B	B	B	Acceptable intersection LOS
8.0	2034 BV before HSFS	Projected 2034 background volumes before HSFS	B	B	B	B	B	Acceptable intersection LOS
9.0	2024 BV + HSFS (before MCE)	Current 2024 background volumes + HSFS (before MCE)	D	D	C	D	C	Acceptable intersection LOS
10.0	2024 BV + HSFS (after MCE)	Current 2024 background volumes + HSFS (after MCE)	C	B	C	C	C	Acceptable intersection LOS
11.0	2034 BV + HSFS (before MCE)	Projected 2034 background volumes + HSFS (before MCE)	D	D	C	D	D	Acceptable intersection LOS
12.0	2034 BV + HSFS (after MCE)	Projected 2034 background volumes + HSFS (after MCE)	C	B	C	C	C	Acceptable intersection LOS

Source: Seratran

Based on this analysis, the intersection is operating at an acceptable level of service for current peak traffic conditions and future traffic conditions associated with the planned HSFS. However, the site trips associated with the planned middle school, which will be added to the existing peak hour traffic, as modeled in Scenario 3, will reduce its operational performance below an acceptable level.

Conceptual Modifications

Several conceptual intersection modifications were modeled in Synchro to determine how to improve Scenario 3 to an acceptable LOS. The conceptual modifications included:

1. Signal timing optimization.
2. Signal equipment modifications.
 - a. Install permitted-protected left-turn signal heads at the north and south approaches.
3. Modification of the eastbound and westbound approaches to include an exclusive left-turn lane, a through lane and a through-right lane with associated signal equipment updates.
4. Modification No. 3 plus incremental additions of exclusive right-turn lanes and associated signal modifications.

A summary of the Synchro analysis of these conceptual modifications is shown in Figure 4 and the corresponding Synchro HCM 7th Edition Signalized Intersection Capacity Analysis Reports can be found in Appendix B.

Figure 3 – Conceptual Modifications Summary

Scenario Number & Name		Scenario Description	Int. LOS	Approach LOS (1)				Notes/Findings
				EB	WB	NB	SB	
3.1	S 3.0 with CM 1	Scenario 3.0 with CM No. 1 (optimize splits)	E	E	E	F	E	Unacceptable intersection LOS
3.2	S 3.0 with NS PM+PT LT	Scenario 3.0 with NS Permitted/Protected LT	E	E	E	D	D	Unacceptable intersection LOS
3.3	S 3.0 with CM 2	Scenario 3.0 with CM No. 2 (add EW LT lanes)	C	C	C	C	C	Acceptable intersection LOS
3.4	S 3.0 with CM 3	Scenario 3.0 with CM No. 3 (add EW LT lanes & W RT lane)	C	C	B	C	B	Acceptable intersection LOS
3.5	S 3.0 with CM 4	Scenario 3.0 with CM No. 4 (add EW LT lanes & WN RT lanes)	C	C	B	C	B	Acceptable intersection LOS
3.6	S 3.0 with CM 5	Scenario 3.0 with CM No. 5 (add EW LT lanes & WNE RT lanes)	B	C	B	C	B	Acceptable intersection LOS
3.7	S 3.0 with CM 6	Scenario 3.0 with CM No. 6 (add EW LT lanes & WNE RT lane)	B	C	B	C	B	Acceptable intersection LOS

Source: Seratran

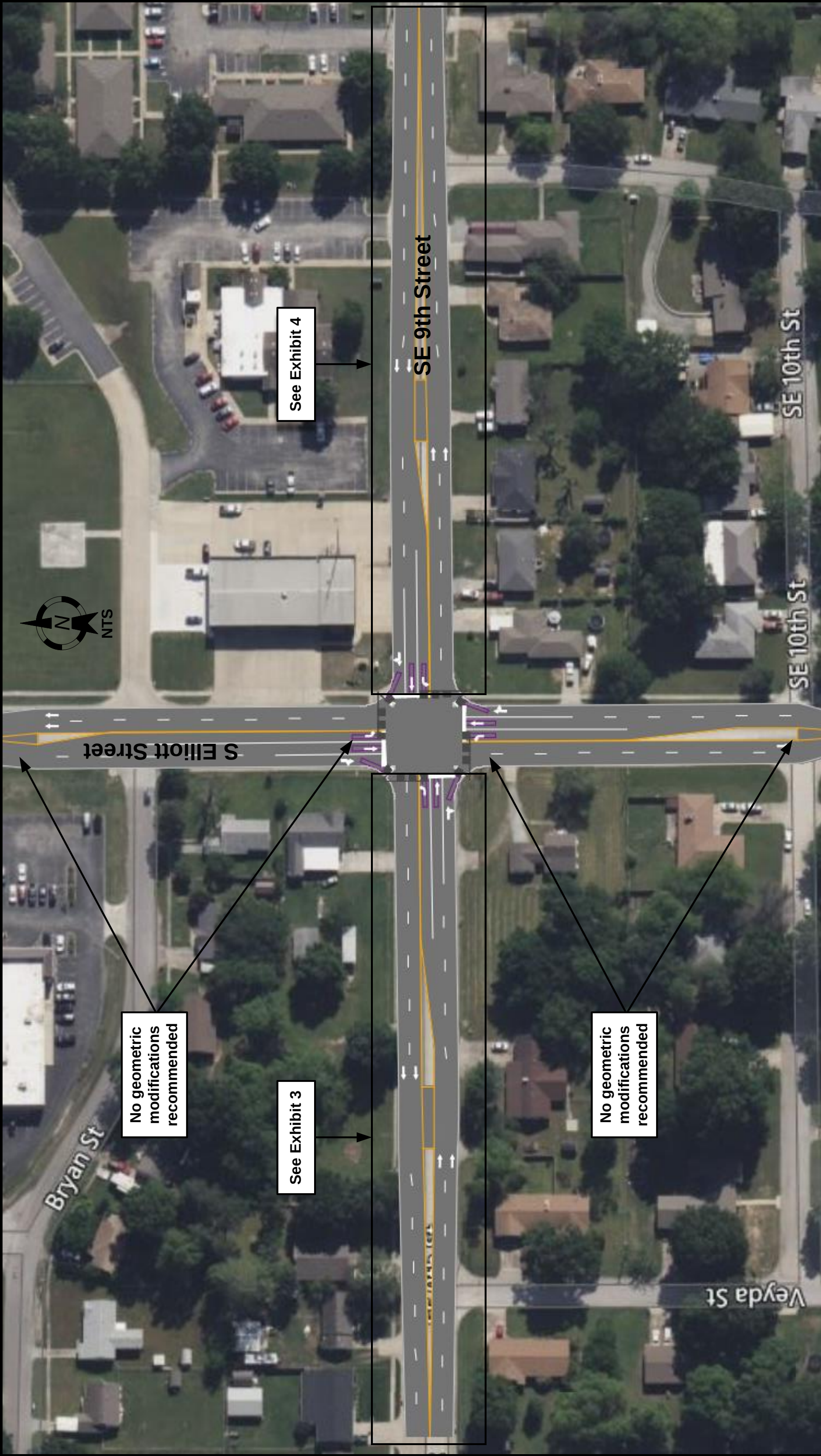
Recommendations

Conceptual modifications number one and two (Scenarios 3.1 and 3.2) were not able to improve the intersection's operational performance to an acceptable level during the 10-year projected AM peak hour with the addition of middle school site traffic.

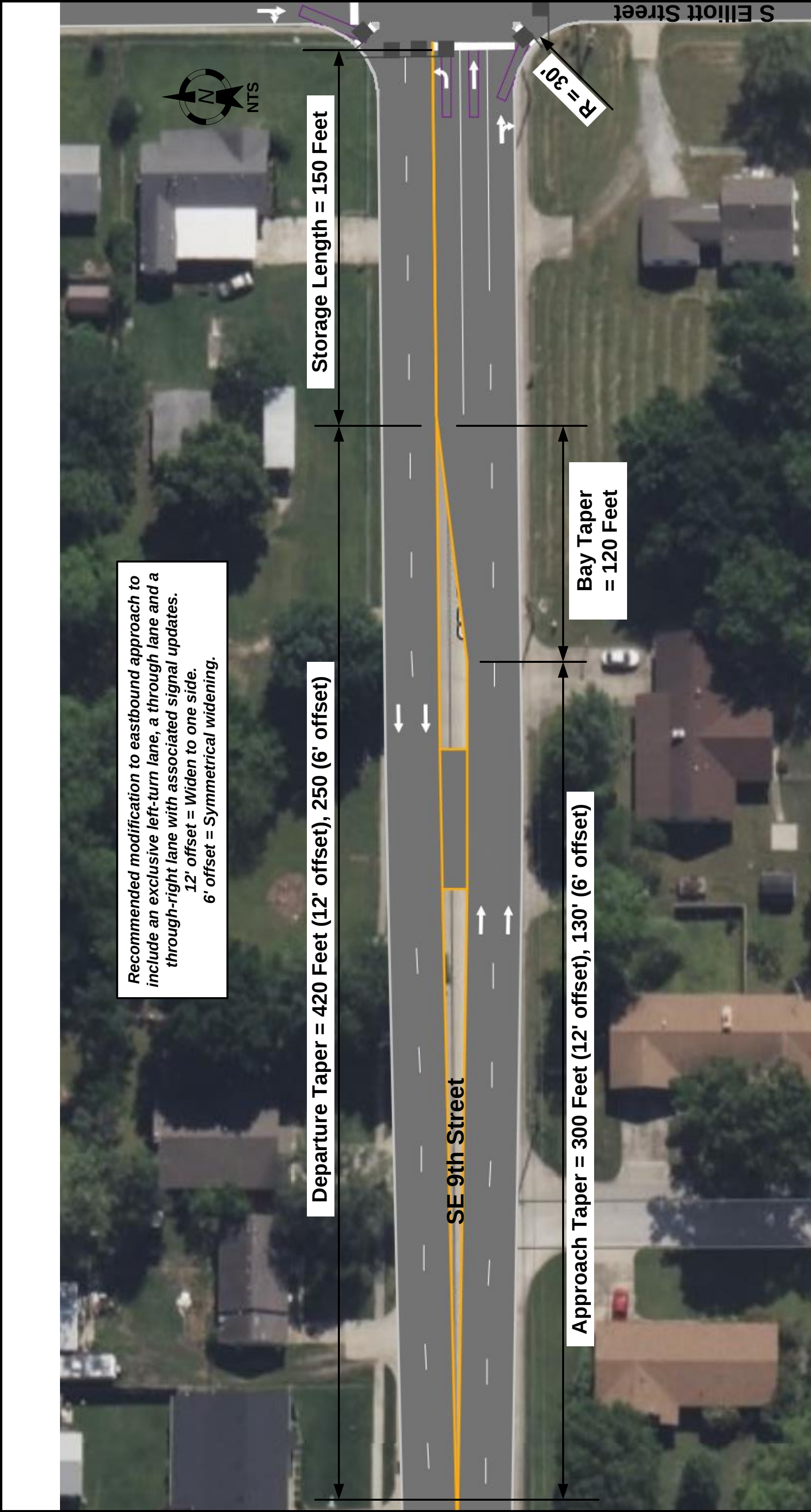
Conceptual modification number three (Scenario 3.3) would allow the intersection to operate at an acceptable performance level during the projected ten-year AM peak travel period including the addition of middle school site traffic. This modification would also significantly improve intersection operational performance during all other lesser peak travel periods.

While the addition of a right-turn lane on the westbound approach (Scenario 3.4) would provide a notable performance improvement, it is not necessary to maintain acceptable operational performance for the projected traffic conditions. However, a detailed benefit-cost analysis, which was not part of this study, may provide supportive data for this intersection modification. The addition of right-turn lanes at the other approaches (Scenarios 3.5, 3.6 and 3.7) yields negligible improvements to operational performance; however, in aggregate, they were able to pull the overall intersection LOS to a B.

Based on this analysis, conceptual intersection modification number three, as described above, and illustrated in Exhibits 2, 3 and 4 is recommended to be completed prior to the opening day of the planned middle school.

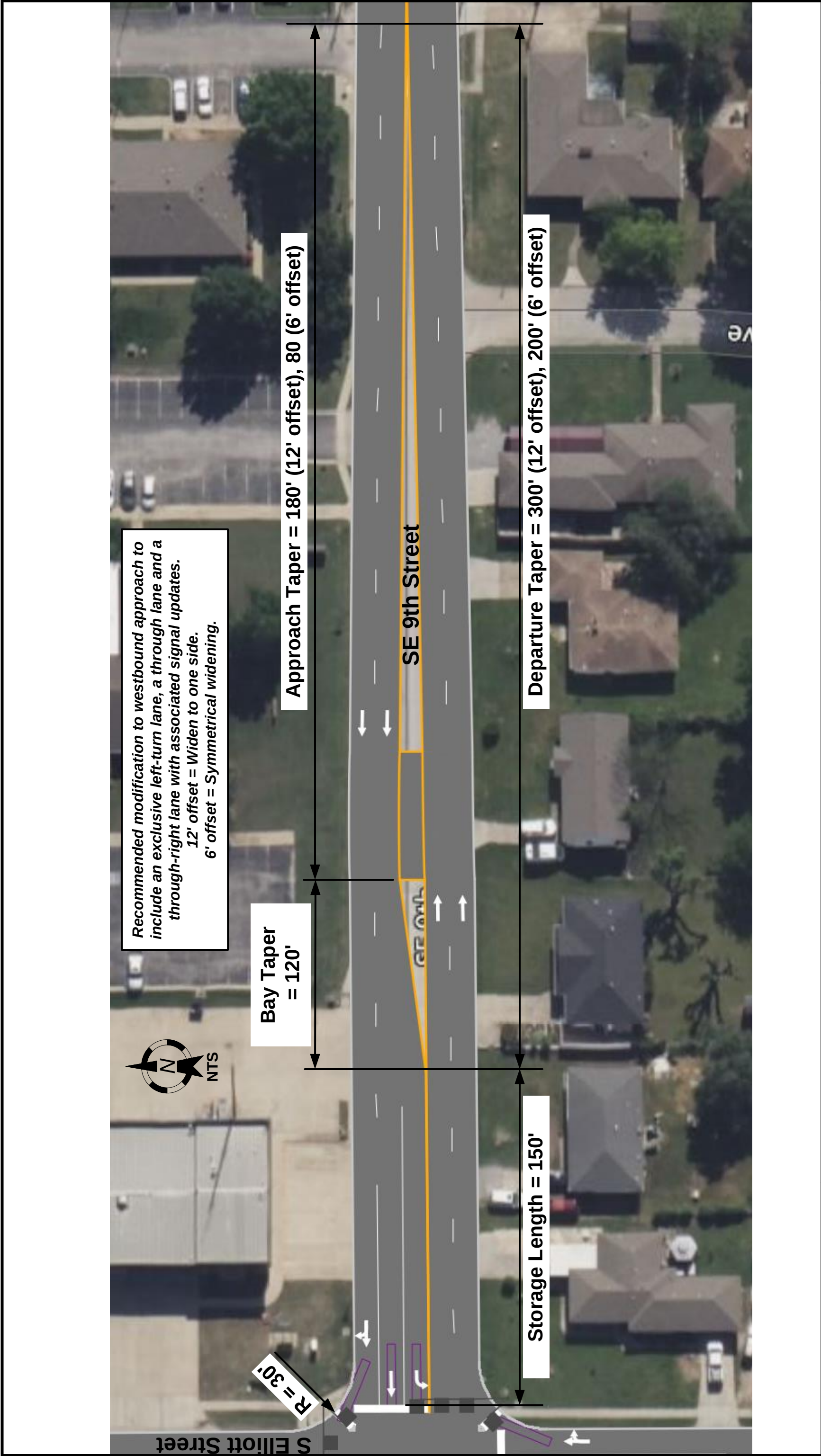


 Seratran Improving Mobility www.seratran.com 918-720-7625	RECOMMENDED INTERSECTION MODIFICATIONS INTERSECTION STUDY (SE 9TH STREET & S. ELLIOTT STREET) PRYOR, OKLAHOMA		
	Project No. 240001	EXHIBIT 2	
	Date: April, 2024	Prepared by: JAS	



Recommended modification to eastbound approach to include an exclusive left-turn lane, a through lane and a through-right lane with associated signal updates.
12' offset = Widen to one side.
6' offset = Symmetrical widening.

 www.seratran.com 918-720-7625	RECOMMENDED MODIFICATIONS (EASTBOUND APPROACH) INTERSECTION STUDY (SE 9TH STREET & S. ELLIOTT STREET) PRYOR, OKLAHOMA			Project No. 240001	EXHIBIT
				Date: April, 2024	3
				Prepared by: JAS	

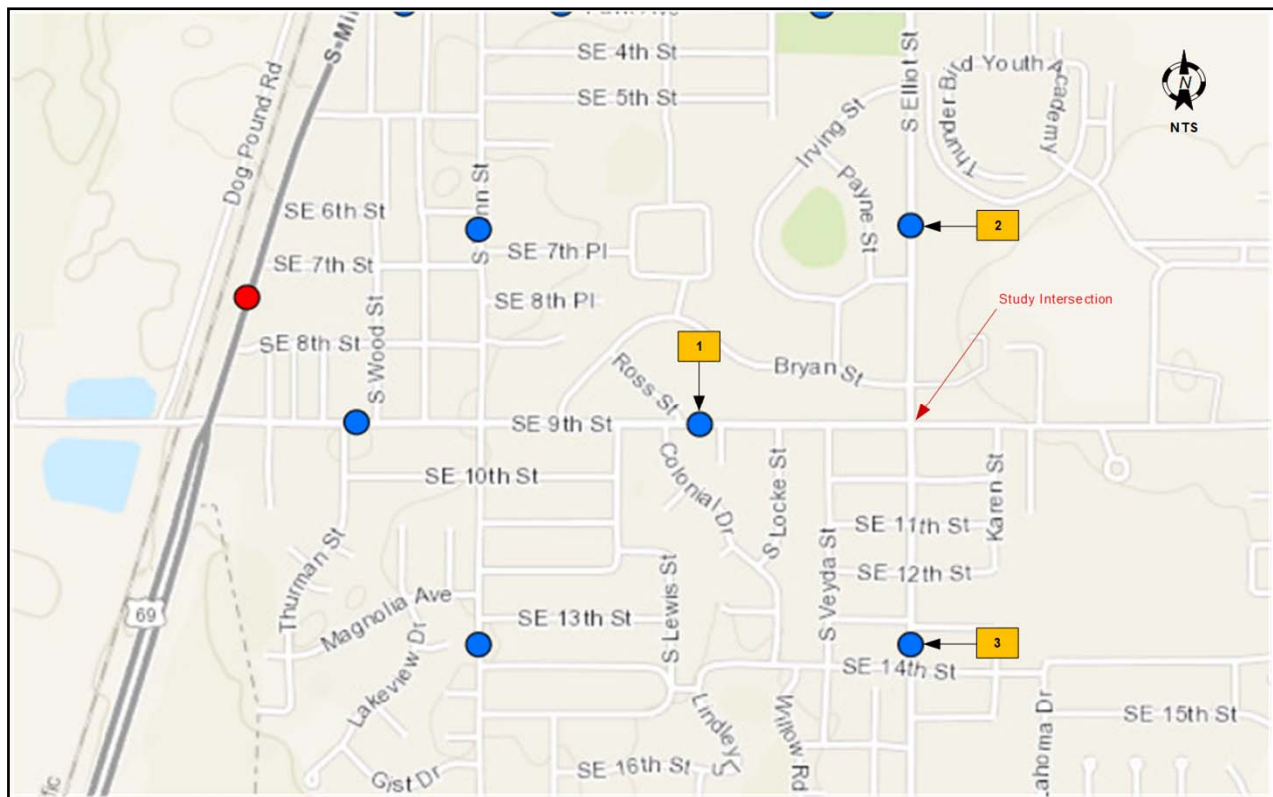


 www.seratran.com 918-720-7625	RECOMMENDED MODIFICATIONS (WESTBOUND APPROACH) INTERSECTION STUDY (SE 9TH STREET & S. ELLIOTT STREET) PRYOR, OKLAHOMA			Project No. 240001	EXHIBIT
				Date: April, 2024	4
				Prepared by: JAS	

Appendix A

Traffic Development

Computed Traffic Growth Rates



Projection Location	Past Count 1		Past Count 2		Annual Growth Rate
	Year	ADT	Year	ADT	
1	2019	6,100	2022	6,500	2.14%
2	2019	8,300	2022	7,400	-3.75%
3	2019	6,100	2022	6,100	0.00%

Average Computed Annual Growth Rate (AGR):	-0.54%
Average Computed Annual Growth Rate (AGR) Less High & Low Values:	2.14%
Assumed 10-Year AGR:	1.00%

Projection Year Growth Factors	
Projection Year	Growth Factor
1	1.01
2	1.02
3	1.03
4	1.04
5	1.05
6	1.06
7	1.07
8	1.08
9	1.09
10	1.10

Site Trip Distributions at Intersection

MS Peak Site Trips per ITE Trip Generation Manual:	Total	Arriving	Departing
AM peak site trips	325	179	146
PM peak site trips	180	81	99

MS Peak Site Trips at Intersection:	Total	Arriving	Departing
AM peak site trips (80% of site trips from and to intersection)	260	143	117
PM peak site trips (80% of site trips from and to intersection)	144	65	79

Arriving AM Peak MS Site Traffic at Intersection	NBR	SBL	EBT	Total
Existing AM peak hour traffic volumes:	76	187	235	498
Existing AM peak hour traffic percentages:	15%	38%	47%	100%
Estimated volumes per existing traffic patterns:	22	54	67	143

Departing AM Peak MS Site Traffic at Intersection	WBL	WBT	WBR	Total
Existing AM peak hour traffic volumes:	63	161	183	407
Existing AM peak hour traffic percentages:	15%	40%	45%	100%
Estimated volumes per existing traffic patterns:	18	46	53	117

Arriving PM Peak MS Site Traffic at Intersection	NBR	SBL	EBT	Total
Existing PM peak hour traffic volumes:	48	113	100	261
Existing PM peak hour traffic percentages:	18%	43%	38%	100%
Estimated volumes per existing traffic patterns:	12	28	25	65

Departing PM Peak MS Site Traffic at Intersection	WBL	WBT	WBR	Total
Existing PM peak hour traffic volumes:	78	181	119	378
Existing PM peak hour traffic percentages:	21%	48%	31%	100%
Estimated volumes per existing traffic patterns:	16	38	25	79

HSFS Peak Site Trips per published reports:	Total	Arriving	Departing
Site trips for maximum capacity event at 0.25 trips/seat	758	758	0

Note: Published reports indicate negligible departing trips prior to event.

HSFS Peak Site Trips at Intersection:	Total	Arriving	Departing
80% of site trips from and to intersection:	606	606	0

Arriving Peak HSFS Site Traffic at Intersection	NBR	SBL	EBT	Total
Average of existing percentages of AM and PM peak hour traffic:	17%	40%	43%	100%
Estimated volumes per existing traffic patterns:	102	245	259	606

Departing PM Peak HSFS Site Traffic at Intersection	WBL	WBT	WBR	Total
Average of existing percentages of AM and PM peak hour traffic:	18%	44%	38%	100%
Estimated volumes per existing traffic patterns & 60% departing:	66	159	139	364

Middle School (MS)

High School Football Stadium (HSFS)

Study Scenario Traffic Volumes

Scenario:	1	2	3	4	5	6	7	8	9	10	11	12
NBL	77	85	85	91	100	100	78	86	78	78	86	86
NBT	213	234	234	261	287	287	176	194	176	176	194	194
NBR	76	84	106	48	53	65	32	35	134	32	137	35
Total NB	366	403	425	400	440	452	286	315	388	286	417	315
SBL	187	206	260	113	124	152	61	67	306	61	312	67
SBT	206	227	227	247	272	272	200	220	200	200	220	220
SBR	84	92	92	149	164	164	121	133	121	121	133	133
Total SB	477	525	579	509	560	588	382	420	627	382	665	420
EBL	104	114	114	80	88	88	102	112	102	102	112	112
EBT	235	259	326	100	110	135	99	109	358	99	368	109
EBR	80	88	88	51	56	56	75	83	75	75	83	83
Total EB	419	461	528	231	254	279	276	304	535	276	563	304
WBL	63	69	87	78	86	102	39	43	39	105	43	109
WBT	161	177	223	181	199	237	120	132	120	279	132	291
WBR	183	201	254	119	131	156	57	63	57	196	63	202
Total WB	407	448	565	378	416	495	216	238	216	580	238	602
Total Int.	1,669	1,836	2,096	1,518	1,670	1,814	1,160	1,276	1,766	1,524	1,882	1,640

Middle School/Junior High School (522)

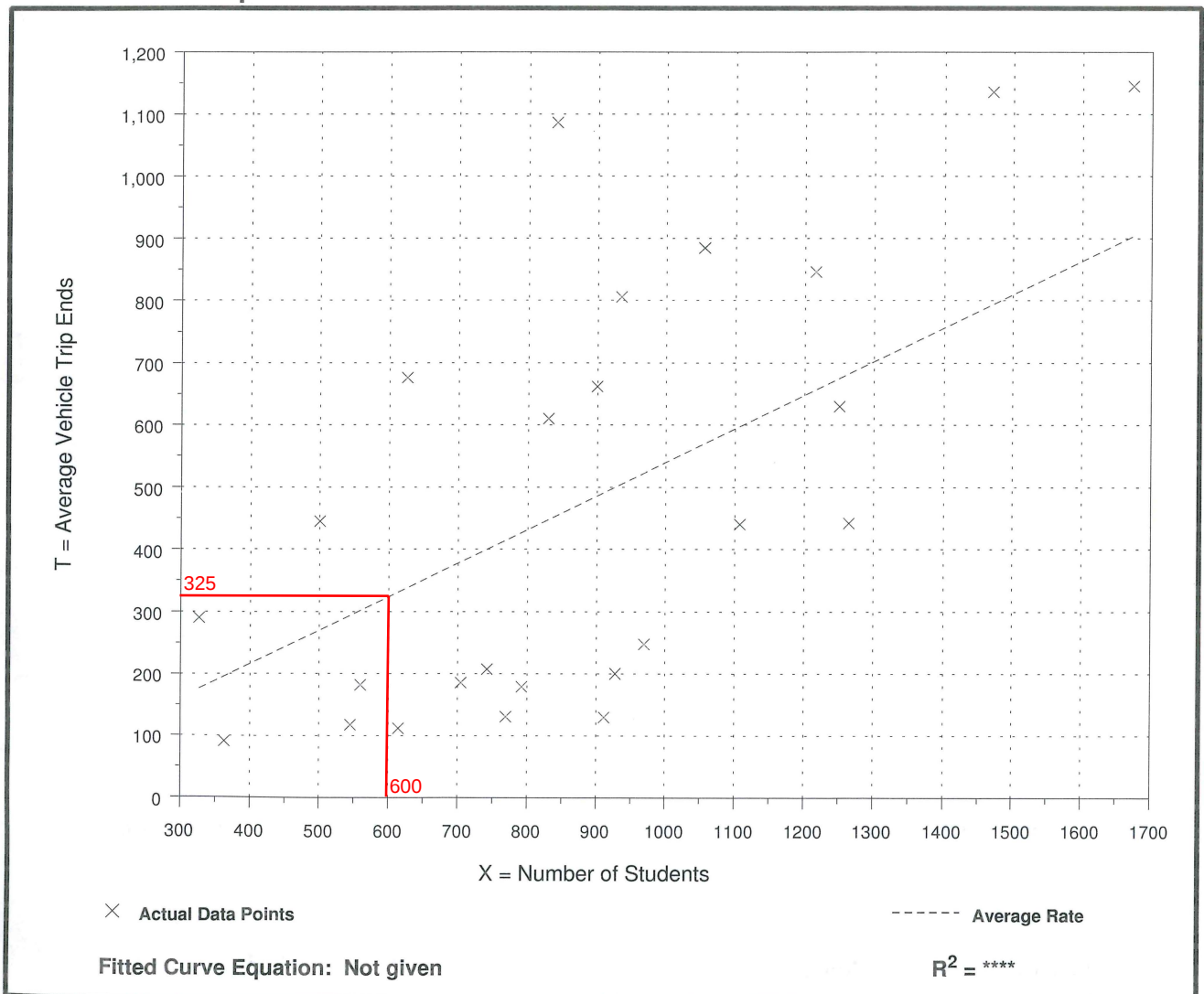
Average Vehicle Trip Ends vs: Students
On a: Weekday,
A.M. Peak Hour

Number of Studies: 25
Average Number of Students: 876
Directional Distribution: 55% entering, 45% exiting

Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.54	0.14 - 1.29	0.80

Data Plot and Equation



Middle School/Junior High School (522)

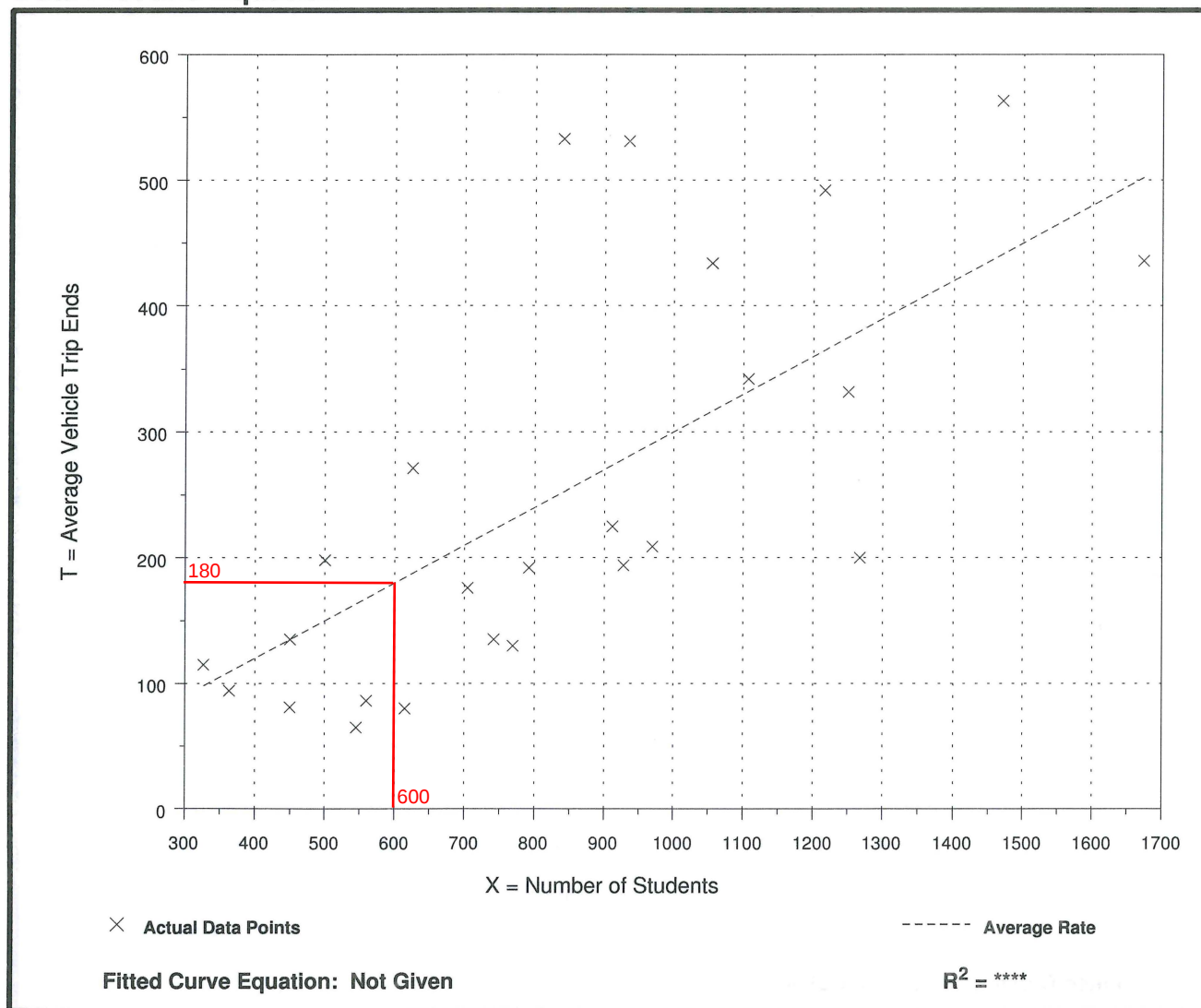
Average Vehicle Trip Ends vs: Students
On a: Weekday,
P.M. Peak Hour of Generator

Number of Studies: 25
Average Number of Students: 843
Directional Distribution: 45% entering, 55% exiting

Trip Generation per Student

Average Rate	Range of Rates	Standard Deviation
0.30	0.12 - 0.63	0.56

Data Plot and Equation



Appendix B

Synchro Summary & Reports

Scenarios Descriptions and Performance Summary

Scenario Number & Name	Scenario Description	Int. LOS	Approach LOS (1)				Notes/Findings
			EB	WB	NB	SB	
1.0 2024 AM Peak	Current 2024 AM peak traffic	C	C	C	D	C	Acceptable intersection LOS
2.0 2034 AM Peak	Projected 2034 AM peak traffic	D	D	D	D	D	Acceptable intersection LOS
3.0 2034 AM Peak + MS	Projected 2034 AM peak traffic plus MS	F	F	F	E	D	Unacceptable intersection LOS
4.0 2024 PM Peak	Current 2024 PM peak traffic	C	B	C	C	C	Acceptable intersection LOS
5.0 2034 PM Peak	Projected 2034 PM peak traffic	C	B	C	C	C	Acceptable intersection LOS
6.0 2034 PM Peak + MS	Projected 2034 PM peak traffic plus MS	C	C	C	C	C	Acceptable intersection LOS
7.0 2024 BV before HSFS	Current 2024 background volumes before HSFS	B	B	B	B	B	Acceptable intersection LOS
8.0 2034 BV before HSFS	Projected 2034 background volumes before HSFS	B	B	B	B	B	Acceptable intersection LOS
9.0 2024 BV + HSFS (before MCE)	Current 2024 background volumes + HSFS (before MCE)	D	D	C	D	C	Acceptable intersection LOS
10.0 2024 BV + HSFS (after MCE)	Current 2024 background volumes + HSFS (after MCE)	C	B	C	C	C	Acceptable intersection LOS
11.0 2034 BV + HSFS (before MCE)	Projected 2034 background volumes + HSFS (before MCE)	D	D	C	D	D	Acceptable intersection LOS
12.0 2034 BV + HSFS (after MCE)	Projected 2034 background volumes + HSFS (after MCE)	C	B	C	C	C	Acceptable intersection LOS
3.1 S 3.0 with CM 1	Scenario 3.0 with CM No. 1 (optimize splits)	E	E	E	F	E	Unacceptable intersection LOS
3.2 S 3.0 with NS PM+PT LT	Scenario 3.0 with NS Permitted/Protected LT	E	E	E	D	D	Unacceptable intersection LOS
3.3 S 3.0 with CM 2	Scenario 3.0 with CM No. 2 (add EW LT lanes)	C	C	C	C	C	Acceptable intersection LOS
3.4 S 3.0 with CM 3	Scenario 3.0 with CM No. 3 (add EW LT lanes & W RT lane)	C	C	B	C	B	Acceptable intersection LOS
3.5 S 3.0 with CM 4	Scenario 3.0 with CM No. 4 (add EW LT lanes & WN RT lanes)	C	C	B	C	B	Acceptable intersection LOS
3.6 S 3.0 with CM 5	Scenario 3.0 with CM No. 5 (add EW LT lanes & WNE RT lanes)	B	C	B	C	B	Acceptable intersection LOS
3.7 S 3.0 with CM 6	Scenario 3.0 with CM No. 6 (add EW LT lanes & WNES RT lanes)	B	C	B	C	B	Acceptable intersection LOS

(1) HCM 7th Edition

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 1.0 - 2024 AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	235	80	63	161	183	77	213	76	187	206	84
Future Volume (veh/h)	104	235	80	63	161	183	77	213	76	187	206	84
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No				No				No			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	141	398	108	76	183	232	120	361	115	283	312	104
Peak Hour Factor	0.74	0.59	0.74	0.83	0.88	0.79	0.64	0.59	0.66	0.66	0.66	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	283	440	119	219	211	268	165	466	146	332	706	231
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.34	0.34	0.05	0.31	0.31	0.10	0.19	0.19	0.20	0.29	0.29
Unsig. Movement Delay												
Ln Grp Delay, s/veh	19.8	0.0	33.6	20.6	0.0	30.8	39.9	33.9	34.5	36.2	23.0	23.2
Ln Grp LOS	B		C	C		C	D	C	C	D	C	C
Approach Vol, veh/h	647				491				596			
Approach Delay, s/veh	30.6				29.2				35.4			
Approach LOS	C				C				D			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	11.3	27.7	7.5	31.2	19.2	19.8	10.0	28.8				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	3.9	4.1	3.9	4.0	4.0	4.0	4.2				
Max Q Clear (g_c+I1), s	7.5	10.3	4.4	24.6	14.9	13.1	6.4	21.5				
Green Ext Time (g_e), s	0.3	1.4	0.2	1.6	0.8	1.6	0.4	1.5				
Prob of Phs Call (p_c)	1.00	1.00	0.81	1.00	1.00	1.00	0.95	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		2423		1305		2450		690				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		793		354		769		875				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 1.0 - 2024 AM Peak

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	120	0	76	0	283	0	141	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	5.5	0.0	2.4	0.0	12.9	0.0	4.4	0.0
Cycle Q Clear Time (g_c), s	5.5	0.0	2.4	0.0	12.9	0.0	4.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	893	0	0	0	971	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	23.8	0.0	0.0	0.0	24.7	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	3.6	0.0	0.0	0.0	4.4	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	1.9	0.0	0.0	0.0	3.5	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	165	0	219	0	332	0	283	0
V/C Ratio (X)	0.73	0.00	0.35	0.00	0.85	0.00	0.50	0.00
Avail Cap (c_a), veh/h	633	0	767	0	633	0	780	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	33.9	0.0	19.7	0.0	29.9	0.0	18.4	0.0
Incr Delay (d2), s/veh	5.9	0.0	0.9	0.0	6.2	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.9	0.0	20.6	0.0	36.2	0.0	19.8	0.0
1st-Term Q (Q1), veh/ln	2.1	0.0	0.9	0.0	4.8	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.1	0.0	0.6	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.4	0.0	0.9	0.0	5.4	0.0	1.6	0.0
%ile Storage Ratio (RQ%)	0.47	0.00	0.03	0.00	0.55	0.00	0.07	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	209	0	0	0	239	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	8.1	0.0	0.0	0.0	10.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.1	0.0	0.0	0.0	10.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	477	0	0	0	311	0	0
V/C Ratio (X)	0.00	0.44	0.00	0.00	0.00	0.77	0.00	0.00
Avail Cap (c_a), veh/h	0	1052	0	0	0	1052	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	22.4	0.0	0.0	0.0	29.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	4.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.0	0.0	0.0	0.0	33.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	0.0	0.0	4.1	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 1.0 - 2024 AM Peak

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	0.0	0.0	4.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.00	0.00	0.36	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	207	0	506	0	237	0	415
Grp Sat Flow (s), veh/h/ln	0	1579	0	1659	0	1583	0	1565
Q Serve Time (g_s), s	0.0	8.3	0.0	22.6	0.0	11.1	0.0	19.5
Cycle Q Clear Time (g_c), s	0.0	8.3	0.0	22.6	0.0	11.1	0.0	19.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.50	0.00	0.21	0.00	0.49	0.00	0.56
Lane Grp Cap (c), veh/h	0	460	0	560	0	301	0	479
V/C Ratio (X)	0.00	0.45	0.00	0.90	0.00	0.79	0.00	0.87
Avail Cap (c_a), veh/h	0	1015	0	853	0	1017	0	805
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.5	0.0	24.6	0.0	30.0	0.0	25.5
Incr Delay (d2), s/veh	0.0	0.7	0.0	9.1	0.0	4.5	0.0	5.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.2	0.0	33.6	0.0	34.5	0.0	30.8
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	8.2	0.0	4.1	0.0	7.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.4	0.0	0.4	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.0	0.0	9.6	0.0	4.4	0.0	7.7
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.39	0.00	0.36	0.00	0.26
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	30.9
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 2.0 - 2034 AM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	235	80	63	161	183	77	213	76	187	206	84
Future Volume (veh/h)	104	235	80	63	161	183	77	213	76	187	206	84
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	155	438	119	83	201	255	132	397	127	312	343	114
Peak Hour Factor	0.74	0.59	0.74	0.83	0.88	0.79	0.64	0.59	0.66	0.66	0.66	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	258	468	127	188	224	285	169	484	153	351	747	244
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.36	0.36	0.05	0.33	0.33	0.10	0.20	0.20	0.21	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	24.4	0.0	47.7	25.6	0.0	42.9	49.0	41.4	42.2	48.7	27.0	27.2
Ln Grp LOS	C		D	C		D	D	D	D	D	C	C
Approach Vol, veh/h	712			539			656			769		
Approach Delay, s/veh	42.6			40.2			43.2			35.9		
Approach LOS	D			D			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	13.3	34.3	8.3	39.1	23.8	23.8	11.5	35.9				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	3.9	4.1	3.9	4.0	4.0	4.0	4.2				
Max Q Clear (g_c+I1), s	9.4	13.0	5.2	32.8	19.5	17.0	7.7	28.3				
Green Ext Time (g_e), s	0.4	1.5	0.2	1.3	0.8	1.8	0.4	1.4				
Prob of Phs Call (p_c)	1.00	1.00	0.89	1.00	1.00	1.00	0.98	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.30	0.02	0.00	0.00	0.05				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		2423		1304		2445		690				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		792		354		773		875				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 2.0 - 2034 AM Peak

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	132	0	83	0	312	0	155	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	7.4	0.0	3.2	0.0	17.5	0.0	5.7	0.0
Cycle Q Clear Time (g_c), s	7.4	0.0	3.2	0.0	17.5	0.0	5.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	852	0	0	0	935	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	30.9	0.0	0.0	0.0	32.6	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	3.3	0.0	0.0	0.0	4.5	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	3.0	0.0	0.0	0.0	4.5	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	169	0	188	0	351	0	258	0
V/C Ratio (X)	0.78	0.00	0.44	0.00	0.89	0.00	0.60	0.00
Avail Cap (c_a), veh/h	519	0	624	0	519	0	639	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	41.5	0.0	23.9	0.0	36.2	0.0	22.1	0.0
Incr Delay (d2), s/veh	7.5	0.0	1.6	0.0	12.4	0.0	2.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	49.0	0.0	25.6	0.0	48.7	0.0	24.4	0.0
1st-Term Q (Q1), veh/ln	3.0	0.0	1.2	0.0	6.8	0.0	2.0	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.1	0.0	1.2	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.3	0.0	1.3	0.0	8.0	0.0	2.2	0.0
%ile Storage Ratio (RQ%)	0.65	0.00	0.04	0.00	0.81	0.00	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	230	0	0	0	264	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	10.7	0.0	0.0	0.0	14.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.7	0.0	0.0	0.0	14.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	505	0	0	0	324	0	0
V/C Ratio (X)	0.00	0.46	0.00	0.00	0.00	0.82	0.00	0.00
Avail Cap (c_a), veh/h	0	862	0	0	0	862	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	26.4	0.0	0.0	0.0	36.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.0	0.0	5.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.0	0.0	0.0	0.0	41.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.0	0.0	0.0	0.0	5.8	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 2.0 - 2034 AM Peak

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	0.0	0.0	6.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.32	0.00	0.00	0.00	0.50	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	227	0	557	0	260	0	456
Grp Sat Flow (s), veh/h/ln	0	1578	0	1659	0	1581	0	1565
Q Serve Time (g_s), s	0.0	11.0	0.0	30.8	0.0	15.0	0.0	26.3
Cycle Q Clear Time (g_c), s	0.0	11.0	0.0	30.8	0.0	15.0	0.0	26.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.50	0.00	0.21	0.00	0.49	0.00	0.56
Lane Grp Cap (c), veh/h	0	487	0	595	0	313	0	509
V/C Ratio (X)	0.00	0.47	0.00	0.94	0.00	0.83	0.00	0.90
Avail Cap (c_a), veh/h	0	831	0	699	0	833	0	660
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	26.5	0.0	29.4	0.0	36.5	0.0	30.5
Incr Delay (d2), s/veh	0.0	0.7	0.0	18.3	0.0	5.6	0.0	12.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.2	0.0	47.7	0.0	42.2	0.0	42.9
1st-Term Q (Q1), veh/ln	0.0	4.0	0.0	11.6	0.0	5.7	0.0	9.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	3.0	0.0	0.5	0.0	1.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	14.6	0.0	6.2	0.0	11.5
%ile Storage Ratio (RQ%)	0.00	0.32	0.00	0.60	0.00	0.50	0.00	0.39
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	40.4
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.0 - 2034 AM Peak + MS

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Future Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A _p bT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	154	553	119	105	253	322	133	397	161	394	344	114
Peak Hour Factor	0.74	0.59	0.74	0.83	0.88	0.79	0.64	0.59	0.66	0.66	0.66	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	190	482	104	156	227	289	162	463	185	406	853	278
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.35	0.35	0.06	0.33	0.33	0.10	0.20	0.20	0.25	0.35	0.35
Unsig. Movement Delay												
Ln Grp Delay, s/veh	37.6	0.0	124.8	35.8	0.0	115.6	63.4	52.8	54.0	82.3	30.1	30.3
Ln Grp LOS	D		F	D		F	E	D	D	F	C	C
Approach Vol, veh/h		826			680			691			852	
Approach Delay, s/veh		108.5			103.3			55.3			54.3	
Approach LOS		F			F			E			D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	15.5	47.7	10.6	47.5	33.5	29.7	13.2	45.0				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	3.9	4.1	3.9	4.0	4.0	4.0	4.2				
Max Q Clear (g _c +I1), s	11.6	15.3	7.1	44.5	30.9	22.7	9.3	42.0				
Green Ext Time (g _e), s	0.3	1.5	0.3	0.0	0.0	2.0	0.4	0.0				
Prob of Phs Call (p _c)	1.00	1.00	0.97	1.00	1.00	1.00	0.99	1.00				
Prob of Max Out (p _x)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		2425		1374		2279		689				
Right-Turn Movement Data												
Assigned Mvmt			12		14		16			18		
Mvmt Sat Flow, veh/h			791		296		913			876		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.0 - 2034 AM Peak + MS

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	133	0	105	0	394	0	154	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	9.6	0.0	5.1	0.0	28.9	0.0	7.3	0.0
Cycle Q Clear Time (g_c), s	9.6	0.0	5.1	0.0	28.9	0.0	7.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	766	0	0	0	838	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	40.0	0.0	0.0	0.0	41.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	162	0	156	0	406	0	190	0
V/C Ratio (X)	0.82	0.00	0.67	0.00	0.97	0.00	0.81	0.00
Avail Cap (c_a), veh/h	406	0	465	0	406	0	465	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	53.6	0.0	30.8	0.0	45.2	0.0	29.6	0.0
Incr Delay (d2), s/veh	9.8	0.0	5.0	0.0	37.1	0.0	8.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	63.4	0.0	35.8	0.0	82.3	0.0	37.6	0.0
1st-Term Q (Q1), veh/ln	4.0	0.0	2.0	0.0	11.5	0.0	2.8	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	0.2	0.0	4.2	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.4	0.0	2.2	0.0	15.7	0.0	3.2	0.0
%ile Storage Ratio (RQ%)	0.86	0.00	0.08	0.00	1.60	0.00	0.13	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	230	0	0	0	284	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	12.9	0.0	0.0	0.0	20.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.9	0.0	0.0	0.0	20.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	576	0	0	0	333	0	0
V/C Ratio (X)	0.00	0.40	0.00	0.00	0.00	0.85	0.00	0.00
Avail Cap (c_a), veh/h	0	674	0	0	0	674	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	29.7	0.0	0.0	0.0	46.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	6.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.1	0.0	0.0	0.0	52.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.0	0.0	0.0	0.0	8.2	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.0 - 2034 AM Peak + MS

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.6	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.1	0.0	0.0	0.0	8.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.39	0.00	0.00	0.00	0.71	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	672	0	274	0	575
Grp Sat Flow (s), veh/h/ln	0	1579	0	1669	0	1555	0	1565
Q Serve Time (g_s), s	0.0	13.3	0.0	42.5	0.0	20.7	0.0	40.0
Cycle Q Clear Time (g_c), s	0.0	13.3	0.0	42.5	0.0	20.7	0.0	40.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.50	0.00	0.18	0.00	0.59	0.00	0.56
Lane Grp Cap (c), veh/h	0	555	0	585	0	316	0	516
V/C Ratio (X)	0.00	0.41	0.00	1.15	0.00	0.87	0.00	1.11
Avail Cap (c_a), veh/h	0	651	0	585	0	641	0	516
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.8	0.0	39.4	0.0	46.8	0.0	40.7
Incr Delay (d2), s/veh	0.0	0.5	0.0	85.4	0.0	7.2	0.0	74.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.3	0.0	124.8	0.0	54.0	0.0	115.6
1st-Term Q (Q1), veh/ln	0.0	5.0	0.0	16.9	0.0	8.0	0.0	15.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	13.9	0.0	0.6	0.0	10.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.1	0.0	30.8	0.0	8.6	0.0	26.1
%ile Storage Ratio (RQ%)	0.00	0.39	0.00	1.27	0.00	0.69	0.00	0.89
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	21.7	0.0	0.0	0.0	14.8
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3

Intersection Summary

HCM 7th Control Delay, s/veh	80.1
HCM 7th LOS	F

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.1 - S 3.0 with CM 1

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Future Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	154	553	119	105	253	322	133	397	161	394	344	114
Peak Hour Factor	0.74	0.59	0.74	0.83	0.88	0.79	0.64	0.59	0.66	0.66	0.66	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	185	561	121	133	269	342	153	427	171	412	836	273
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.41	0.41	0.05	0.39	0.39	0.09	0.19	0.19	0.25	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	62.8	0.0	79.2	66.3	0.0	71.2	91.4	97.8	102.8	91.9	41.5	41.7
Ln Grp LOS	E		E	E		E	F	F	F	F	D	D
Approach Vol, veh/h	826			680			691			852		
Approach Delay, s/veh	76.1			70.4			98.6			64.9		
Approach LOS	E			E			F			E		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	18.9	61.7	11.7	72.0	44.8	35.7	14.6	69.1				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	23.9	50.8	8.3	67.0	43.5	31.2	12.0	63.3				
Max Allow Headway (MAH), s	4.0	3.9	4.1	3.9	4.0	4.0	4.0	4.2				
Max Q Clear (g_c+I1), s	15.1	20.1	8.3	67.5	40.9	30.6	11.1	60.1				
Green Ext Time (g_e), s	0.2	1.5	0.0	0.0	0.4	0.2	0.0	0.8				
Prob of Phs Call (p_c)	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.01	0.00	1.00	1.00	1.00	1.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		2425		1374		2279		689				
Right-Turn Movement Data												
Assigned Mvmt			12		14		16		18			
Mvmt Sat Flow, veh/h			791		296		912		876			
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.1 - S 3.0 with CM 1

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	133	0	105	0	394	0	154	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	13.1	0.0	6.3	0.0	38.9	0.0	9.1	0.0
Cycle Q Clear Time (g_c), s	13.1	0.0	6.3	0.0	38.9	0.0	9.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	766	0	0	0	838	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	64.1	0.0	0.0	0.0	65.5	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	1.5	0.0	0.0	0.0	6.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	1.5	0.0	0.0	0.0	6.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	153	0	133	0	412	0	185	0
V/C Ratio (X)	0.87	0.00	0.79	0.00	0.96	0.00	0.83	0.00
Avail Cap (c_a), veh/h	239	0	134	0	435	0	194	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	73.4	0.0	39.9	0.0	60.6	0.0	38.3	0.0
Incr Delay (d2), s/veh	18.0	0.0	26.4	0.0	31.3	0.0	24.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	91.4	0.0	66.3	0.0	91.9	0.0	62.8	0.0
1st-Term Q (Q1), veh/ln	5.6	0.0	2.6	0.0	16.1	0.0	3.6	0.0
2nd-Term Q (Q2), veh/ln	0.8	0.0	1.0	0.0	3.6	0.0	1.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	6.3	0.0	3.5	0.0	19.7	0.0	4.9	0.0
%ile Storage Ratio (RQ%)	1.24	0.00	0.12	0.00	2.00	0.00	0.20	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	230	0	0	0	284	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	17.6	0.0	0.0	0.0	28.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	17.6	0.0	0.0	0.0	28.0	0.0	0.0
Lane Grp Cap (c), veh/h	0	565	0	0	0	306	0	0
V/C Ratio (X)	0.00	0.41	0.00	0.00	0.00	0.93	0.00	0.00
Avail Cap (c_a), veh/h	0	565	0	0	0	311	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	41.0	0.0	0.0	0.0	65.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	32.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	41.5	0.0	0.0	0.0	97.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	7.2	0.0	0.0	0.0	11.7	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.1 - S 3.0 with CM 1

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	2.7	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.2	0.0	0.0	0.0	14.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.56	0.00	0.00	0.00	1.16	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	672	0	274	0	575
Grp Sat Flow (s), veh/h/ln	0	1579	0	1669	0	1555	0	1565
Q Serve Time (g_s), s	0.0	18.1	0.0	65.5	0.0	28.6	0.0	58.1
Cycle Q Clear Time (g_c), s	0.0	18.1	0.0	65.5	0.0	28.6	0.0	58.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.50	0.00	0.18	0.00	0.59	0.00	0.56
Lane Grp Cap (c), veh/h	0	545	0	681	0	291	0	611
V/C Ratio (X)	0.00	0.42	0.00	0.99	0.00	0.94	0.00	0.94
Avail Cap (c_a), veh/h	0	545	0	681	0	295	0	611
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	41.2	0.0	48.2	0.0	65.9	0.0	48.2
Incr Delay (d2), s/veh	0.0	0.5	0.0	31.0	0.0	37.0	0.0	22.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	41.7	0.0	79.2	0.0	102.8	0.0	71.2
1st-Term Q (Q1), veh/ln	0.0	7.1	0.0	26.9	0.0	11.4	0.0	22.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	5.9	0.0	3.0	0.0	3.9
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	7.2	0.0	32.8	0.0	14.4	0.0	26.8
%ile Storage Ratio (RQ%)	0.00	0.55	0.00	1.35	0.00	1.16	0.00	0.91
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	76.8
HCM 7th LOS	E

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.2 - S 3.0 with NS PM+PT LT

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Future Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	154	553	119	105	253	322	133	397	161	394	344	114
Peak Hour Factor	0.74	0.59	0.74	0.83	0.88	0.79	0.64	0.59	0.66	0.66	0.66	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	193	520	112	160	246	313	393	469	188	433	795	259
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.38	0.38	0.06	0.36	0.36	0.08	0.21	0.21	0.21	0.33	0.33
Unsig. Movement Delay												
Ln Grp Delay, s/veh	33.8	0.0	88.8	32.1	0.0	81.1	31.2	48.4	49.5	44.0	29.9	30.1
Ln Grp LOS	C		F	C		F	C	D	D	D	C	C
Approach Vol, veh/h	826			680			691			852		
Approach Delay, s/veh	78.6			73.5			45.5			36.5		
Approach LOS	E			E			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	12.9	41.7	10.0	47.3	26.5	28.0	12.3	45.0				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	3.9	4.1	3.9	4.0	4.0	4.0	4.2				
Max Q Clear (g_c+I1), s	9.0	14.7	6.5	44.3	22.2	21.0	8.4	42.0				
Green Ext Time (g_e), s	0.4	1.5	0.3	0.0	0.9	2.0	0.4	0.0				
Prob of Phs Call (p_c)	1.00	1.00	0.96	1.00	1.00	1.00	0.99	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	1.00	0.15	0.00	0.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		2424		1374		2279		689				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		791		296		913		876				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.2 - S 3.0 with NS PM+PT LT

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	133	0	105	0	394	0	154	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	7.0	0.0	4.5	0.0	20.2	0.0	6.4	0.0
Cycle Q Clear Time (g_c), s	7.0	0.0	4.5	0.0	20.2	0.0	6.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	932	0	766	0	851	0	838	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	23.0	0.0	40.0	0.0	25.0	0.0	40.8	0.0
Perm LT Serve Time (g_u), s	23.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	393	0	160	0	433	0	193	0
V/C Ratio (X)	0.34	0.00	0.66	0.00	0.91	0.00	0.80	0.00
Avail Cap (c_a), veh/h	696	0	505	0	535	0	505	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	30.7	0.0	27.5	0.0	26.6	0.0	26.6	0.0
Incr Delay (d2), s/veh	0.5	0.0	4.5	0.0	17.4	0.0	7.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	31.2	0.0	32.1	0.0	44.0	0.0	33.8	0.0
1st-Term Q (Q1), veh/ln	2.8	0.0	1.7	0.0	7.6	0.0	2.4	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.2	0.0	2.1	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.8	0.0	1.9	0.0	9.6	0.0	2.8	0.0
%ile Storage Ratio (RQ%)	0.55	0.00	0.07	0.00	0.98	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	230	0	0	0	284	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	12.3	0.0	0.0	0.0	18.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.3	0.0	0.0	0.0	18.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	537	0	0	0	336	0	0
V/C Ratio (X)	0.00	0.43	0.00	0.00	0.00	0.84	0.00	0.00
Avail Cap (c_a), veh/h	0	732	0	0	0	732	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	29.4	0.0	0.0	0.0	42.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.0	0.0	5.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.9	0.0	0.0	0.0	48.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.8	0.0	0.0	0.0	7.5	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.2 - S 3.0 with NS PM+PT LT

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.5	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	0.0	0.0	8.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	0.00	0.00	0.64	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	672	0	274	0	575
Grp Sat Flow (s), veh/h/ln	0	1579	0	1669	0	1555	0	1565
Q Serve Time (g_s), s	0.0	12.7	0.0	42.3	0.0	19.0	0.0	40.0
Cycle Q Clear Time (g_c), s	0.0	12.7	0.0	42.3	0.0	19.0	0.0	40.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.50	0.00	0.18	0.00	0.59	0.00	0.56
Lane Grp Cap (c), veh/h	0	518	0	632	0	320	0	560
V/C Ratio (X)	0.00	0.44	0.00	1.06	0.00	0.86	0.00	1.03
Avail Cap (c_a), veh/h	0	706	0	632	0	695	0	560
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.5	0.0	34.8	0.0	42.8	0.0	35.9
Incr Delay (d2), s/veh	0.0	0.6	0.0	54.1	0.0	6.7	0.0	45.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.1	0.0	88.8	0.0	49.5	0.0	81.1
1st-Term Q (Q1), veh/ln	0.0	4.7	0.0	16.5	0.0	7.3	0.0	15.1
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	9.5	0.0	0.6	0.0	7.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.8	0.0	26.0	0.0	7.9	0.0	22.1
%ile Storage Ratio (RQ%)	0.00	0.37	0.00	1.07	0.00	0.63	0.00	0.76
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	10.1	0.0	0.0	0.0	3.8
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.3

Intersection Summary

HCM 7th Control Delay, s/veh	58.2
HCM 7th LOS	E

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.3 - S 3.0 with CM 2

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Future Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	154	553	119	105	253	322	133	397	161	394	344	114
Peak Hour Factor	0.74	0.59	0.74	0.83	0.88	0.79	0.64	0.59	0.66	0.66	0.66	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	288	771	165	279	428	382	444	497	199	482	823	268
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.09	0.29	0.29	0.07	0.26	0.26	0.09	0.22	0.22	0.21	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	21.6	27.3	27.4	21.0	26.8	32.8	20.9	33.3	34.0	21.5	20.6	20.7
Ln Grp LOS	C	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h	826			680			691			852		
Approach Delay, s/veh	26.3			28.8			31.2			21.1		
Approach LOS	C			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	10.7	31.8	8.8	27.7	20.3	22.2	10.9	25.7				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	3.9	4.1	3.9	4.0	4.0	4.0	4.2				
Max Q Clear (g_c+I1), s	6.8	10.8	5.6	16.7	15.6	15.2	7.2	18.5				
Green Ext Time (g_e), s	0.4	1.5	0.3	2.3	1.2	2.0	0.4	2.1				
Prob of Phs Call (p_c)	1.00	1.00	0.90	1.00	1.00	1.00	0.97	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2425			2681			2280			1637		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	791			575			913			1460		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.3 - S 3.0 with CM 2

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	133	0	105	0	394	0	154	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	4.8	0.0	3.6	0.0	13.6	0.0	5.2	0.0
Cycle Q Clear Time (g_c), s	4.8	0.0	3.6	0.0	13.6	0.0	5.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	933	0	766	0	851	0	838	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.2	0.0	20.7	0.0	19.2	0.0	21.2	0.0
Perm LT Serve Time (g_u), s	17.2	0.0	8.0	0.0	4.0	0.0	4.1	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	2.0	0.0	4.0	0.0	3.9	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	444	0	279	0	482	0	288	0
V/C Ratio (X)	0.30	0.00	0.38	0.00	0.82	0.00	0.53	0.00
Avail Cap (c_a), veh/h	917	0	791	0	756	0	757	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	20.6	0.0	20.2	0.0	17.6	0.0	20.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.8	0.0	4.0	0.0	1.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	20.9	0.0	21.0	0.0	21.5	0.0	21.6	0.0
1st-Term Q (Q1), veh/ln	1.8	0.0	1.4	0.0	4.6	0.0	1.8	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.5	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	1.4	0.0	5.1	0.0	2.0	0.0
%ile Storage Ratio (RQ%)	0.31	0.00	0.24	0.00	0.52	0.00	0.33	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	230	0	337	0	284	0	253
Grp Sat Flow (s), veh/h/ln	0	1637	0	1637	0	1637	0	1637
Q Serve Time (g_s), s	0.0	8.6	0.0	14.6	0.0	13.0	0.0	10.7
Cycle Q Clear Time (g_c), s	0.0	8.6	0.0	14.6	0.0	13.0	0.0	10.7
Lane Grp Cap (c), veh/h	0	555	0	470	0	357	0	428
V/C Ratio (X)	0.00	0.41	0.00	0.72	0.00	0.79	0.00	0.59
Avail Cap (c_a), veh/h	0	1034	0	828	0	1034	0	828
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.1	0.0	25.3	0.0	29.3	0.0	25.5
Incr Delay (d2), s/veh	0.0	0.5	0.0	2.1	0.0	4.0	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.6	0.0	27.3	0.0	33.3	0.0	26.8
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	5.3	0.0	4.9	0.0	4.1

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.3 - S 3.0 with CM 2

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	0.4	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	5.6	0.0	5.3	0.0	4.2
%ile Storage Ratio (RQ%)	0.00	0.25	0.00	0.50	0.00	0.44	0.00	0.46
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	335	0	274	0	322
Grp Sat Flow (s), veh/h/ln	0	1579	0	1619	0	1557	0	1460
Q Serve Time (g_s), s	0.0	8.8	0.0	14.7	0.0	13.2	0.0	16.5
Cycle Q Clear Time (g_c), s	0.0	8.8	0.0	14.7	0.0	13.2	0.0	16.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.50	0.00	0.36	0.00	0.59	0.00	1.00
Lane Grp Cap (c), veh/h	0	536	0	465	0	339	0	382
V/C Ratio (X)	0.00	0.42	0.00	0.72	0.00	0.81	0.00	0.84
Avail Cap (c_a), veh/h	0	998	0	819	0	984	0	738
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.2	0.0	25.3	0.0	29.4	0.0	27.7
Incr Delay (d2), s/veh	0.0	0.5	0.0	2.1	0.0	4.6	0.0	5.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.7	0.0	27.4	0.0	34.0	0.0	32.8
1st-Term Q (Q1), veh/ln	0.0	3.0	0.0	5.3	0.0	4.8	0.0	5.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	0.4	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	5.6	0.0	5.2	0.0	6.2
%ile Storage Ratio (RQ%)	0.00	0.25	0.00	0.50	0.00	0.43	0.00	0.67
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	26.5
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.4 - S 3.0 with CM 3

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Future Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	154	553	119	105	253	322	133	397	161	394	344	114
Peak Hour Factor	0.74	0.59	0.74	0.83	0.88	0.79	0.64	0.59	0.66	0.66	0.66	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	398	682	146	262	740	643	462	508	204	500	833	272
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.25	0.25	0.07	0.23	0.23	0.09	0.22	0.22	0.21	0.34	0.34
Unsig. Movement Delay												
Ln Grp Delay, s/veh	18.4	28.7	28.9	21.0	23.4	14.9	18.5	29.6	30.2	18.2	18.4	18.5
Ln Grp LOS	B	C	C	C	C	B	B	C	C	B	B	B
Approach Vol, veh/h	826			680			691			852		
Approach Delay, s/veh	26.9			19.0			27.7			18.3		
Approach LOS	C			B			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	4.0	1.1	4.0	1.1	4.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	10.2	29.5	8.5	23.1	18.8	20.9	10.5	21.1				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	3.9	4.1	3.9	4.0	4.0	4.0	4.1				
Max Q Clear (g_c+I1), s	6.3	9.9	5.4	15.9	14.1	13.9	6.9	13.3				
Green Ext Time (g_e), s	0.4	1.5	0.3	2.3	1.2	2.0	0.4	2.2				
Prob of Phs Call (p_c)	1.00	1.00	0.88	1.00	1.00	1.00	0.95	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2425			2681			2280			3273		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	791			575			913			1460		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.4 - S 3.0 with CM 3

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	133	0	105	0	394	0	154	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	4.3	0.0	3.4	0.0	12.1	0.0	4.9	0.0
Cycle Q Clear Time (g_c), s	4.3	0.0	3.4	0.0	12.1	0.0	4.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	933	0	766	0	851	0	838	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	15.9	0.0	16.1	0.0	17.9	0.0	16.6	0.0
Perm LT Serve Time (g_u), s	15.9	0.0	4.3	0.0	4.0	0.0	11.5	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	1.9	0.0	4.0	0.0	1.2	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	462	0	262	0	500	0	398	0
V/C Ratio (X)	0.29	0.00	0.40	0.00	0.79	0.00	0.39	0.00
Avail Cap (c_a), veh/h	999	0	837	0	839	0	926	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	18.1	0.0	20.0	0.0	15.4	0.0	17.8	0.0
Incr Delay (d2), s/veh	0.3	0.0	1.0	0.0	2.8	0.0	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.5	0.0	21.0	0.0	18.2	0.0	18.4	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	1.3	0.0	3.9	0.0	1.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.4	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.6	0.0	1.3	0.0	4.3	0.0	1.8	0.0
%ile Storage Ratio (RQ%)	0.27	0.00	0.23	0.00	0.43	0.00	0.30	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	0	1	0	2
Grp Vol (v), veh/h	0	230	0	337	0	283	0	253
Grp Sat Flow (s), veh/h/ln	0	1637	0	1637	0	1637	0	1637
Q Serve Time (g_s), s	0.0	7.7	0.0	13.8	0.0	11.6	0.0	4.6
Cycle Q Clear Time (g_c), s	0.0	7.7	0.0	13.8	0.0	11.6	0.0	4.6
Lane Grp Cap (c), veh/h	0	562	0	416	0	365	0	740
V/C Ratio (X)	0.00	0.41	0.00	0.81	0.00	0.78	0.00	0.34
Avail Cap (c_a), veh/h	0	1147	0	918	0	1147	0	1836
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.9	0.0	25.0	0.0	26.0	0.0	23.1
Incr Delay (d2), s/veh	0.0	0.5	0.0	3.8	0.0	3.6	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.4	0.0	28.7	0.0	29.6	0.0	23.4
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	4.9	0.0	4.3	0.0	1.7

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.4 - S 3.0 with CM 3

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.4	0.0	0.4	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	5.4	0.0	4.7	0.0	1.8
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.48	0.00	0.39	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	335	0	275	0	322
Grp Sat Flow (s), veh/h/ln	0	1580	0	1619	0	1557	0	1460
Q Serve Time (g_s), s	0.0	7.9	0.0	13.9	0.0	11.9	0.0	11.3
Cycle Q Clear Time (g_c), s	0.0	7.9	0.0	13.9	0.0	11.9	0.0	11.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1459.9
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.3
Prop RT Outside Lane (P_R)	0.00	0.50	0.00	0.36	0.00	0.59	0.00	1.00
Lane Grp Cap (c), veh/h	0	542	0	412	0	347	0	643
V/C Ratio (X)	0.00	0.42	0.00	0.81	0.00	0.79	0.00	0.50
Avail Cap (c_a), veh/h	0	1107	0	908	0	1091	0	1131
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.0	0.0	25.0	0.0	26.1	0.0	14.3
Incr Delay (d2), s/veh	0.0	0.5	0.0	3.9	0.0	4.1	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.5	0.0	28.9	0.0	30.2	0.0	14.9
1st-Term Q (Q1), veh/ln	0.0	2.6	0.0	4.9	0.0	4.2	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.5	0.0	0.4	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.7	0.0	5.4	0.0	4.6	0.0	3.6
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.48	0.00	0.38	0.00	0.61
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	22.9
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.5 - S 3.0 with CM 4

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Future Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	154	553	119	105	253	322	133	397	161	394	344	114
Peak Hour Factor	0.74	0.59	0.74	0.83	0.88	0.79	0.64	0.59	0.66	0.66	0.66	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	414	696	149	278	754	668	443	588	365	541	744	243
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.26	0.26	0.07	0.23	0.23	0.10	0.18	0.18	0.23	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.5	25.7	25.9	18.7	21.0	12.7	18.6	26.1	21.3	16.5	18.7	18.9
Ln Grp LOS	B	C	C	B	C	B	B	C	C	B	B	B
Approach Vol, veh/h	826			680			691			852		
Approach Delay, s/veh	24.1			16.7			23.6			17.7		
Approach LOS	C			B			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	4.0	1.1	4.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	10.0	24.8	8.1	21.8	18.2	16.6	10.0	19.9				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	3.9	4.1	3.9	4.0	4.0	4.0	4.1				
Max Q Clear (g_c+I1), s	6.1	9.6	5.1	14.5	13.5	9.3	6.4	11.9				
Green Ext Time (g_e), s	0.4	1.5	0.3	2.3	1.2	2.2	0.4	2.2				
Prob of Phs Call (p_c)	1.00	1.00	0.85	1.00	1.00	1.00	0.94	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2425			2681			3273			3273		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	791			575			1457			1460		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.5 - S 3.0 with CM 4

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	133	0	105	0	394	0	154	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	4.1	0.0	3.1	0.0	11.5	0.0	4.4	0.0
Cycle Q Clear Time (g_c), s	4.1	0.0	3.1	0.0	11.5	0.0	4.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	933	0	766	0	851	0	838	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	11.6	0.0	14.9	0.0	13.6	0.0	15.3	0.0
Perm LT Serve Time (g_u), s	11.6	0.0	4.3	0.0	4.3	0.0	10.7	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	1.7	0.0	4.3	0.0	1.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	443	0	278	0	541	0	414	0
V/C Ratio (X)	0.30	0.00	0.38	0.00	0.73	0.00	0.37	0.00
Avail Cap (c_a), veh/h	1040	0	923	0	929	0	1011	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	18.3	0.0	17.9	0.0	14.6	0.0	15.9	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.8	0.0	1.9	0.0	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.6	0.0	18.7	0.0	16.5	0.0	16.5	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	1.1	0.0	3.6	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.5	0.0	1.2	0.0	3.9	0.0	1.6	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.20	0.00	0.39	0.00	0.26	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	1	0	2	0	2
Grp Vol (v), veh/h	0	230	0	337	0	397	0	253
Grp Sat Flow (s), veh/h/ln	0	1637	0	1637	0	1637	0	1637
Q Serve Time (g_s), s	0.0	7.3	0.0	12.4	0.0	7.3	0.0	4.2
Cycle Q Clear Time (g_c), s	0.0	7.3	0.0	12.4	0.0	7.3	0.0	4.2
Lane Grp Cap (c), veh/h	0	502	0	425	0	588	0	754
V/C Ratio (X)	0.00	0.46	0.00	0.79	0.00	0.68	0.00	0.34
Avail Cap (c_a), veh/h	0	1265	0	1012	0	2530	0	2024
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.1	0.0	22.3	0.0	24.8	0.0	20.8
Incr Delay (d2), s/veh	0.0	0.7	0.0	3.4	0.0	1.4	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.7	0.0	25.7	0.0	26.1	0.0	21.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	4.3	0.0	2.7	0.0	1.5

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.5 - S 3.0 with CM 4

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	4.7	0.0	2.8	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.22	0.00	0.42	0.00	0.23	0.00	0.18
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	335	0	161	0	322
Grp Sat Flow (s), veh/h/ln	0	1579	0	1619	0	1457	0	1460
Q Serve Time (g_s), s	0.0	7.6	0.0	12.5	0.0	6.0	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	7.6	0.0	12.5	0.0	6.0	0.0	9.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	1459.9	0.0	1459.9
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	4.6	0.0	14.7
Prop RT Outside Lane (P_R)	0.00	0.50	0.00	0.36	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	485	0	420	0	365	0	668
V/C Ratio (X)	0.00	0.47	0.00	0.80	0.00	0.44	0.00	0.48
Avail Cap (c_a), veh/h	0	1221	0	1001	0	1230	0	1235
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	22.4	0.0	20.4	0.0	12.2
Incr Delay (d2), s/veh	0.0	0.7	0.0	3.5	0.0	0.8	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.9	0.0	25.9	0.0	21.3	0.0	12.7
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	4.3	0.0	0.0	0.0	2.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.6	0.0	4.7	0.0	0.1	0.0	3.0
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.42	0.00	0.01	0.00	0.51
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	20.5
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.6 - S 3.0 with CM 5

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Future Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	154	553	119	105	253	322	133	397	161	394	344	114
Peak Hour Factor	0.74	0.59	0.74	0.83	0.88	0.79	0.64	0.59	0.66	0.66	0.66	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	411	825	515	307	728	657	448	592	367	545	746	243
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.25	0.25	0.07	0.22	0.22	0.10	0.18	0.18	0.23	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.5	22.3	14.7	18.1	21.1	12.9	18.2	25.5	20.8	16.0	18.3	18.4
Ln Grp LOS	B	C	B	B	C	B	B	C	C	B	B	B
Approach Vol, veh/h	826			680			691			852		
Approach Delay, s/veh	20.1			16.7			23.0			17.3		
Approach LOS	C			B			C			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	4.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.9	24.5	8.0	21.0	17.9	16.5	9.9	19.1				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	3.9	4.1	3.9	4.0	4.0	4.0	4.1				
Max Q Clear (g_c+I1), s	6.0	9.4	5.1	11.6	13.2	9.2	6.4	11.9				
Green Ext Time (g_e), s	0.4	1.5	0.3	2.6	1.2	2.2	0.4	2.2				
Prob of Phs Call (p_c)	1.00	1.00	0.84	1.00	1.00	1.00	0.93	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2425			3273			3273			3273		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	791			1460			1457			1460		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.6 - S 3.0 with CM 5

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	133	0	105	0	394	0	154	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	4.0	0.0	3.1	0.0	11.2	0.0	4.4	0.0
Cycle Q Clear Time (g_c), s	4.0	0.0	3.1	0.0	11.2	0.0	4.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	933	0	766	0	851	0	838	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	11.5	0.0	14.1	0.0	13.5	0.0	14.5	0.0
Perm LT Serve Time (g_u), s	11.5	0.0	6.3	0.0	4.3	0.0	10.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	1.2	0.0	4.3	0.0	1.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	448	0	307	0	545	0	411	0
V/C Ratio (X)	0.30	0.00	0.34	0.00	0.72	0.00	0.38	0.00
Avail Cap (c_a), veh/h	1059	0	967	0	948	0	1022	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	17.8	0.0	17.4	0.0	14.2	0.0	15.9	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.7	0.0	1.8	0.0	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.2	0.0	18.1	0.0	16.0	0.0	16.5	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	1.1	0.0	3.5	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.4	0.0	1.1	0.0	3.8	0.0	1.5	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.19	0.00	0.38	0.00	0.26	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	1	0	2	0	2	0	2
Grp Vol (v), veh/h	0	230	0	553	0	397	0	253
Grp Sat Flow (s), veh/h/ln	0	1637	0	1637	0	1637	0	1637
Q Serve Time (g_s), s	0.0	7.2	0.0	9.6	0.0	7.2	0.0	4.1
Cycle Q Clear Time (g_c), s	0.0	7.2	0.0	9.6	0.0	7.2	0.0	4.1
Lane Grp Cap (c), veh/h	0	504	0	825	0	592	0	728
V/C Ratio (X)	0.00	0.46	0.00	0.67	0.00	0.67	0.00	0.35
Avail Cap (c_a), veh/h	0	1291	0	2066	0	2582	0	2066
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.7	0.0	21.3	0.0	24.2	0.0	20.8
Incr Delay (d2), s/veh	0.0	0.6	0.0	1.0	0.0	1.3	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.3	0.0	22.3	0.0	25.5	0.0	21.1
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	3.3	0.0	2.6	0.0	1.5

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.6 - S 3.0 with CM 5

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	3.5	0.0	2.7	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.31	0.00	0.23	0.00	0.17
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	119	0	161	0	322
Grp Sat Flow (s), veh/h/ln	0	1579	0	1460	0	1457	0	1460
Q Serve Time (g_s), s	0.0	7.4	0.0	3.6	0.0	5.9	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	7.4	0.0	3.6	0.0	5.9	0.0	9.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	1459.9	0.0	1459.9	0.0	1459.9
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	6.4	0.0	4.5	0.0	14.4
Prop RT Outside Lane (P_R)	0.00	0.50	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	486	0	515	0	367	0	657
V/C Ratio (X)	0.00	0.47	0.00	0.23	0.00	0.44	0.00	0.49
Avail Cap (c_a), veh/h	0	1246	0	1069	0	1254	0	1254
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.7	0.0	14.5	0.0	19.9	0.0	12.3
Incr Delay (d2), s/veh	0.0	0.7	0.0	0.2	0.0	0.8	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.4	0.0	14.7	0.0	20.8	0.0	12.9
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	1.1	0.0	1.9	0.0	2.9
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	1.2	0.0	2.0	0.0	3.0
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.20	0.00	0.34	0.00	0.51
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	19.2
HCM 7th LOS	B

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.7 - S 3.0 with CM 6

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Future Volume (veh/h)	114	326	88	87	223	254	85	234	106	260	227	92
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	154	553	119	105	253	322	133	397	161	394	344	114
Peak Hour Factor	0.74	0.59	0.74	0.83	0.88	0.79	0.64	0.59	0.66	0.66	0.66	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	411	825	515	307	728	657	448	592	367	545	1007	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.25	0.25	0.07	0.22	0.22	0.10	0.18	0.18	0.23	0.31	0.31
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.5	22.3	14.7	18.1	21.1	12.9	18.2	25.5	20.8	16.0	17.2	12.2
Ln Grp LOS	B	C	B	B	C	B	B	C	C	B	B	B
Approach Vol, veh/h	826			680			691			852		
Approach Delay, s/veh	20.1			16.7			23.0			16.0		
Approach LOS	C			B			C			B		
Timer:												
	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	1.1	3.0	1.1	3.0	1.1	3.0				
Phs Duration (G+Y+Rc), s	9.9	24.5	8.0	21.0	17.9	16.5	9.9	19.1				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	3.9	4.1	3.9	4.0	4.0	4.0	4.1				
Max Q Clear (g_c+I1), s	6.0	7.2	5.1	11.6	13.2	9.2	6.4	11.9				
Green Ext Time (g_e), s	0.4	1.7	0.3	2.6	1.2	2.2	0.4	2.2				
Prob of Phs Call (p_c)	1.00	1.00	0.84	1.00	1.00	1.00	0.93	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		3273		3273		3273		3273				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1458		1460		1457		1460				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.7 - S 3.0 with CM 6

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	133	0	105	0	394	0	154	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	4.0	0.0	3.1	0.0	11.2	0.0	4.4	0.0
Cycle Q Clear Time (g_c), s	4.0	0.0	3.1	0.0	11.2	0.0	4.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	933	0	766	0	851	0	838	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	11.5	0.0	14.1	0.0	13.5	0.0	14.5	0.0
Perm LT Serve Time (g_u), s	11.5	0.0	6.3	0.0	4.3	0.0	10.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	1.2	0.0	4.3	0.0	1.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	448	0	307	0	545	0	411	0
V/C Ratio (X)	0.30	0.00	0.34	0.00	0.72	0.00	0.38	0.00
Avail Cap (c_a), veh/h	1059	0	967	0	948	0	1022	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	17.8	0.0	17.4	0.0	14.2	0.0	15.9	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.7	0.0	1.8	0.0	0.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	18.2	0.0	18.1	0.0	16.0	0.0	16.5	0.0
1st-Term Q (Q1), veh/ln	1.4	0.0	1.1	0.0	3.5	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.4	0.0	1.1	0.0	3.8	0.0	1.5	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.19	0.00	0.38	0.00	0.26	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	2	0	2
Grp Vol (v), veh/h	0	344	0	553	0	397	0	253
Grp Sat Flow (s), veh/h/ln	0	1637	0	1637	0	1637	0	1637
Q Serve Time (g_s), s	0.0	5.2	0.0	9.6	0.0	7.2	0.0	4.1
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	9.6	0.0	7.2	0.0	4.1
Lane Grp Cap (c), veh/h	0	1007	0	825	0	592	0	728
V/C Ratio (X)	0.00	0.34	0.00	0.67	0.00	0.67	0.00	0.35
Avail Cap (c_a), veh/h	0	2582	0	2066	0	2582	0	2066
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.0	0.0	21.3	0.0	24.2	0.0	20.8
Incr Delay (d2), s/veh	0.0	0.2	0.0	1.0	0.0	1.3	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.2	0.0	22.3	0.0	25.5	0.0	21.1
1st-Term Q (Q1), veh/ln	0.0	1.7	0.0	3.3	0.0	2.6	0.0	1.5

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 3.7 - S 3.0 with CM 6

2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.8	0.0	3.5	0.0	2.7	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.32	0.00	0.23	0.00	0.17
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	114	0	119	0	161	0	322
Grp Sat Flow (s), veh/h/ln	0	1458	0	1460	0	1457	0	1460
Q Serve Time (g_s), s	0.0	3.2	0.0	3.6	0.0	5.9	0.0	9.9
Cycle Q Clear Time (g_c), s	0.0	3.2	0.0	3.6	0.0	5.9	0.0	9.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	1459.9	0.0	1459.9	0.0	1459.9	0.0	1459.9
Prot RT Eff Green (g_R), s	0.0	6.4	0.0	6.4	0.0	4.5	0.0	14.4
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	596	0	515	0	367	0	657
V/C Ratio (X)	0.00	0.19	0.00	0.23	0.00	0.44	0.00	0.49
Avail Cap (c_a), veh/h	0	1298	0	1069	0	1254	0	1254
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.0	0.0	14.5	0.0	19.9	0.0	12.3
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.2	0.0	0.8	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.2	0.0	14.7	0.0	20.8	0.0	12.9
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	1.1	0.0	1.9	0.0	2.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.0	0.0	1.2	0.0	2.0	0.0	3.0
%ile Storage Ratio (RQ%)	0.00	0.17	0.00	0.20	0.00	0.34	0.00	0.51
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	18.9
HCM 7th LOS	B

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 4.0 - 2024 PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	100	51	78	181	119	91	261	48	113	247	149
Future Volume (veh/h)	80	100	51	78	181	119	91	261	48	113	247	149
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	100	112	84	159	229	180	117	343	56	153	343	207
Peak Hour Factor	0.80	0.89	0.61	0.49	0.79	0.66	0.78	0.76	0.86	0.74	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	292	245	184	485	269	211	177	600	97	214	465	275
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.27	0.27	0.10	0.30	0.30	0.11	0.21	0.21	0.13	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.0	0.0	18.8	13.5	0.0	23.8	29.6	22.3	22.4	29.1	23.6	24.3
Ln Grp LOS	B		B	B		C	C	C	C	C	C	C
Approach Vol, veh/h	296			568			516			703		
Approach Delay, s/veh	17.9			20.9			24.0			25.1		
Approach LOS	B			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	9.9	18.9	9.5	20.9	11.2	17.6	7.5	22.8				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	4.0	4.1	4.0	4.0	4.0	4.0	4.1				
Max Q Clear (g_c+I1), s	6.1	11.8	6.0	8.0	7.3	8.5	4.5	16.3				
Green Ext Time (g_e), s	0.3	1.9	0.5	0.6	0.4	1.3	0.3	1.5				
Prob of Phs Call (p_c)	1.00	1.00	0.93	1.00	1.00	1.00	0.81	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4		6		8				
Mvmt Sat Flow, veh/h	1973			914		2820		892				
Right-Turn Movement Data												
Assigned Mvmt	12			14		16		18				
Mvmt Sat Flow, veh/h	1167			685		456		701				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 4.0 - 2024 PM Peak

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	117	0	159	0	153	0	100	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	4.1	0.0	4.0	0.0	5.3	0.0	2.5	0.0
Cycle Q Clear Time (g_c), s	4.1	0.0	4.0	0.0	5.3	0.0	2.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1187	0	0	0	975	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	16.3	0.0	0.0	0.0	15.9	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	9.8	0.0	0.0	0.0	3.5	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	1.0	0.0	0.0	0.0	1.4	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	177	0	485	0	214	0	292	0
V/C Ratio (X)	0.66	0.00	0.33	0.00	0.71	0.00	0.34	0.00
Avail Cap (c_a), veh/h	832	0	1151	0	832	0	1012	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	25.4	0.0	13.1	0.0	24.7	0.0	15.3	0.0
Incr Delay (d2), s/veh	4.2	0.0	0.4	0.0	4.4	0.0	0.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	29.6	0.0	13.5	0.0	29.1	0.0	16.0	0.0
1st-Term Q (Q1), veh/ln	1.5	0.0	1.3	0.0	1.9	0.0	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.1	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.7	0.0	1.4	0.0	2.1	0.0	0.9	0.0
%ile Storage Ratio (RQ%)	0.33	0.00	0.05	0.00	0.22	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	283	0	0	0	198	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	9.5	0.0	0.0	0.0	6.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.5	0.0	0.0	0.0	6.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	386	0	0	0	348	0	0
V/C Ratio (X)	0.00	0.73	0.00	0.00	0.00	0.57	0.00	0.00
Avail Cap (c_a), veh/h	0	1383	0	0	0	1383	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	20.9	0.0	0.0	0.0	20.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.7	0.0	0.0	0.0	1.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.6	0.0	0.0	0.0	22.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	0.0	0.0	2.3	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 4.0 - 2024 PM Peak

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.5	0.0	0.0	0.0	2.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.27	0.00	0.00	0.00	0.19	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	267	0	196	0	201	0	409
Grp Sat Flow (s), veh/h/ln	0	1504	0	1599	0	1639	0	1593
Q Serve Time (g_s), s	0.0	9.8	0.0	6.0	0.0	6.5	0.0	14.3
Cycle Q Clear Time (g_c), s	0.0	9.8	0.0	6.0	0.0	6.5	0.0	14.3
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.78	0.00	0.43	0.00	0.28	0.00	0.44
Lane Grp Cap (c), veh/h	0	354	0	429	0	349	0	480
V/C Ratio (X)	0.00	0.75	0.00	0.46	0.00	0.58	0.00	0.85
Avail Cap (c_a), veh/h	0	1271	0	1081	0	1385	0	1077
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.0	0.0	18.0	0.0	20.9	0.0	19.4
Incr Delay (d2), s/veh	0.0	3.2	0.0	0.8	0.0	1.5	0.0	4.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.3	0.0	18.8	0.0	22.4	0.0	23.8
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	2.0	0.0	2.3	0.0	4.9
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.1	0.0	0.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.4	0.0	2.1	0.0	2.5	0.0	5.4
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.09	0.00	0.20	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	22.6
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 5.0 - 2034 PM Peak

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	80	100	51	78	181	119	91	261	48	113	247	149
Future Volume (veh/h)	80	100	51	78	181	119	91	261	48	113	247	149
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	110	124	92	175	252	198	128	378	61	168	377	228
Peak Hour Factor	0.80	0.89	0.61	0.49	0.79	0.66	0.78	0.76	0.86	0.74	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	272	264	196	483	287	225	181	626	100	222	485	289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.29	0.29	0.10	0.32	0.32	0.11	0.22	0.22	0.14	0.25	0.25
Unsig. Movement Delay												
Ln Grp Delay, s/veh	18.0	0.0	20.6	14.5	0.0	26.8	34.1	25.2	25.3	33.4	26.9	27.7
Ln Grp LOS	B		C	B		C	C	C	C	C	C	C
Approach Vol, veh/h	326			625			567			773		
Approach Delay, s/veh	19.7			23.3			27.3			28.6		
Approach LOS	B			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	11.0	21.7	10.6	24.4	12.6	20.0	8.2	26.8				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	4.0	4.1	4.0	4.0	4.0	4.0	4.1				
Max Q Clear (g_c+I1), s	7.1	14.4	6.8	9.5	8.7	10.2	5.1	20.1				
Green Ext Time (g_e), s	0.4	2.2	0.5	0.7	0.5	1.5	0.3	1.7				
Prob of Phs Call (p_c)	1.00	1.00	0.96	1.00	1.00	1.00	0.87	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1641	1641		1641		1641						
Through Movement Data												
Assigned Mvmt	2			4		6		8				
Mvmt Sat Flow, veh/h	1963			919		2823		891				
Right-Turn Movement Data												
Assigned Mvmt	12			14		16		18				
Mvmt Sat Flow, veh/h	1169			681		452		700				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 5.0 - 2034 PM Peak

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	128	0	175	0	168	0	110	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	5.1	0.0	4.8	0.0	6.7	0.0	3.1	0.0
Cycle Q Clear Time (g_c), s	5.1	0.0	4.8	0.0	6.7	0.0	3.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1165	0	0	0	939	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	20.3	0.0	0.0	0.0	19.4	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	11.9	0.0	0.0	0.0	3.7	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	1.5	0.0	0.0	0.0	2.1	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	181	0	483	0	222	0	272	0
V/C Ratio (X)	0.71	0.00	0.36	0.00	0.76	0.00	0.40	0.00
Avail Cap (c_a), veh/h	727	0	1039	0	727	0	885	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	29.1	0.0	14.1	0.0	28.2	0.0	17.1	0.0
Incr Delay (d2), s/veh	5.0	0.0	0.5	0.0	5.2	0.0	1.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	34.1	0.0	14.5	0.0	33.4	0.0	18.0	0.0
1st-Term Q (Q1), veh/ln	1.9	0.0	1.7	0.0	2.5	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.1	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.2	0.0	1.7	0.0	2.8	0.0	1.1	0.0
%ile Storage Ratio (RQ%)	0.43	0.00	0.06	0.00	0.28	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	313	0	0	0	218	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	12.1	0.0	0.0	0.0	8.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	12.1	0.0	0.0	0.0	8.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	404	0	0	0	363	0	0
V/C Ratio (X)	0.00	0.78	0.00	0.00	0.00	0.60	0.00	0.00
Avail Cap (c_a), veh/h	0	1209	0	0	0	1209	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	23.7	0.0	0.0	0.0	23.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.2	0.0	0.0	0.0	1.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	26.9	0.0	0.0	0.0	25.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	4.3	0.0	0.0	0.0	2.9	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 5.0 - 2034 PM Peak

2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.6	0.0	0.0	0.0	3.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.36	0.00	0.00	0.00	0.25	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	292	0	216	0	221	0	450
Grp Sat Flow (s), veh/h/ln	0	1495	0	1600	0	1638	0	1591
Q Serve Time (g_s), s	0.0	12.4	0.0	7.5	0.0	8.2	0.0	18.1
Cycle Q Clear Time (g_c), s	0.0	12.4	0.0	7.5	0.0	8.2	0.0	18.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.78	0.00	0.43	0.00	0.28	0.00	0.44
Lane Grp Cap (c), veh/h	0	369	0	460	0	364	0	512
V/C Ratio (X)	0.00	0.79	0.00	0.47	0.00	0.61	0.00	0.88
Avail Cap (c_a), veh/h	0	1105	0	946	0	1211	0	940
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.8	0.0	19.9	0.0	23.7	0.0	21.7
Incr Delay (d2), s/veh	0.0	3.8	0.0	0.7	0.0	1.6	0.0	5.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.7	0.0	20.6	0.0	25.3	0.0	26.8
1st-Term Q (Q1), veh/ln	0.0	4.0	0.0	2.6	0.0	3.0	0.0	6.3
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.2	0.0	0.7
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.4	0.0	2.7	0.0	3.2	0.0	7.0
%ile Storage Ratio (RQ%)	0.00	0.34	0.00	0.11	0.00	0.25	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	25.6
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 6.0 - 2034 PM Peak + MS

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	135	56	102	237	156	100	287	65	152	272	164
Future Volume (veh/h)	88	135	56	102	237	156	100	287	65	152	272	164
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	110	152	92	208	300	236	128	378	76	205	378	228
Peak Hour Factor	0.80	0.89	0.61	0.49	0.79	0.66	0.78	0.76	0.86	0.74	0.72	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	245	327	198	508	329	259	174	518	103	253	469	279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.32	0.32	0.11	0.37	0.37	0.11	0.19	0.19	0.15	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	20.1	0.0	21.5	14.4	0.0	34.4	39.6	32.7	33.0	37.9	31.7	32.6
Ln Grp LOS	C		C	B		C	D	C	C	D	C	C
Approach Vol, veh/h	354			744			582			811		
Approach Delay, s/veh	21.0			28.8			34.3			33.6		
Approach LOS	C			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	11.7	23.5	12.1	30.2	15.4	19.8	8.7	33.7				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	4.0	4.1	4.0	4.0	4.0	4.0	4.1				
Max Q Clear (g_c+I1), s	7.9	16.3	8.1	11.3	11.4	12.3	5.4	26.8				
Green Ext Time (g_e), s	0.3	2.2	0.6	0.8	0.6	1.5	0.3	1.8				
Prob of Phs Call (p_c)	1.00	1.00	0.99	1.00	1.00	1.00	0.91	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		1965		1005		2717		891				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1167		608		541		701				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 6.0 - 2034 PM Peak + MS

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	128	0	208	0	205	0	110	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	5.9	0.0	6.1	0.0	9.4	0.0	3.4	0.0
Cycle Q Clear Time (g_c), s	5.9	0.0	6.1	0.0	9.4	0.0	3.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1136	0	0	0	869	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	27.2	0.0	0.0	0.0	25.2	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	15.9	0.0	0.0	0.0	3.8	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	2.5	0.0	0.0	0.0	3.1	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	174	0	508	0	253	0	245	0
V/C Ratio (X)	0.74	0.00	0.41	0.00	0.81	0.00	0.45	0.00
Avail Cap (c_a), veh/h	635	0	960	0	635	0	771	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	33.6	0.0	13.9	0.0	31.7	0.0	18.8	0.0
Incr Delay (d2), s/veh	5.9	0.0	0.5	0.0	6.2	0.0	1.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.6	0.0	14.4	0.0	37.9	0.0	20.1	0.0
1st-Term Q (Q1), veh/ln	2.3	0.0	2.1	0.0	3.5	0.0	1.2	0.0
2nd-Term Q (Q2), veh/ln	0.3	0.0	0.1	0.0	0.4	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.6	0.0	2.2	0.0	4.0	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.50	0.00	0.08	0.00	0.40	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	314	0	0	0	226	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	14.0	0.0	0.0	0.0	10.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.0	0.0	0.0	0.0	10.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	391	0	0	0	312	0	0
V/C Ratio (X)	0.00	0.80	0.00	0.00	0.00	0.72	0.00	0.00
Avail Cap (c_a), veh/h	0	1055	0	0	0	1055	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	27.8	0.0	0.0	0.0	29.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.9	0.0	0.0	0.0	3.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	31.7	0.0	0.0	0.0	32.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.2	0.0	0.0	0.0	3.8	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 6.0 - 2034 PM Peak + MS

2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.6	0.0	0.0	0.0	4.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.43	0.00	0.00	0.00	0.33	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	292	0	244	0	228	0	536
Grp Sat Flow (s), veh/h/ln	0	1495	0	1613	0	1621	0	1591
Q Serve Time (g_s), s	0.0	14.3	0.0	9.3	0.0	10.3	0.0	24.8
Cycle Q Clear Time (g_c), s	0.0	14.3	0.0	9.3	0.0	10.3	0.0	24.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.78	0.00	0.38	0.00	0.33	0.00	0.44
Lane Grp Cap (c), veh/h	0	357	0	524	0	309	0	588
V/C Ratio (X)	0.00	0.82	0.00	0.47	0.00	0.74	0.00	0.91
Avail Cap (c_a), veh/h	0	964	0	832	0	1045	0	821
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.9	0.0	20.8	0.0	29.5	0.0	23.2
Incr Delay (d2), s/veh	0.0	4.7	0.0	0.6	0.0	3.4	0.0	11.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.6	0.0	21.5	0.0	33.0	0.0	34.4
1st-Term Q (Q1), veh/ln	0.0	4.8	0.0	3.3	0.0	3.9	0.0	8.8
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.3	0.0	1.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.3	0.0	3.4	0.0	4.1	0.0	10.6
%ile Storage Ratio (RQ%)	0.00	0.41	0.00	0.14	0.00	0.33	0.00	0.36
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	30.5
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 7.0 - 2024 BV before HSFS

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	99	75	39	120	57	78	176	32	61	200	121
Future Volume (veh/h)	102	99	75	39	120	57	78	176	32	61	200	121
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	102	124	75	44	148	84	80	191	48	76	274	151
Peak Hour Factor	1.00	0.80	1.00	0.89	0.81	0.68	0.98	0.92	0.67	0.80	0.73	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	391	258	156	410	231	131	175	586	144	176	464	248
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.26	0.26	0.05	0.22	0.22	0.11	0.23	0.23	0.11	0.23	0.23
Unsig. Movement Delay												
Ln Grp Delay, s/veh	12.9	0.0	15.6	13.0	0.0	18.3	21.4	15.6	15.7	21.2	17.6	18.0
Ln Grp LOS	B		B	B		B	C	B	B	C	B	B
Approach Vol, veh/h	301			276			319			501		
Approach Delay, s/veh	14.7			17.4			17.1			18.3		
Approach LOS	B			B			B			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	8.5	15.5	5.7	17.0	8.5	15.5	7.2	15.5				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	4.0	4.1	4.0	4.0	4.0	4.0	4.1				
Max Q Clear (g_c+I1), s	4.1	7.8	2.9	6.9	4.0	4.9	4.2	8.1				
Green Ext Time (g_e), s	0.2	1.5	0.1	0.6	0.2	0.8	0.3	0.8				
Prob of Phs Call (p_c)	0.99	1.00	0.43	1.00	1.00	1.00	0.73	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2055			1003			2602			1029		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1098			607			638			584		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 7.0 - 2024 BV before HSFS

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	80	0	44	0	76	0	102	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	2.1	0.0	0.9	0.0	2.0	0.0	2.2	0.0
Cycle Q Clear Time (g_c), s	2.1	0.0	0.9	0.0	2.0	0.0	2.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1178	0	0	0	1144	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	10.5	0.0	0.0	0.0	10.5	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	7.1	0.0	0.0	0.0	4.4	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.1	0.0	0.0	0.0	0.6	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	175	0	410	0	176	0	391	0
V/C Ratio (X)	0.46	0.00	0.11	0.00	0.43	0.00	0.26	0.00
Avail Cap (c_a), veh/h	1055	0	1388	0	1055	0	1317	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	19.6	0.0	12.9	0.0	19.5	0.0	12.5	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.1	0.0	1.7	0.0	0.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	21.4	0.0	13.0	0.0	21.2	0.0	12.9	0.0
1st-Term Q (Q1), veh/ln	0.7	0.0	0.3	0.0	0.7	0.0	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.8	0.0	0.3	0.0	0.8	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.16	0.00	0.01	0.00	0.08	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	216	0	0	0	118	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	5.5	0.0	0.0	0.0	2.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.5	0.0	0.0	0.0	2.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	370	0	0	0	369	0	0
V/C Ratio (X)	0.00	0.59	0.00	0.00	0.00	0.32	0.00	0.00
Avail Cap (c_a), veh/h	0	1753	0	0	0	1753	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.1	0.0	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	0.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.6	0.0	0.0	0.0	15.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.7	0.0	0.0	0.0	0.9	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 7.0 - 2024 BV before HSFS

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	0.0	0.0	1.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.00	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	209	0	199	0	121	0	232
Grp Sat Flow (s), veh/h/ln	0	1516	0	1609	0	1603	0	1613
Q Serve Time (g_s), s	0.0	5.8	0.0	4.9	0.0	2.9	0.0	6.1
Cycle Q Clear Time (g_c), s	0.0	5.8	0.0	4.9	0.0	2.9	0.0	6.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.72	0.00	0.38	0.00	0.40	0.00	0.36
Lane Grp Cap (c), veh/h	0	342	0	413	0	361	0	363
V/C Ratio (X)	0.00	0.61	0.00	0.48	0.00	0.33	0.00	0.64
Avail Cap (c_a), veh/h	0	1625	0	1379	0	1717	0	1382
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.2	0.0	14.7	0.0	15.1	0.0	16.4
Incr Delay (d2), s/veh	0.0	1.8	0.0	0.9	0.0	0.5	0.0	1.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.0	0.0	15.6	0.0	15.7	0.0	18.3
1st-Term Q (Q1), veh/ln	0.0	1.7	0.0	1.5	0.0	0.9	0.0	2.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.8	0.0	1.6	0.0	1.0	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.07	0.00	0.08	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	17.1
HCM 7th LOS	B

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 8.0 - 2034 BV before HSFS

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	99	75	39	120	57	78	176	32	61	200	121
Future Volume (veh/h)	102	99	75	39	120	57	78	176	32	61	200	121
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	112	136	82	48	163	92	88	210	53	84	301	166
Peak Hour Factor	1.00	0.80	1.00	0.89	0.81	0.68	0.98	0.92	0.67	0.80	0.73	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	376	257	155	397	231	130	174	585	144	175	462	248
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.26	0.26	0.05	0.22	0.22	0.11	0.23	0.23	0.11	0.23	0.23
Unsig. Movement Delay												
Ln Grp Delay, s/veh	13.1	0.0	16.1	13.1	0.0	19.3	22.0	15.9	16.0	21.8	18.4	18.8
Ln Grp LOS	B		B	B		B	C	B	B	C	B	B
Approach Vol, veh/h	330			303			351			551		
Approach Delay, s/veh	15.1			18.3			17.5			19.1		
Approach LOS	B			B			B			B		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	8.5	15.6	5.8	17.0	8.5	15.6	7.3	15.5				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	4.0	4.1	4.0	4.0	4.0	4.0	4.1				
Max Q Clear (g_c+I1), s	4.4	8.4	3.0	7.5	4.3	5.3	4.4	8.8				
Green Ext Time (g_e), s	0.2	1.6	0.1	0.7	0.2	0.9	0.3	0.9				
Prob of Phs Call (p_c)	1.00	1.00	0.46	1.00	1.00	1.00	0.77	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2051			1004			2598			1031		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1102			605			640			582		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 8.0 - 2034 BV before HSFS

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	88	0	48	0	84	0	112	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	2.4	0.0	1.0	0.0	2.3	0.0	2.4	0.0
Cycle Q Clear Time (g_c), s	2.4	0.0	1.0	0.0	2.3	0.0	2.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1159	0	0	0	1121	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	10.5	0.0	0.0	0.0	10.5	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	6.6	0.0	0.0	0.0	3.7	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.2	0.0	0.0	0.0	0.8	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	174	0	397	0	175	0	376	0
V/C Ratio (X)	0.50	0.00	0.12	0.00	0.48	0.00	0.30	0.00
Avail Cap (c_a), veh/h	1050	0	1365	0	1050	0	1291	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	19.8	0.0	12.9	0.0	19.7	0.0	12.7	0.0
Incr Delay (d2), s/veh	2.3	0.0	0.1	0.0	2.0	0.0	0.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	22.0	0.0	13.1	0.0	21.8	0.0	13.1	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	0.3	0.0	0.8	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.9	0.0	0.3	0.0	0.9	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.18	0.00	0.01	0.00	0.09	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	239	0	0	0	130	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	6.2	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.2	0.0	0.0	0.0	3.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	369	0	0	0	368	0	0
V/C Ratio (X)	0.00	0.65	0.00	0.00	0.00	0.35	0.00	0.00
Avail Cap (c_a), veh/h	0	1745	0	0	0	1745	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.5	0.0	0.0	0.0	15.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.4	0.0	0.0	0.0	15.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	0.0	0.0	1.0	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 8.0 - 2034 BV before HSFS

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.2	0.0	0.0	0.0	1.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.17	0.00	0.00	0.00	0.09	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	218	0	133	0	255
Grp Sat Flow (s), veh/h/ln	0	1516	0	1610	0	1602	0	1613
Q Serve Time (g_s), s	0.0	6.4	0.0	5.5	0.0	3.3	0.0	6.8
Cycle Q Clear Time (g_c), s	0.0	6.4	0.0	5.5	0.0	3.3	0.0	6.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.73	0.00	0.38	0.00	0.40	0.00	0.36
Lane Grp Cap (c), veh/h	0	342	0	412	0	361	0	361
V/C Ratio (X)	0.00	0.67	0.00	0.53	0.00	0.37	0.00	0.71
Avail Cap (c_a), veh/h	0	1616	0	1373	0	1709	0	1376
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.6	0.0	15.0	0.0	15.4	0.0	16.8
Incr Delay (d2), s/veh	0.0	2.3	0.0	1.1	0.0	0.6	0.0	2.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.8	0.0	16.1	0.0	16.0	0.0	19.3
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	1.7	0.0	1.0	0.0	2.3
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.1	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	1.8	0.0	1.1	0.0	2.5
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.07	0.00	0.09	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	17.7
HCM 7th LOS	B

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 9.0 - 2024 BV + HSFS (before MCE)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	358	75	39	120	57	78	176	134	306	200	121
Future Volume (veh/h)	102	358	75	39	120	57	78	176	134	306	200	121
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	102	448	75	44	148	84	80	191	200	382	274	151
Peak Hour Factor	1.00	0.80	1.00	0.89	0.81	0.68	0.98	0.92	0.67	0.80	0.73	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	411	487	82	177	324	184	119	286	253	423	740	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.34	0.34	0.04	0.32	0.32	0.07	0.17	0.17	0.26	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	19.0	0.0	41.7	23.4	0.0	24.9	46.6	36.9	40.6	47.0	21.3	21.5
Ln Grp LOS	B		D	C		C	D	D	D	D	C	C
Approach Vol, veh/h	625			276			471			807		
Approach Delay, s/veh	38.0			24.7			40.1			33.5		
Approach LOS	D			C			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	9.9	36.9	6.8	35.0	26.3	20.5	8.9	32.9				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	4.0	4.1	3.9	4.0	4.1	4.0	4.1				
Max Q Clear (g_c+I1), s	6.2	11.0	3.6	28.5	22.0	13.7	5.6	12.2				
Green Ext Time (g_e), s	0.2	1.4	0.1	1.5	0.9	1.4	0.3	0.8				
Prob of Phs Call (p_c)	1.00	1.00	0.66	1.00	1.00	1.00	0.92	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.05	0.13	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		2056		1437		1637		1030				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1100		241		1447		584				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 9.0 - 2024 BV + HSFS (before MCE)

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	80	0	44	0	382	0	102	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	4.2	0.0	1.6	0.0	20.0	0.0	3.6	0.0
Cycle Q Clear Time (g_c), s	4.2	0.0	1.6	0.0	20.0	0.0	3.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	879	0	0	0	1147	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	27.9	0.0	0.0	0.0	28.5	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	3.5	0.0	0.0	0.0	17.7	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	1.3	0.0	0.0	0.0	1.1	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	119	0	177	0	423	0	411	0
V/C Ratio (X)	0.67	0.00	0.25	0.00	0.90	0.00	0.25	0.00
Avail Cap (c_a), veh/h	555	0	671	0	555	0	866	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	40.1	0.0	22.7	0.0	31.9	0.0	18.7	0.0
Incr Delay (d2), s/veh	6.5	0.0	0.7	0.0	15.2	0.0	0.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	46.6	0.0	23.4	0.0	47.0	0.0	19.0	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	0.6	0.0	7.6	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	1.8	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.9	0.0	0.6	0.0	9.3	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.37	0.00	0.02	0.00	0.95	0.00	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	216	0	0	0	191	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	8.6	0.0	0.0	0.0	9.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.6	0.0	0.0	0.0	9.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	589	0	0	0	286	0	0
V/C Ratio (X)	0.00	0.37	0.00	0.00	0.00	0.67	0.00	0.00
Avail Cap (c_a), veh/h	0	923	0	0	0	923	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	20.9	0.0	0.0	0.0	34.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	2.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.3	0.0	0.0	0.0	36.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	0.0	0.0	3.8	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 9.0 - 2024 BV + HSFS (before MCE)

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.2	0.0	0.0	0.0	4.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.25	0.00	0.00	0.00	0.32	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	209	0	523	0	200	0	232
Grp Sat Flow (s), veh/h/ln	0	1519	0	1678	0	1447	0	1614
Q Serve Time (g_s), s	0.0	9.0	0.0	26.5	0.0	11.7	0.0	10.2
Cycle Q Clear Time (g_c), s	0.0	9.0	0.0	26.5	0.0	11.7	0.0	10.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.72	0.00	0.14	0.00	1.00	0.00	0.36
Lane Grp Cap (c), veh/h	0	547	0	569	0	253	0	509
V/C Ratio (X)	0.00	0.38	0.00	0.92	0.00	0.79	0.00	0.46
Avail Cap (c_a), veh/h	0	857	0	757	0	816	0	728
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.1	0.0	28.2	0.0	35.0	0.0	24.3
Incr Delay (d2), s/veh	0.0	0.4	0.0	13.6	0.0	5.5	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.5	0.0	41.7	0.0	40.6	0.0	24.9
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	10.0	0.0	4.0	0.0	3.8
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	2.1	0.0	0.4	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.1	0.0	12.2	0.0	4.4	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	0.24	0.00	0.50	0.00	0.36	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	35.1
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 10.0 - 2024 BV + HSFS (after MCE)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	102	99	75	105	279	196	78	176	32	61	200	121
Future Volume (veh/h)	102	99	75	105	279	196	78	176	32	61	200	121
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	102	124	75	118	344	288	80	191	48	76	274	151
Peak Hour Factor	1.00	0.80	1.00	0.89	0.81	0.68	0.98	0.92	0.67	0.80	0.73	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	250	431	261	621	375	314	129	491	120	124	382	204
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.43	0.43	0.07	0.43	0.43	0.08	0.19	0.19	0.08	0.19	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	16.4	0.0	13.3	10.1	0.0	30.6	36.3	25.8	26.0	36.4	30.0	30.9
Ln Grp LOS	B		B	B		C	D	C	C	D	C	C
Approach Vol, veh/h	301			750			319			501		
Approach Delay, s/veh	14.4			27.4			28.5			31.3		
Approach LOS	B			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	9.0	18.1	8.1	35.3	8.8	18.3	7.8	35.5				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	4.0	4.1	4.0	4.0	4.0	4.0	4.1				
Max Q Clear (g_c+I1), s	5.3	11.2	4.8	7.7	5.2	6.7	4.4	28.4				
Green Ext Time (g_e), s	0.2	1.5	0.3	0.6	0.2	0.8	0.3	2.2				
Prob of Phs Call (p_c)	1.00	1.00	0.90	1.00	1.00	1.00	0.86	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		2054		1004		2601		865				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1097		607		637		724				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 10.0 - 2024 BV + HSFS (after MCE)

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	80	0	118	0	76	0	102	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	3.3	0.0	2.8	0.0	3.2	0.0	2.4	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	2.8	0.0	3.2	0.0	2.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1181	0	0	0	795	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	30.3	0.0	0.0	0.0	30.3	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	24.6	0.0	0.0	0.0	4.2	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.6	0.0	0.0	0.0	3.8	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	129	0	621	0	124	0	250	0
V/C Ratio (X)	0.62	0.00	0.19	0.00	0.61	0.00	0.41	0.00
Avail Cap (c_a), veh/h	698	0	1212	0	698	0	847	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	31.5	0.0	10.0	0.0	31.6	0.0	15.3	0.0
Incr Delay (d2), s/veh	4.8	0.0	0.1	0.0	4.8	0.0	1.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	36.3	0.0	10.1	0.0	36.4	0.0	16.4	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	0.9	0.0	1.2	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.4	0.0	0.9	0.0	1.4	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.28	0.00	0.03	0.00	0.14	0.00	0.03	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	217	0	0	0	118	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	8.8	0.0	0.0	0.0	4.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.8	0.0	0.0	0.0	4.5	0.0	0.0
Lane Grp Cap (c), veh/h	0	305	0	0	0	309	0	0
V/C Ratio (X)	0.00	0.71	0.00	0.00	0.00	0.38	0.00	0.00
Avail Cap (c_a), veh/h	0	1160	0	0	0	1160	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	26.9	0.0	0.0	0.0	25.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.1	0.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.0	0.0	0.0	0.0	25.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	0.0	0.0	1.7	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 10.0 - 2024 BV + HSFS (after MCE)

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.5	0.0	0.0	0.0	1.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.27	0.00	0.00	0.00	0.14	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	208	0	199	0	121	0	632
Grp Sat Flow (s), veh/h/ln	0	1515	0	1611	0	1602	0	1589
Q Serve Time (g_s), s	0.0	9.2	0.0	5.7	0.0	4.7	0.0	26.4
Cycle Q Clear Time (g_c), s	0.0	9.2	0.0	5.7	0.0	4.7	0.0	26.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.72	0.00	0.38	0.00	0.40	0.00	0.46
Lane Grp Cap (c), veh/h	0	282	0	691	0	302	0	688
V/C Ratio (X)	0.00	0.74	0.00	0.29	0.00	0.40	0.00	0.92
Avail Cap (c_a), veh/h	0	1074	0	914	0	1136	0	901
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.1	0.0	13.1	0.0	25.1	0.0	18.8
Incr Delay (d2), s/veh	0.0	3.8	0.0	0.2	0.0	0.9	0.0	11.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.9	0.0	13.3	0.0	26.0	0.0	30.6
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	1.8	0.0	1.7	0.0	8.8
2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.1	0.0	2.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.4	0.0	1.9	0.0	1.8	0.0	11.1
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.08	0.00	0.14	0.00	0.38
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	26.5
HCM 7th LOS	C

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 11.0 - 2034 BV + HSFS (before MCE)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	368	83	43	132	63	86	194	137	312	220	133
Future Volume (veh/h)	112	368	83	43	132	63	86	194	137	312	220	133
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	112	460	83	48	163	93	88	211	204	390	301	166
Peak Hour Factor	1.00	0.80	1.00	0.89	0.81	0.68	0.98	0.92	0.67	0.80	0.73	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	398	493	89	167	329	188	124	289	254	426	739	397
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.35	0.35	0.04	0.32	0.32	0.08	0.18	0.18	0.26	0.36	0.36
Unsig. Movement Delay												
Ln Grp Delay, s/veh	20.0	0.0	47.5	25.3	0.0	26.9	50.3	40.7	43.6	53.3	23.3	23.5
Ln Grp LOS	C		D	C		C	D	D	D	D	C	C
Approach Vol, veh/h	655			304			503			857		
Approach Delay, s/veh	42.8			26.6			43.5			37.0		
Approach LOS	D			C			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	10.7	39.4	7.1	38.2	28.3	21.9	9.7	35.6				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	4.0	4.1	3.9	4.0	4.1	4.0	4.1				
Max Q Clear (g_c+I1), s	7.0	12.8	3.8	31.9	24.0	15.0	6.2	14.2				
Green Ext Time (g_e), s	0.2	1.6	0.1	1.3	0.7	1.5	0.3	0.9				
Prob of Phs Call (p_c)	1.00	1.00	0.72	1.00	1.00	1.00	0.95	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.20	0.38	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt	2			4			6			8		
Mvmt Sat Flow, veh/h	2050			1418			1637			1026		
Right-Turn Movement Data												
Assigned Mvmt	12			14			16			18		
Mvmt Sat Flow, veh/h	1101			256			1435			585		
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 11.0 - 2034 BV + HSFS (before MCE)

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	88	0	48	0	390	0	112	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	5.0	0.0	1.8	0.0	22.0	0.0	4.2	0.0
Cycle Q Clear Time (g_c), s	5.0	0.0	1.8	0.0	22.0	0.0	4.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	863	0	0	0	1122	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	30.6	0.0	0.0	0.0	31.7	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	3.3	0.0	0.0	0.0	18.4	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	1.6	0.0	0.0	0.0	1.5	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	124	0	167	0	426	0	398	0
V/C Ratio (X)	0.71	0.00	0.29	0.00	0.92	0.00	0.28	0.00
Avail Cap (c_a), veh/h	516	0	621	0	516	0	807	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	43.1	0.0	24.4	0.0	34.3	0.0	19.7	0.0
Incr Delay (d2), s/veh	7.2	0.0	0.9	0.0	19.0	0.0	0.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	50.3	0.0	25.3	0.0	53.3	0.0	20.0	0.0
1st-Term Q (Q1), veh/ln	2.0	0.0	0.7	0.0	8.4	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	2.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.3	0.0	0.7	0.0	10.7	0.0	1.6	0.0
%ile Storage Ratio (RQ%)	0.44	0.00	0.03	0.00	1.09	0.00	0.07	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	239	0	0	0	211	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	10.4	0.0	0.0	0.0	11.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.4	0.0	0.0	0.0	11.6	0.0	0.0
Lane Grp Cap (c), veh/h	0	590	0	0	0	289	0	0
V/C Ratio (X)	0.00	0.40	0.00	0.00	0.00	0.73	0.00	0.00
Avail Cap (c_a), veh/h	0	857	0	0	0	857	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	22.8	0.0	0.0	0.0	37.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	3.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.3	0.0	0.0	0.0	40.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	0.0	0.0	4.6	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 11.0 - 2034 BV + HSFS (before MCE)

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.9	0.0	0.0	0.0	4.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.30	0.00	0.00	0.00	0.39	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	543	0	204	0	256
Grp Sat Flow (s), veh/h/ln	0	1514	0	1674	0	1435	0	1611
Q Serve Time (g_s), s	0.0	10.8	0.0	29.9	0.0	13.0	0.0	12.2
Cycle Q Clear Time (g_c), s	0.0	10.8	0.0	29.9	0.0	13.0	0.0	12.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.73	0.00	0.15	0.00	1.00	0.00	0.36
Lane Grp Cap (c), veh/h	0	546	0	582	0	254	0	517
V/C Ratio (X)	0.00	0.42	0.00	0.93	0.00	0.80	0.00	0.50
Avail Cap (c_a), veh/h	0	793	0	702	0	752	0	675
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.0	0.0	30.0	0.0	37.7	0.0	26.2
Incr Delay (d2), s/veh	0.0	0.5	0.0	17.5	0.0	5.9	0.0	0.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	23.5	0.0	47.5	0.0	43.6	0.0	26.9
1st-Term Q (Q1), veh/ln	0.0	3.7	0.0	11.4	0.0	4.5	0.0	4.7
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	2.8	0.0	0.4	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	3.8	0.0	14.2	0.0	4.9	0.0	4.8
%ile Storage Ratio (RQ%)	0.00	0.29	0.00	0.59	0.00	0.40	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	38.7
HCM 7th LOS	D

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 12.0 - 2034 BV + HSFS (after MCE)

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	109	83	109	291	202	86	194	35	67	220	133
Future Volume (veh/h)	112	109	83	109	291	202	86	194	35	67	220	133
Number	7	4	14	3	8	18	1	6	16	5	2	12
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723	1723
Adj Flow Rate, veh/h	112	136	83	122	359	297	88	211	52	84	301	166
Peak Hour Factor	1.00	0.80	1.00	0.89	0.81	0.68	0.98	0.92	0.67	0.80	0.73	0.80
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	232	437	267	606	385	318	133	515	124	129	399	214
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.44	0.44	0.07	0.44	0.44	0.08	0.20	0.20	0.08	0.19	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	18.6	0.0	14.3	10.7	0.0	36.1	39.7	27.7	27.8	39.8	32.7	33.6
Ln Grp LOS	B		B	B		D	D	C	C	D	C	C
Approach Vol, veh/h	331			778			351			551		
Approach Delay, s/veh	15.8			32.1			30.8			34.2		
Approach LOS	B			C			C			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	4.0	1.1	4.0	2.0	4.0	1.1	4.0				
Phs Duration (G+Y+Rc), s	9.7	19.9	8.5	38.5	9.5	20.1	8.2	38.9				
Change Period (Y+Rc), s	3.5	5.0	3.5	5.0	3.5	5.0	3.5	5.0				
Max Green (Gmax), s	30.0	50.0	30.0	40.0	30.0	50.0	30.0	40.0				
Max Allow Headway (MAH), s	4.0	4.0	4.1	4.0	4.0	4.0	4.0	4.1				
Max Q Clear (g_c+I1), s	6.0	13.0	5.1	8.8	5.8	7.6	4.8	32.1				
Green Ext Time (g_e), s	0.2	1.6	0.4	0.7	0.2	0.9	0.3	1.9				
Prob of Phs Call (p_c)	1.00	1.00	0.93	1.00	1.00	1.00	0.91	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34				
Left-Turn Movement Data												
Assigned Mvmt	1		3		5		7					
Mvmt Sat Flow, veh/h	1641		1641		1641		1641					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		2050		1000		2612		870				
Right-Turn Movement Data												
Assigned Mvmt		12		14		16		18				
Mvmt Sat Flow, veh/h		1101		610		629		720				
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 12.0 - 2034 BV + HSFS (after MCE)

Lane Assignment	L (Prot)		L (Pr/Pm)		L (Prot)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	88	0	122	0	84	0	112	0
Grp Sat Flow (s), veh/h/ln	1641	0	1641	0	1641	0	1641	0
Q Serve Time (g_s), s	4.0	0.0	3.1	0.0	3.8	0.0	2.8	0.0
Cycle Q Clear Time (g_c), s	4.0	0.0	3.1	0.0	3.8	0.0	2.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1160	0	0	0	777	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	33.5	0.0	0.0	0.0	33.5	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	26.8	0.0	0.0	0.0	3.9	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.8	0.0	0.0	0.0	3.9	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	133	0	606	0	129	0	232	0
V/C Ratio (X)	0.66	0.00	0.20	0.00	0.65	0.00	0.48	0.00
Avail Cap (c_a), veh/h	642	0	1140	0	642	0	775	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	34.2	0.0	10.6	0.0	34.3	0.0	17.0	0.0
Incr Delay (d2), s/veh	5.5	0.0	0.2	0.0	5.5	0.0	1.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.7	0.0	10.7	0.0	39.8	0.0	18.6	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	1.0	0.0	1.5	0.0	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.2	0.0	0.0	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.8	0.0	1.1	0.0	1.7	0.0	1.0	0.0
%ile Storage Ratio (RQ%)	0.34	0.00	0.04	0.00	0.17	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	1	0	0	0	1	0	0
Grp Vol (v), veh/h	0	239	0	0	0	130	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	0	0	1637	0	0
Q Serve Time (g_s), s	0.0	10.5	0.0	0.0	0.0	5.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.5	0.0	0.0	0.0	5.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	318	0	0	0	323	0	0
V/C Ratio (X)	0.00	0.75	0.00	0.00	0.00	0.40	0.00	0.00
Avail Cap (c_a), veh/h	0	1067	0	0	0	1067	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	29.1	0.0	0.0	0.0	26.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.5	0.0	0.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	32.7	0.0	0.0	0.0	27.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.9	0.0	0.0	0.0	2.0	0.0	0.0

HCM 7th Signalized Intersection Capacity Analysis

3: S. Elliott St. & SE 9th St.

Scenario: 12.0 - 2034 BV + HSFS (after MCE)

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.2	0.0	0.0	0.0	2.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.33	0.00	0.00	0.00	0.17	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		T+R		T+R		T+R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	228	0	219	0	133	0	656
Grp Sat Flow (s), veh/h/ln	0	1514	0	1610	0	1604	0	1590
Q Serve Time (g_s), s	0.0	11.0	0.0	6.8	0.0	5.6	0.0	30.1
Cycle Q Clear Time (g_c), s	0.0	11.0	0.0	6.8	0.0	5.6	0.0	30.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.73	0.00	0.38	0.00	0.39	0.00	0.45
Lane Grp Cap (c), veh/h	0	295	0	704	0	316	0	703
V/C Ratio (X)	0.00	0.77	0.00	0.31	0.00	0.42	0.00	0.93
Avail Cap (c_a), veh/h	0	987	0	840	0	1045	0	829
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	29.3	0.0	14.1	0.0	26.9	0.0	20.3
Incr Delay (d2), s/veh	0.0	4.4	0.0	0.2	0.0	0.9	0.0	15.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.6	0.0	14.3	0.0	27.8	0.0	36.1
1st-Term Q (Q1), veh/ln	0.0	3.8	0.0	2.3	0.0	2.1	0.0	10.3
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.1	0.0	3.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	4.1	0.0	2.3	0.0	2.1	0.0	13.4
%ile Storage Ratio (RQ%)	0.00	0.32	0.00	0.09	0.00	0.17	0.00	0.46
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 7th Control Delay, s/veh	29.7
HCM 7th LOS	C

Appendix C

Traffic Count Data

SE 9th Street at S Elliott Street - TMC

Wed Feb 7, 2024

Full Length (7 AM-9 AM, 3 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1154782, Location: 36.292757, -95.309855



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	S Elliott Street Southbound						SE 9th Street Westbound						S Elliott Street Northbound						SE 9th Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-02-07 7:00AM	83	155	159	0	397	2	149	136	54	0	339	0	75	180	53	0	308	1	66	213	82	0	361	0	1405
8:00AM	77	167	82	0	326	0	86	91	27	0	204	0	26	150	81	0	257	2	52	95	63	0	210	0	997
3:00PM	128	242	119	0	489	5	118	165	77	0	360	2	45	266	82	0	393	2	59	97	78	0	234	0	1476
4:00PM	120	178	67	0	365	2	68	147	48	0	263	3	43	214	80	0	337	0	65	102	108	0	275	0	1240
5:00PM	121	200	61	0	382	1	57	120	39	0	216	3	32	176	78	0	286	0	75	99	102	0	276	0	1160
Total	529	942	488	0	1959	10	478	659	245	0	1382	8	221	986	374	0	1581	5	317	606	433	0	1356	0	6278
% Approach	27.0%	48.1%	24.9%	0%	-	-	34.6%	47.7%	17.7%	0%	-	-	14.0%	62.4%	23.7%	0%	-	-	23.4%	44.7%	31.9%	0%	-	-	-
% Total	8.4%	15.0%	7.8%	0%	31.2%	-	7.6%	10.5%	3.9%	0%	22.0%	-	3.5%	15.7%	6.0%	0%	25.2%	-	5.0%	9.7%	6.9%	0%	21.6%	-	-
Lights	518	935	466	0	1919	-	458	646	236	0	1340	-	212	978	372	0	1562	-	317	588	429	0	1334	-	6155
% Lights	97.9%	99.3%	95.5%	0%	98.0%	-	95.8%	98.0%	96.3%	0%	97.0%	-	95.9%	99.2%	99.5%	0%	98.8%	-	100%	97.0%	99.1%	0%	98.4%	-	98.0%
Articulated Trucks	1	0	0	0	1	-	0	2	1	0	3	-	0	0	1	0	1	-	0	2	0	0	2	-	7
% Articulated Trucks	0.2%	0%	0%	0%	0.1%	-	0%	0.3%	0.4%	0%	0.2%	-	0%	0%	0.3%	0%	0.1%	-	0%	0.3%	0%	0%	0.1%	-	0.1%
Buses and Single-Unit Trucks	10	7	22	0	39	-	20	11	8	0	39	-	9	8	1	0	18	-	0	16	4	0	20	-	116
% Buses and Single-Unit Trucks	1.9%	0.7%	4.5%	0%	2.0%	-	4.2%	1.7%	3.3%	0%	2.8%	-	4.1%	0.8%	0.3%	0%	1.1%	-	0%	2.6%	0.9%	0%	1.5%	-	1.8%
Pedestrians	-	-	-	-	-	10	-	-	-	-	-	7	-	-	-	-	-	5	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	87.5%	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	12.5%	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SE 9th Street at S Elliott Street - TMC

Wed Feb 7, 2024

Full Length (7 AM-9 AM, 3 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1154782, Location: 36.292757, -95.309855



Provided by: C. J. Hensch & Associates
Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

[N] S Elliott Street

Total: 3856

In: 1959

Out: 1897

529

942

488

8

2

4

478

In: 1382

659

245

Out: 1315

Total: 2697

[E] SE 9th Street

4

1

374

986

221

Out: 1504

In: 1581

Total: 3085

[S] S Elliott Street

[W] SE 9th Street

Total: 2918

In: 1356

Out: 1562

433

606

317

4

SE 9th Street at S Elliott Street - TMC

Wed Feb 7, 2024

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1154782, Location: 36.292757, -95.309855



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	S Elliott Street Southbound						SE 9th Street Westbound						S Elliott Street Northbound						SE 9th Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-02-07 7:15AM	17	25	32	0	74	0	20	37	13	0	70	0	14	24	10	0	48	0	11	36	17	0	64	0	256
7:30AM	24	35	47	0	106	1	58	46	19	0	123	0	19	46	13	0	78	1	27	55	23	0	105	0	412
7:45AM	26	78	71	0	175	0	56	33	16	0	105	0	29	91	24	0	144	0	18	99	35	0	152	0	576
8:00AM	17	68	37	0	122	0	49	45	15	0	109	0	14	52	30	0	96	0	24	45	29	0	98	0	425
Total	84	206	187	0	477	1	183	161	63	0	407	0	76	213	77	0	366	1	80	235	104	0	419	0	1669
% Approach	17.6%	43.2%	39.2%	0%	-	-	45.0%	39.6%	15.5%	0%	-	-	20.8%	58.2%	21.0%	0%	-	-	19.1%	56.1%	24.8%	0%	-	-	-
% Total	5.0%	12.3%	11.2%	0%	28.6%	-	11.0%	9.6%	3.8%	0%	24.4%	-	4.6%	12.8%	4.6%	0%	21.9%	-	4.8%	14.1%	6.2%	0%	25.1%	-	-
PHF	0.808	0.660	0.658	-	0.681	-	0.789	0.875	0.829	-	0.827	-	0.655	0.585	0.642	-	0.635	-	0.741	0.593	0.743	-	0.689	-	0.724
Lights	84	205	179	0	468	-	174	158	58	0	390	-	73	210	77	0	360	-	80	231	103	0	414	-	1632
% Lights	100%	99.5%	95.7%	0%	98.1%	-	95.1%	98.1%	92.1%	0%	95.8%	-	96.1%	98.6%	100%	0%	98.4%	-	100%	98.3%	99.0%	0%	98.8%	-	97.8%
Articulated Trucks	0	0	0	0	0	-	0	0	1	0	1	-	0	0	0	0	0	-	0	1	0	0	1	-	2
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	1.6%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0.4%	0%	0%	0.2%	-	0.1%
Buses and Single-Unit Trucks	0	1	8	0	9	-	9	3	4	0	16	-	3	3	0	0	6	-	0	3	1	0	4	-	35
% Buses and Single-Unit Trucks	0%	0.5%	4.3%	0%	1.9%	-	4.9%	1.9%	6.3%	0%	3.9%	-	3.9%	1.4%	0%	0%	1.6%	-	0%	1.3%	1.0%	0%	1.0%	-	2.1%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SE 9th Street at S Elliott Street - TMC

Wed Feb 7, 2024

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1154782, Location: 36.292757, -95.309855



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

[N] S Elliott Street

Total: 977

In: 477

Out: 500

84

206

187

1

[W] SE 9th Street

Total: 741

In: 419

Out: 322

104

235

80

183

161

63

In: 407

Total: 905

[E] SE 9th Street

Out: 498

77

213

76

1

Out: 349

In: 366

Total: 715

[S] S Elliott Street

SE 9th Street at S Elliott Street - TMC

Wed Feb 7, 2024

PM Peak (3:15 PM - 4:15 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1154782, Location: 36.292757, -95.309855



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	S Elliott Street Southbound						SE 9th Street Westbound						S Elliott Street Northbound						SE 9th Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-02-07 3:15PM	29	62	36	0	127	0	21	33	13	0	67	0	13	86	27	0	126	2	21	27	18	0	66	0	386
3:30PM	52	86	38	0	176	5	45	57	40	0	142	0	11	76	29	0	116	0	11	28	22	0	61	0	495
3:45PM	28	52	26	0	106	0	39	53	10	0	102	2	10	46	19	0	75	0	9	21	15	0	45	0	328
4:00PM	40	47	13	0	100	0	14	38	15	0	67	3	14	53	16	0	83	0	10	24	25	0	59	0	309
Total	149	247	113	0	509	5	119	181	78	0	378	5	48	261	91	0	400	2	51	100	80	0	231	0	1518
% Approach	29.3%	48.5%	22.2%	0%	-	-	31.5%	47.9%	20.6%	0%	-	-	12.0%	65.3%	22.8%	0%	-	-	22.1%	43.3%	34.6%	0%	-	-	-
% Total	9.8%	16.3%	7.4%	0%	33.5%	-	7.8%	11.9%	5.1%	0%	24.9%	-	3.2%	17.2%	6.0%	0%	26.4%	-	3.4%	6.6%	5.3%	0%	15.2%	-	-
PHF	0.716	0.718	0.743	-	0.723	-	0.661	0.794	0.488	-	0.665	-	0.857	0.759	0.784	-	0.794	-	0.607	0.893	0.800	-	0.875	-	0.767
Lights	144	242	105	0	491	-	113	174	77	0	364	-	43	257	91	0	391	-	51	93	79	0	223	-	1469
% Lights	96.6%	98.0%	92.9%	0%	96.5%	-	95.0%	96.1%	98.7%	0%	96.3%	-	89.6%	98.5%	100%	0%	97.8%	-	100%	93.0%	98.8%	0%	96.5%	-	96.8%
Articulated Trucks	1	0	0	0	1	-	0	1	0	0	1	-	0	0	0	0	0	-	0	1	0	0	1	-	3
% Articulated Trucks	0.7%	0%	0%	0%	0.2%	-	0%	0.6%	0%	0%	0.3%	-	0%	0%	0%	0%	0%	-	0%	1.0%	0%	0%	0.4%	-	0.2%
Buses and Single-Unit Trucks	4	5	8	0	17	-	6	6	1	0	13	-	5	4	0	0	9	-	0	6	1	0	7	-	46
% Buses and Single-Unit Trucks	2.7%	2.0%	7.1%	0%	3.3%	-	5.0%	3.3%	1.3%	0%	3.4%	-	10.4%	1.5%	0%	0%	2.3%	-	0%	6.0%	1.3%	0%	3.0%	-	3.0%
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	80.0%	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	20.0%	-	-	-	-	-	0%	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SE 9th Street at S Elliott Street - TMC

Wed Feb 7, 2024

PM Peak (3:15 PM - 4:15 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1154782, Location: 36.292757, -95.309855



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

[N] S Elliott Street

Total: 969

In: 509

Out: 460

149

247

113

5

2

119

181

78

Out: 261 In: 378

Total: 639

[E] SE 9th Street

3

91

261

48

Out: 376

In: 400

Total: 776

[S] S Elliott Street

[W] SE 9th Street

Total: 652

In: 231 Out: 421

80

100

51

2

SE 9th Street at S Elliott Street - TMC

Wed Feb 7, 2024

Full Length (7 AM-9 AM, 3 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1154782, Location: 36.292757, -95.309855



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	S Elliott Street Southbound						SE 9th Street Westbound						S Elliott Street Northbound						SE 9th Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-02-07 7:00AM	16	17	9	0	42	1	15	20	6	0	41	0	13	19	6	0	38	0	10	23	7	0	40	0	161
7:15AM	17	25	32	0	74	0	20	37	13	0	70	0	14	24	10	0	48	0	11	36	17	0	64	0	256
7:30AM	24	35	47	0	106	1	58	46	19	0	123	0	19	46	13	0	78	1	27	55	23	0	105	0	412
7:45AM	26	78	71	0	175	0	56	33	16	0	105	0	29	91	24	0	144	0	18	99	35	0	152	0	576
Hourly Total	83	155	159	0	397	2	149	136	54	0	339	0	75	180	53	0	308	1	66	213	82	0	361	0	1405
8:00AM	17	68	37	0	122	0	49	45	15	0	109	0	14	52	30	0	96	0	24	45	29	0	98	0	425
8:15AM	29	51	20	0	100	0	16	9	3	0	28	0	5	46	21	0	72	2	17	13	11	0	41	0	241
8:30AM	15	22	14	0	51	0	8	25	5	0	38	0	4	37	14	0	55	0	6	19	11	0	36	0	180
8:45AM	16	26	11	0	53	0	13	12	4	0	29	0	3	15	16	0	34	0	5	18	12	0	35	0	151
Hourly Total	77	167	82	0	326	0	86	91	27	0	204	0	26	150	81	0	257	2	52	95	63	0	210	0	997
3:00PM	19	42	19	0	80	0	13	22	14	0	49	0	11	58	7	0	76	0	18	21	23	0	62	0	267
3:15PM	29	62	36	0	127	0	21	33	13	0	67	0	13	86	27	0	126	2	21	27	18	0	66	0	386
3:30PM	52	86	38	0	176	5	45	57	40	0	142	0	11	76	29	0	116	0	11	28	22	0	61	0	495
3:45PM	28	52	26	0	106	0	39	53	10	0	102	2	10	46	19	0	75	0	9	21	15	0	45	0	328
Hourly Total	128	242	119	0	489	5	118	165	77	0	360	2	45	266	82	0	393	2	59	97	78	0	234	0	1476
4:00PM	40	47	13	0	100	0	14	38	15	0	67	3	14	53	16	0	83	0	10	24	25	0	59	0	309
4:15PM	23	44	21	0	88	2	20	31	9	0	60	0	1	43	16	0	60	0	18	38	24	0	80	0	288
4:30PM	27	48	14	0	89	0	9	33	12	0	54	0	15	59	18	0	92	0	20	20	27	0	67	0	302
4:45PM	30	39	19	0	88	0	25	45	12	0	82	0	13	59	30	0	102	0	17	20	32	0	69	0	341
Hourly Total	120	178	67	0	365	2	68	147	48	0	263	3	43	214	80	0	337	0	65	102	108	0	275	0	1240
5:00PM	38	69	19	0	126	0	21	37	11	0	69	2	12	48	20	0	80	0	15	31	20	0	66	0	341
5:15PM	26	56	16	0	98	0	7	35	9	0	51	0	8	44	28	0	80	0	17	22	25	0	64	0	293
5:30PM	27	34	14	0	75	0	11	18	7	0	36	0	6	42	16	0	64	0	15	23	28	0	66	0	241
5:45PM	30	41	12	0	83	1	18	30	12	0	60	1	6	42	14	0	62	0	28	23	29	0	80	0	285
Hourly Total	121	200	61	0	382	1	57	120	39	0	216	3	32	176	78	0	286	0	75	99	102	0	276	0	1160
Total	529	942	488	0	1959	10	478	659	245	0	1382	8	221	986	374	0	1581	5	317	606	433	0	1356	0	6278
% Approach	27.0%	48.1%	24.9%	0%	-	-	34.6%	47.7%	17.7%	0%	-	-	14.0%	62.4%	23.7%	0%	-	-	23.4%	44.7%	31.9%	0%	-	-	-
% Total	8.4%	15.0%	7.8%	0%	31.2%	-	7.6%	10.5%	3.9%	0%	22.0%	-	3.5%	15.7%	6.0%	0%	25.2%	-	5.0%	9.7%	6.9%	0%	21.6%	-	-
Lights	518	935	466	0	1919	-	458	646	236	0	1340	-	212	978	372	0	1562	-	317	588	429	0	1334	-	6155
% Lights	97.9%	99.3%	95.5%	0%	98.0%	-	95.8%	98.0%	96.3%	0%	97.0%	-	95.9%	99.2%	99.5%	0%	98.8%	-	100%	97.0%	99.1%	0%	98.4%	-	98.0%
Articulated Trucks	1	0	0	0	1	-	0	2	1	0	3	-	0	0	1	0	1	-	0	2	0	0	2	-	7
% Articulated Trucks	0.2%	0%	0%	0%	0.1%	-	0%	0.3%	0.4%	0%	0.2%	-	0%	0%	0.3%	0%	0.1%	-	0%	0.3%	0%	0%	0.1%	-	0.1%
Buses and Single-Unit Trucks	10	7	22	0	39	-	20	11	8	0	39	-	9	8	1	0	18	-	0	16	4	0	20	-	116
% Buses and Single-Unit Trucks	1.9%	0.7%	4.5%	0%	2.0%	-	4.2%	1.7%	3.3%	0%	2.8%	-	4.1%	0.8%	0.3%	0%	1.1%	-	0%	2.6%	0.9%	0%	1.5%	-	1.8%
Pedestrians	-	-	-	-	-	10	-	-	-	-	-	7	-	-	-	-	-	5	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	87.5%	-	-	-	-	-	100%	-	-	-	-	-	-	
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	12.5%	-	-	-	-	-	0%	-	-	-	-	-	-	

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SE 9th Street at S Elliott Street - TMC

Wed Feb 7, 2024

Full Length (7 AM-9 AM, 3 PM-6 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1154782, Location: 36.292757, -95.309855



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

[N] S Elliott Street

Total: 3856

In: 1959

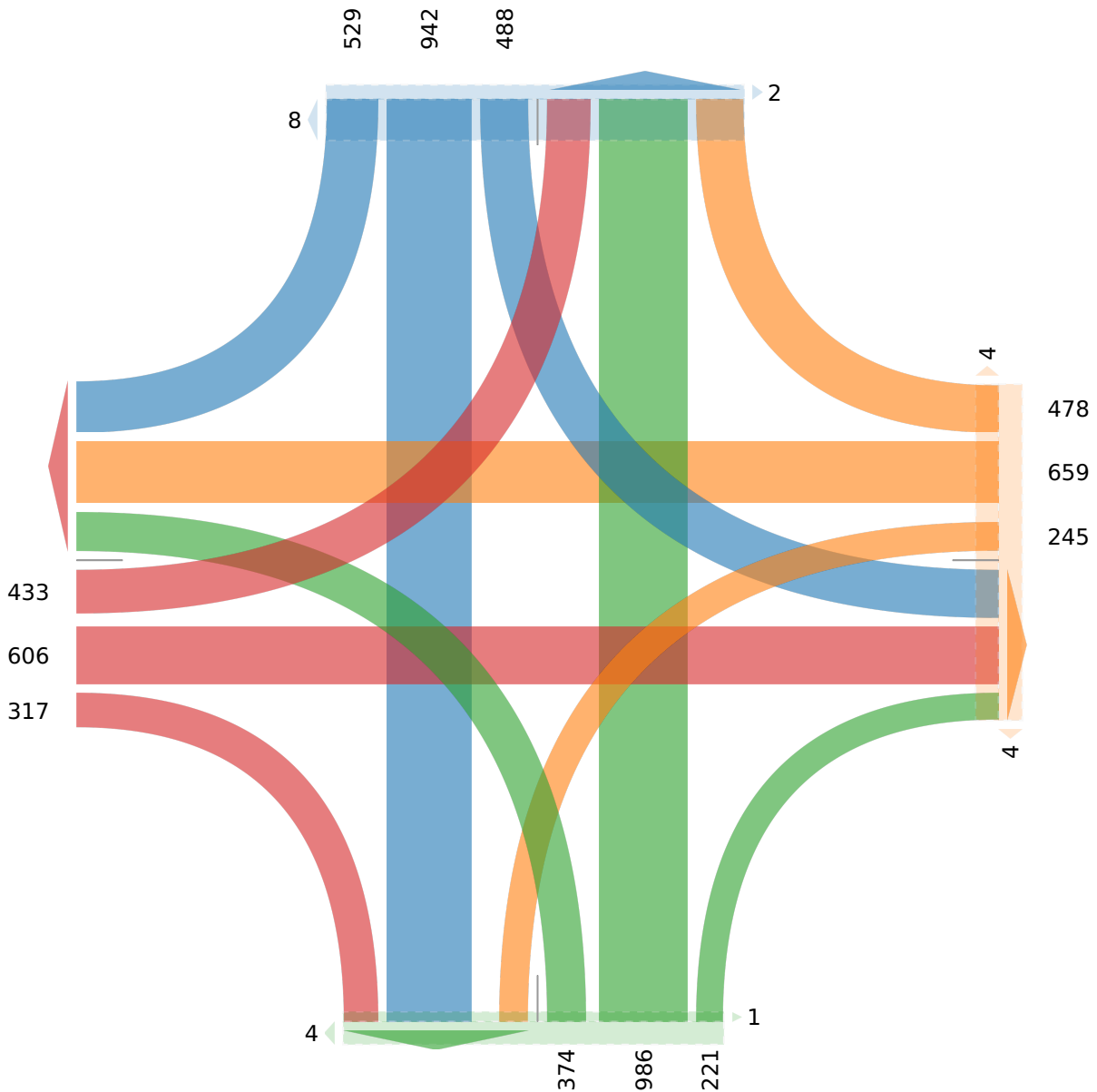
Out: 1897

[W] SE 9th Street

Total: 2918

In: 1356

Out: 1562



Out: 1504

In: 1581

Total: 3085

[S] S Elliott Street

SE 9th Street at S Elliott Street - TMC

Wed Feb 7, 2024

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1154782, Location: 36.292757, -95.309855



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	S Elliott Street Southbound						SE 9th Street Westbound						S Elliott Street Northbound						SE 9th Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-02-07 7:15AM	17	25	32	0	74	0	20	37	13	0	70	0	14	24	10	0	48	0	11	36	17	0	64	0	256
7:30AM	24	35	47	0	106	1	58	46	19	0	123	0	19	46	13	0	78	1	27	55	23	0	105	0	412
7:45AM	26	78	71	0	175	0	56	33	16	0	105	0	29	91	24	0	144	0	18	99	35	0	152	0	576
8:00AM	17	68	37	0	122	0	49	45	15	0	109	0	14	52	30	0	96	0	24	45	29	0	98	0	425
Total	84	206	187	0	477	1	183	161	63	0	407	0	76	213	77	0	366	1	80	235	104	0	419	0	1669
% Approach	17.6%	43.2%	39.2%	0%	-	-	45.0%	39.6%	15.5%	0%	-	-	20.8%	58.2%	21.0%	0%	-	-	19.1%	56.1%	24.8%	0%	-	-	-
% Total	5.0%	12.3%	11.2%	0%	28.6%	-	11.0%	9.6%	3.8%	0%	24.4%	-	4.6%	12.8%	4.6%	0%	21.9%	-	4.8%	14.1%	6.2%	0%	25.1%	-	-
PHF	0.808	0.660	0.658	-	0.681	-	0.789	0.875	0.829	-	0.827	-	0.655	0.585	0.642	-	0.635	-	0.741	0.593	0.743	-	0.689	-	0.724
Lights	84	205	179	0	468	-	174	158	58	0	390	-	73	210	77	0	360	-	80	231	103	0	414	-	1632
% Lights	100%	99.5%	95.7%	0%	98.1%	-	95.1%	98.1%	92.1%	0%	95.8%	-	96.1%	98.6%	100%	0%	98.4%	-	100%	98.3%	99.0%	0%	98.8%	-	97.8%
Articulated Trucks	0	0	0	0	0	-	0	0	1	0	1	-	0	0	0	0	0	-	0	1	0	0	1	-	2
% Articulated Trucks	0%	0%	0%	0%	0%	-	0%	0%	1.6%	0%	0.2%	-	0%	0%	0%	0%	0%	-	0%	0.4%	0%	0%	0.2%	-	0.1%
Buses and Single-Unit Trucks	0	1	8	0	9	-	9	3	4	0	16	-	3	3	0	0	6	-	0	3	1	0	4	-	35
% Buses and Single-Unit Trucks	0%	0.5%	4.3%	0%	1.9%	-	4.9%	1.9%	6.3%	0%	3.9%	-	3.9%	1.4%	0%	0%	1.6%	-	0%	1.3%	1.0%	0%	1.0%	-	2.1%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SE 9th Street at S Elliott Street - TMC

Wed Feb 7, 2024

AM Peak (7:15 AM - 8:15 AM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1154782, Location: 36.292757, -95.309855



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

[N] S Elliott Street

Total: 977

In: 477

Out: 500

84

206

187

1

[W] SE 9th Street

Total: 741

In: 419

Out: 322

104

235

80

183

161

63

In: 407

Out: 498

Total: 905

[E] SE 9th Street

77

213

76

1

Out: 349

In: 366

Total: 715

[S] S Elliott Street

SE 9th Street at S Elliott Street - TMC

Wed Feb 7, 2024

PM Peak (3:15 PM - 4:15 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1154782, Location: 36.292757, -95.309855



Provided by: C. J. Hensch & Associates Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

Leg Direction	S Elliott Street Southbound						SE 9th Street Westbound						S Elliott Street Northbound						SE 9th Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2024-02-07 3:15PM	29	62	36	0	127	0	21	33	13	0	67	0	13	86	27	0	126	2	21	27	18	0	66	0	386
3:30PM	52	86	38	0	176	5	45	57	40	0	142	0	11	76	29	0	116	0	11	28	22	0	61	0	495
3:45PM	28	52	26	0	106	0	39	53	10	0	102	2	10	46	19	0	75	0	9	21	15	0	45	0	328
4:00PM	40	47	13	0	100	0	14	38	15	0	67	3	14	53	16	0	83	0	10	24	25	0	59	0	309
Total	149	247	113	0	509	5	119	181	78	0	378	5	48	261	91	0	400	2	51	100	80	0	231	0	1518
% Approach	29.3%	48.5%	22.2%	0%	-	-	31.5%	47.9%	20.6%	0%	-	-	12.0%	65.3%	22.8%	0%	-	-	22.1%	43.3%	34.6%	0%	-	-	-
% Total	9.8%	16.3%	7.4%	0%	33.5%	-	7.8%	11.9%	5.1%	0%	24.9%	-	3.2%	17.2%	6.0%	0%	26.4%	-	3.4%	6.6%	5.3%	0%	15.2%	-	-
PHF	0.716	0.718	0.743	-	0.723	-	0.661	0.794	0.488	-	0.665	-	0.857	0.759	0.784	-	0.794	-	0.607	0.893	0.800	-	0.875	-	0.767
Lights	144	242	105	0	491	-	113	174	77	0	364	-	43	257	91	0	391	-	51	93	79	0	223	-	1469
% Lights	96.6%	98.0%	92.9%	0%	96.5%	-	95.0%	96.1%	98.7%	0%	96.3%	-	89.6%	98.5%	100%	0%	97.8%	-	100%	93.0%	98.8%	0%	96.5%	-	96.8%
Articulated Trucks	1	0	0	0	1	-	0	1	0	0	1	-	0	0	0	0	0	-	0	1	0	0	1	-	3
% Articulated Trucks	0.7%	0%	0%	0%	0.2%	-	0%	0.6%	0%	0%	0.3%	-	0%	0%	0%	0%	0%	-	0%	1.0%	0%	0%	0.4%	-	0.2%
Buses and Single-Unit Trucks	4	5	8	0	17	-	6	6	1	0	13	-	5	4	0	0	9	-	0	6	1	0	7	-	46
% Buses and Single-Unit Trucks	2.7%	2.0%	7.1%	0%	3.3%	-	5.0%	3.3%	1.3%	0%	3.4%	-	10.4%	1.5%	0%	0%	2.3%	-	0%	6.0%	1.3%	0%	3.0%	-	3.0%
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	0	-
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	80.0%	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	20.0%	-	-	-	-	-	0%	-	-	-	-	-	-	-

* Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

SE 9th Street at S Elliott Street - TMC

Wed Feb 7, 2024

PM Peak (3:15 PM - 4:15 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 1154782, Location: 36.292757, -95.309855



Provided by: C. J. Hensch & Associates
Inc.

5215 Sycamore Ave.,
Pasadena, TX, 77503, US

[N] S Elliott Street

Total: 969

In: 509

Out: 460

149

247

113

5

2

119

In: 378

181

78

Out: 261

Total: 639

[E] SE 9th Street

3

91

261

48

Out: 376

In: 400

Total: 776

[S] S Elliott Street

[W] SE 9th Street

Total: 652

In: 231

Out: 421

80

100

51

2

Appendix D

Collision Report



Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023
by Stephen Waldrop

Study Map & Totals

Legend

- Fatality
- Injury
- Property Damage



Remarks:

NONE

Date Range: 01-01-2017 thru 12-31-2021

	2017					2018					2019				
	Fat	SRS Inj	Non-Incap Inj	Poss Inj	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	Tot
Collisions		1		1	3					5				2	2
Persons		1		2	3					0				0	0



STUDY TOTALS (CONT.)

Date Range: 01-01-2017 Thru 12-31-2021

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023 by Stephen Waldrop

	2020						2021*					
	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot
Collisions				1		1		1		2	1	4
Persons				2		2		1	8			9

* DENOTES A YEAR FOR WHICH DATA MAY BE INCOMPLETE.

	Study Total					Total
	Fatality	Suspected Serious Injury	Non-Incapacitating Injury	Possible Injury	Property Damage	
Collisions		2	2	2	11	17
Persons		2	8	4		14



STUDY TOTALS - BY CITY AND HWY CLASS

Date Range: 01-01-2017 Thru 12-31-2021

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023 by Stephen Waldrop

STUDY TOTALS

Year	HIGHWAY COLLISIONS			CITY STREET COLLISIONS			COUNTY ROAD COLLISIONS			TOTAL COLLISIONS		
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
2017						2	2	4			1	1
2018							5	5				5
2019							2	2				2
2020						1		1				1
2021 *						3	1	4				4
Total:				0		6	10	16			1	17

* DENOTES A YEAR FOR WHICH DATA MAY BE INCOMPLETE.

County: (49) MAYES

	HIGHWAY COLLISIONS			CITY STREET COLLISIONS			COUNTY ROAD COLLISIONS			TOTAL COLLISIONS		
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
(00) - RURAL -												
(35) PRYOR						6	10	16				16
Total:				0		6	10	16			1	17

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.



TABULATION OF COLLISIONS

Date Range: 01-01-2017 Thru 12-31-2021

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023 by Stephen Waldrop

Collisions By Type Of Collision

Type Of Collision	2017				2018				2019				2020				2021*			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
Rear-End (front-to-rear)																				
Head-On (front-to-front)																				
Right Angle (front-to-side)																				
Angle Turning		2	2	4			2	2			1	1								
Other Angle																				
Sideswipe Same Direction																				
Sideswipe Opposite Direction																				
Fixed Object			1	1			1	1												
Pedestrian																				
Pedal Cycle																				
Animal																				
Overturn/Rollover																				
Vehicle-Train																				
Other Single Vehicle Crash																				
Other																				
Total		2	3	5			5	5			2	2				1		3	1	4
Percent		11.8	17.6	29.4			29.4	29.4			11.8	11.8				5.9		17.6	5.9	23.5

Collisions By Type Of Collision

Type Of Collision	Total			
	Fat	Inj *	PD	Tot
Rear-End (front-to-rear)		1	4	5
Head-On (front-to-front)				
Right Angle (front-to-side)			1	1
Angle Turning		5	4	9
Other Angle				
Sideswipe Same Direction				
Sideswipe Opposite Direction				
Fixed Object			2	2
Pedestrian				
Pedal Cycle				
Animal				
Overturn/Rollover				
Vehicle-Train				
Other Single Vehicle Crash				
Other				
Total		6	11	17
Percent		35.3	64.7	100

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.



TABULATION OF COLLISIONS

Date Range: 01-01-2017 Thru 12-31-2021

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023 by Stephen Waldrop

Units By Unit Type

Unit Type	2017				2018				2019				2020				2021*			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
Train																				
Pedestrian																				
Animal																				
Pedal Cycle																				
Parked Vehicle																				
CMV																				
Other Single Vehicle			1	1			1	1			1	1								
Other Multi-Vehicle		5	4	9			8	8			3	3				2		6	2	8
Total		5	5	10			9	9			4	4				2		6	2	8
Percent		15.2	15.2	30.3			27.3	27.3			12.1	12.1				6.1		18.2	6.1	24.2

Units By Unit Type

Unit Type	Total			
	Fat	Inj *	PD	Tot
Train				
Pedestrian				
Animal				
Pedal Cycle				
Parked Vehicle				
CMV				
Other Single Vehicle			3	3
Other Multi-Vehicle		13	17	30
Total		13	20	33
Percent		39.4	60.6	100

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.



Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023 by Stephen Waldrop

*** INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.**



TABULATION OF COLLISIONS

Date Range: 01-01-2017 Thru 12-31-2021

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023 by Stephen Waldrop

Vehicles By Vehicle Type

Vehicle Type	Total			
	Fat	Inj *	PD	Tot
Passenger Vehicle-2 Door			2	2
Passenger Vehicle-4 Door		5	9	14
Passenger Vehicle-Convertible				
Pickup Truck		2	9	11
Single-Unit Truck (2 axles)				
Single-Unit Truck (3 or more axles)				
School Bus				
Truck/Trailer				
Truck-Tractor (bobtail)				
Truck-Tractor/Semi-Trailer				
Truck-Tractor/Double				
Truck-Tractor/Triple				
Bus/Large Van (9-15 seats)				
Bus (16+ seats)				
Motorcycle		1		1
Motor Scooter/Moped				
Motor Home				
Farm Machinery				
ATV				
Sport Utility Vehicle (SUV)			5	5
Passenger Van				
Truck More Than 10,000 lbs.				
Van (10,000 lbs. or less)				
Other				
Total		8	25	33
Percent		24.2	75.8	100

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.



TABULATION OF COLLISIONS

Date Range: 01-01-2017 Thru 12-31-2021

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023 by Stephen Waldrop

Day And Time Of Occurrence Of Collisions

Day	Hour Of The Day												Tot	Pcnt		
	AM						PM									
	1	2	3	4	5	6	7	8	9	10	11	12				
Sunday													1	5.9		
Monday					1	1		2		1				6		
Tuesday										1	2			3		
Wednesday														1		
Thursday							1	1		1				3		
Friday											2			1		
Saturday														2		
	Early Morning - Sunrise						Morning Peak			PM Peak			1	5.9		
Total	1						5			4			Evening - Late Night		Tot	100
Percent	5.9						29.4			23.5			5.9		17	100



TABULATION OF COLLISIONS

Date Range: 01-01-2017 Thru 12-31-2021

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023 by Stephen Waldrop

Drivers By Driver Conditions

Unsafe/Unlawful	Apparently Normal			Alcohol Involved			Sleep Suspected			Drug Use Indicated			Unknown Condition			Total		
	Ability Impaired			Odor Detected														
	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	Pcnt
Failed to Yield		2	4														2	18.2
Failed to Stop																		
Failed to Signal																		
Improper Turn		1															1	3.0
Improper Start																		
Improper Stop																		
Improper Backing																		
Improper Parking																		
Improper Passing																		
Improper Lane Change																		
Left of Center																		
Following Too Close																		
Unsafe Speed			1									1					1	6.1
DWI											2	1					2	9.1
Inattention			4										1				5	15.2
Negligent Driving																		
Defective Vehicle																		
Wrong Way																		
No Improper Action	6	9														6	9	45.5
Other	1															1	1	3.0
Total	10	18								2	1	1	1	1	1	13	20	100
Percent	30.3	54.5								6.1	3.0	3.0	3.0	3.0	3.0	39.4	60.6	100

Severities Indicate Highest Severity in Collision

Collisions By Special Feature

Special Feature	Total			
	Fat	Inj *	PD	Tot
Bridge				
Work Zone				
Cross Median				
Train Collision				

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.



HIGHWAY SYSTEM COLLISION LISTING

Date Range: 01-01-2017 Thru 12-31-2021

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023 by Stephen Waldrop

Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
------	------	------	--------	-----------	----------	----------	--------------	--------	--------	--------	--------	---------	--------	-------------------	-----------------	----------------	---------------	----------	------

-No Highway Collisions Found-

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.



County : MAYES
City : 35 - PRYOR

CITY STREET COLLISION LISTING

Date Range: 01-01-2017 Thru 12-31-2021

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023 by Stephen Waldrop

Street One	Intersecting Street	Int. Relation	UFC/ RFC	U/R MP	Features	On Map	Dir1	Dir2	# Veh.	# Inj*	# Fat.	Type Of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
1300-ELLIOTT ST.	3000-9 ST. S.	YES	5U	0.82		Y	N	W	2			ANGLE-TURNING	F-YIELD	DYLG	DRY	PDO	2017-03-28
1300-ELLIOTT ST.	3000-9 ST. S.	YES	5U	0.82		Y	E	W	2	1		ANGLE-TURNING	F-YIELD	DYLG	DRY	SS INJ	2017-08-21
1300-ELLIOTT ST.	3000-9 ST. S.	YES	5U	0.82	UNL ACCIDENT UNVERIFIED	Y	N	E	2			ANGLE-TURNING	F-YIELD	DYLG	DRY	PDO	2018-06-14
1300-ELLIOTT ST.	3000-9 ST. S.	YES	5U	0.82		Y	S	-	1			F-O UTIL-POLE	D-W-I	DARK	DRY	PDO	2018-11-21
1300-ELLIOTT ST.	3000-9 ST. S.	YES	5U	0.82		Y	W	W	2	2		REAR-END	OTHER	DYLG	DRY	P INJ	2020-09-04
1300-ELLIOTT ST.	3000-9 ST. S.	YES	5U	0.82	UNVERIFIED UNL ACCIDENT	Y	S	S	2			REAR-END	INATT	DYLG	DRY	PDO	2021-05-28
1300-ELLIOTT ST.	3000-9 ST. S.	YES	5U	0.82		Y	N	W	2	5		ANGLE-TURNING	F-YIELD	DYLG	DRY	SS INJ	2021-06-29
1300-ELLIOTT ST.	3000-9 ST. S.	YES	5U	0.82		Y	S	W	2	2		ANGLE-TURNING	D-W-I	DYLG	DRY	N-I INJ	2021-07-12
1300-ELLIOTT ST.	3000-9 ST. S.	YES	5U	0.82		Y	S	W	2	2		ANGLE-TURNING	D-W-I	DYLG	DRY	N-I INJ	2021-07-12
1300-ELLIOTT ST.	3000-9 ST. S.	NORTH	5U	0.82	UNL ACCIDENT UNVERIFIED	Y	W	W	3			REAR-END	INATT	DYLG	DRY	PDO	2019-03-25
1300-ELLIOTT ST.	3000-9 ST. S.	NORTH	5U	0.82	UNL ACCIDENT UNVERIFIED	Y	E	-	1			RIGHT-ANGLE	INATT	DUSK	WET	PDO	2019-04-13
1300-ELLIOTT ST.	3000-9 ST. S.	EAST	10U	3.04	DRIVEWAY	Y	N	W	2			ANGLE-TURNING	F-YIELD	DYLG	DRY	PDO	2018-03-01
1300-ELLIOTT ST.	3005-BRYAN ST.	YES	10U	3.09		Y	N	S	3	2		ANGLE-TURNING	IMP-TURN	DYLG	DRY	P INJ	2017-03-02
1300-ELLIOTT ST.	3005-BRYAN ST.	YES	10U	3.09		Y	N	S	2			ANGLE-TURNING	INATT	DYLG	DRY	PDO	2017-10-24
1300-ELLIOTT ST.	3005-BRYAN ST.	NORTH	10U	3.11	UNL ACCIDENT UNVERIFIED	Y	W	W	2			REAR-END	INATT	DYLG	DRY	PDO	2018-11-05
3000-9 ST. S.	1300-ELLIOTT ST.	YES	5U	0.82	UNVERIFIED UNL ACCIDENT	Y	S	N	2			REAR-END	F-YIELD	DAWN	DRY	PDO	2018-05-21

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.



County : MAYES
City : 00

COUNTY ROAD COLLISION LISTING

Date Range: 01-01-2017 Thru 12-31-2021

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023 by Stephen Waldrop

Street One	Intersecting Street	Int. Relation	RFC #	RFC MP	Features	On Map	Dir1	Dir2	# Veh.	# Inj*	# Fat.	Type Of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
0330	0567	YES				Y	N	-	1			F-O TREE	UNSAF-SPD	DARK	WET	PDO	2017-12-17



STUDY CRITERIA

Date Range: 01-01-2017 Thru 12-31-2021

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 11/07/2023 by Stephen Waldrop

ROADWAY / REGION

QUERY OVER	SELECTIONS
Draw Area on Map	User Selection on Map

DATE

Date Range	01-01-2017 to 12-31-2021
------------	--------------------------

REPORT SECTIONS

Collision Map & Study Totals	(Included)
Collision Analysis Tables	(Included)
- Totals By City, Hwy Class	Checked
- Other Analysis Tables	Checked
Collision Listing	(Included)
- Highway Collision Listing	Checked, By Control Section
- City Street Collision Listing	Checked
- County Road Collision Listing	Checked
Query Criteria	(Included)

FILTER COLLISIONS

Roadway Type	All Collision Data
Incl. Crashes Assoc. w/ Every Int.	Checked
Environment Fields	

REPORT FORMAT OPTIONS

Print Watermark	Checked
Print DPS Case Numbers	Unchecked