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Turner Road Industrial Building

Transportation Impact Analysis

Salem, Oregon

Date:
January 13, 2022

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List of Appendices

List of Figures

List of Tables

Executive Summary

1. The proposed development is located west of the Turner Road SE & 37th Avenue SE intersection in southeastern Salem, Oregon. The project site is located at Marion County Assessor's Map No. 08 2W 07C Tax Lot 200, encompassing approximately 10.08 acres. The project site is currently undeveloped land and will be developed to include approximately 208,000 square feet of general industrial use.
2. The proposed development will take access via two driveways along Turner Road SE, one approximately 450 feet north and one approximately 250 south of the Turner Road SE & 37th Avenue SE intersection.
3. The trip generation calculations show that the Turner Road Industrial Building is projected to generate an increase of 145 morning peak hour trips, 68 evening peak hour trips, and 833 average weekday trips, and the projected truck generation is 2 morning and evening truck trips and 52 average daily truck trips.
4. No significant trends or crash patterns were identified at any of the study intersections except for the intersection of Turner Road SE & Airway Drive SE, which was identified as having a high crash rate. Crash patterns show a trend of rear-end collisions in the northbound direction on Turner Road SE, likely associated with vehicles slowing in the travel lane to make a left turn onto Airway Drive SE. According to the City of Salem's TSP, Turner Road SE is planned to be widened to include a three-lane cross-section within 25 years. This improvement would address this collision pattern; therefore, it is recommended that the City of Salem consider accelerating the implementation of this full improvement or at least widening Turner Road SE at Airway Drive SE to provide a northbound left-turn lane.
5. Sight distance exceeds the recommended intersection sight distance for both site access intersections on Turner Road SE.
6. The preliminary traffic signal analysis determined that signal warrants are not projected to be met at any of the applicable study intersections under year Buildout Year 2023 Conditions.
7. The left-turn lane analysis determined that a northbound left-turn lane is warranted at the intersection of Turner Road SE & Airway Drive SE under existing conditions during the morning and evening peak hour. Given that this is an existing deficiency and not an impact related to the proposed development, no mitigation is recommended to be required from the Turner Road Industrial Building project.
8. Based on the results of the operational and capacity analysis, all study intersections are projected to operate acceptably or not further degrade operations under Background Year 2023 Conditions, both with and without the addition of project traffic.
9. No significant increases in queuing were identified as a result of the proposed development.

Project Description

Introduction

The proposed Turner Road Industrial Building will be located west of the Turner Road SE & 37th Avenue SE intersection in Salem, Oregon. The project will develop currently vacant land with approximately 208,000 square feet of general industrial use, providing greater industrial capacity to the City of Salem.

This report examines the traffic impacts of the proposed development on the transportation system in the vicinity of the project site. Based on correspondence with the City of Salem's Transportation Engineering Staff and ODOT's Engineering Staff, this report conducts safety and capacity/level of service analyses at the following four (4) intersections and the two (2) site access driveways:

1. Turner Road SE & Site Access Driveway #1
2. Turner Road SE & Site Access Driveway #2
3. Turner Road SE & Kuebler Boulevard
4. 36th Avenue SE & Kuebler Boulevard
5. Turner Road SE & Airway Drive SE
6. Turner Road SE/Airport Road SE & Mission Street SE

All supporting data and calculations are included in the appendix of this report.

Location Description

The proposed development is located west of the Turner Road SE & 37th Avenue SE intersection in southeastern Salem, Oregon. The project site is located at Marion County Assessor's Map No. 08 2W 07C Tax Lot 200, encompassing approximately 10.08 acres. The project intends to take access via two proposed two-way driveways along Turner Road SE, one approximately 450 feet north and one approximately 250 feet south of the Turner Road SE & 37th Avenue SE intersection.

The project site, outlined in yellow, is shown in Figure 1. The Salem city limits are outlined in red. A site plan is included in Appendix A.

Figure 1: Project Location

Vicinity Streets

The proposed development is expected to impact six (6) roadways near the site. Table 1 describes each of the vicinity roadways. All roadways within the study area are under City of Salem jurisdiction.

Table 1: Vicinity Roadway Descriptions

Street Name	Functional Classification	Cross-Section	Speed (MPH)	Curbs & Sidewalks	On-Street Parking	Bicycle Facilities
Turner Road SE	Minor Arterial	2-3 lanes	45 Posted	Partial Both Sides	Prohibited	None
Kuebler Boulevard	Parkway	2-4 lanes	55 Posted	Partial Both Sides	Prohibited	Bike Lanes
36th Avenue SE	Minor Arterial	2 lanes	45 Posted	None	Prohibited	None
Airway Drive SE	Collector	2 lanes	45 Posted	None	Prohibited	None
Airport Road SE	Minor Arterial	2 lanes	40 Posted	Partial West Side	Prohibited	Bike Lanes
Mission Street	Parkway	2-4 lanes	40 Posted	Continuous Both Sides	Prohibited	Bike Lanes

Table Notes:
Functional Classification based on City of Salem TSP

Study Intersections

Based on coordination with City of Salem staff, six (6) intersections were identified for analysis. A summarized description of the study intersections is provided in Table 2.

Table 2: Study Intersection Descriptions

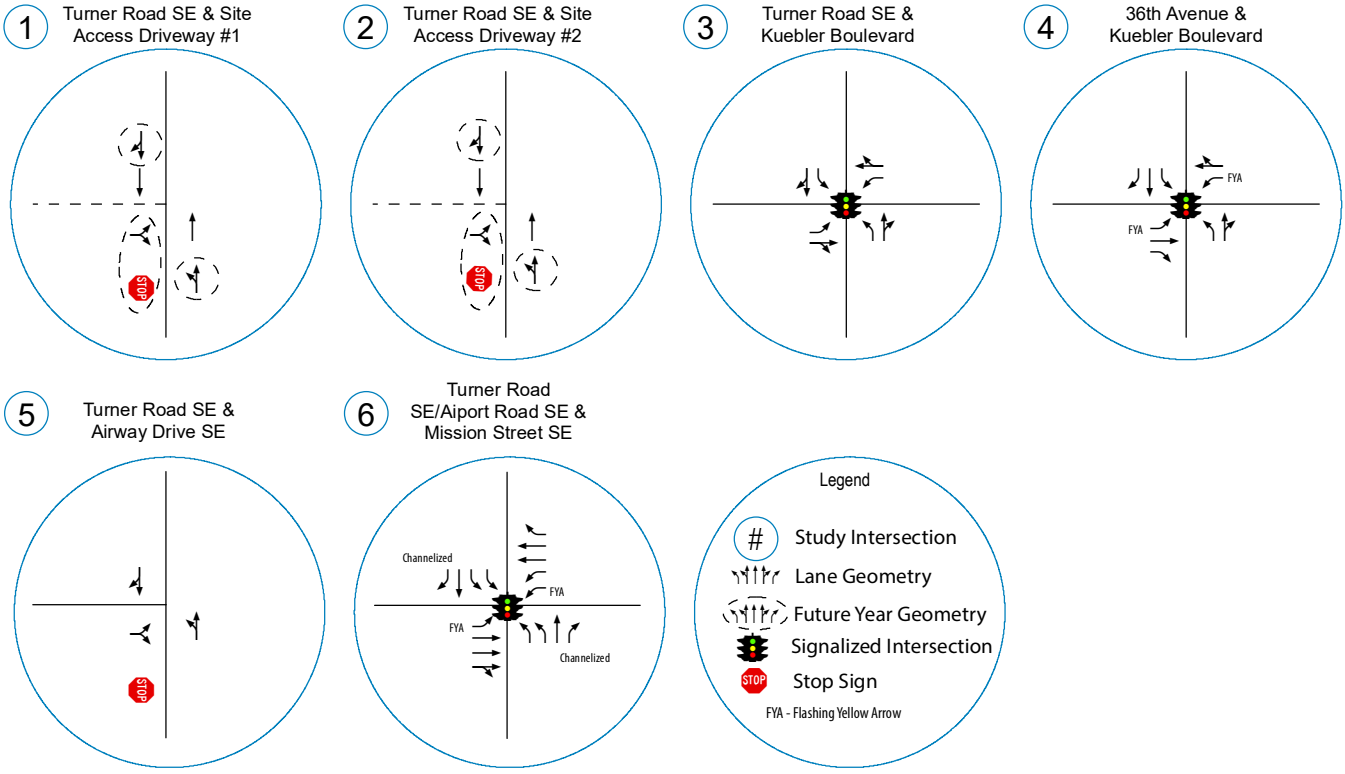
ID	Intersection	Geometry	Traffic Control	Phasing/Stopped Approaches
1	Turner Road SE & Site Access Driveway #1	3-Leg	Stop-Controlled	EB Stop-Controlled
2	Turner Road SE & Site Access Driveway #2*	3-Leg	Stop-Controlled	EB Stop-Controlled
3	Turner Road SE & Kuebler Boulevard	4-Leg	Signalized	All Approaches Protected/Permissive Left
4	36th Avenue SE & Kuebler Boulevard	4-Leg	Signalized	NB/SB Protected Left Turns FYA EB/WB Left
5	Turner Road SE & Airway Drive SE	3-Leg	Stop-Controlled	EB Stop Controlled
6	Turner Road SE/Airport Road SE & Mission Street SE	4-Leg	Signalized	All Approaches Protected Left Turns

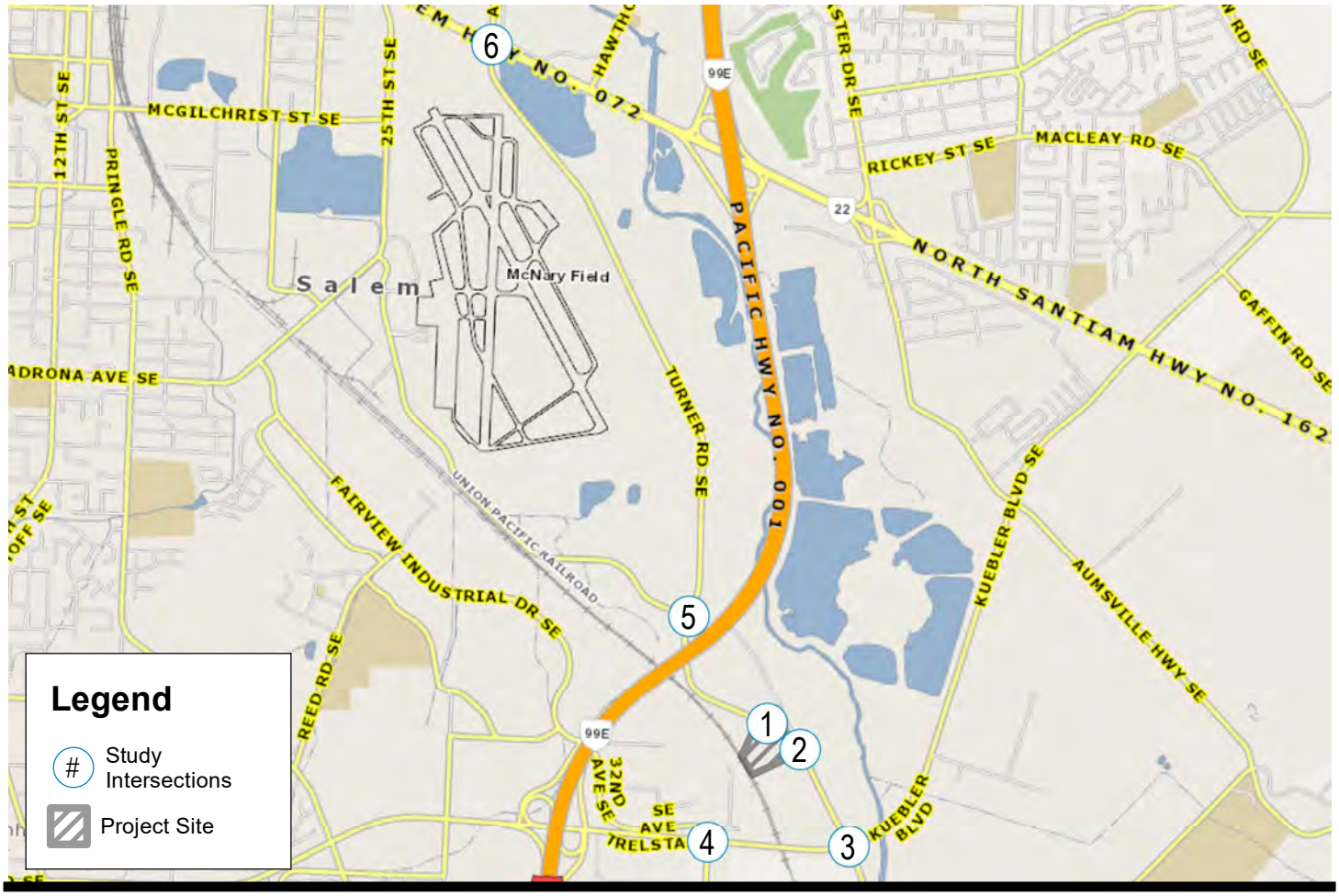
** = Intersection will be constructed by the Project.*

A vicinity map showing the project site, vicinity streets, and study intersection configurations is shown in Figure 2.

Transit

The project site is located near one transit line that has stops within a mile walking/biking distance from the site. *Cherriots Route 6: Fairview Industrial* provides service between the Downtown Transit Center and South Salem, with notable stops at the Capitol Building and the Salem Executive Airport. The nearest stop to the site is located at the intersection of Litchfield Place SE & 32nd Avenue. Weekday service is scheduled from approximately 5:30 AM to 9:40 PM with headways of approximately 60 minutes. Saturday service is scheduled from approximately 6:30 AM to 9:40 PM with headways or approximately 60 minutes. No Sunday or holiday service is currently offered on this route.





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Vicinity Map

NOT TO SCALE

Figure 2
Turner Road Industrial Building TIA
1/11/2022

Site Trips

Trip Generation

To estimate trips that will be generated by the development, trip rates from the *Trip Generation Manual*[1] were used based on the square footage and land use code 110: *General Light Industrial*. Table 3 summarizes the estimated trip generation of the site for the morning and evening peak hours and average weekday.

Table 3: Trip Generation Summary

Land Use	ITE Code	Intensity	AM Peak Hour			PM Peak Hour			ADT
			In	Out	Total	In	Out	Total	
General Light Industrial (All Vehicles)	110	208,000 Square Feet	128	17	145	9	59	68	833
General Light Industrial (Trucks)			1	1	2	1	1	2	52

The trip generation calculations show that the proposed development is projected to generate an increase of 145 morning peak hour trips, 68 evening peak hour trips, and 833 average weekday trips. The projected truck generation is 2 morning and evening truck trips and 52 average daily truck trips.

Trip Distribution

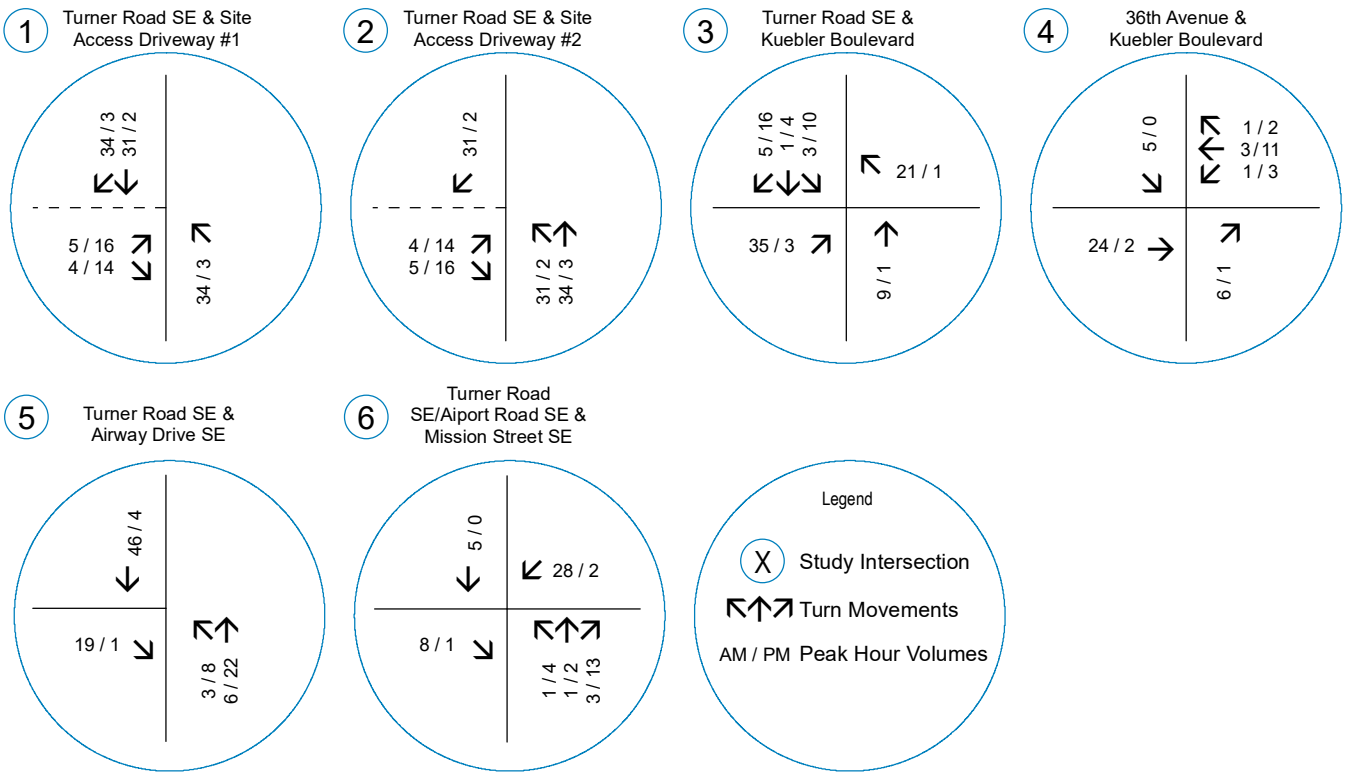
The directional distribution of site trips was derived from a Mid-Willamette Valley Council of Governments (MWVCOG) Planning Horizon Year 2043 select zone analysis of Traffic Analysis Zone (TAZ) 406, within which the project site resides. The following trip distribution was determined and used for analysis:

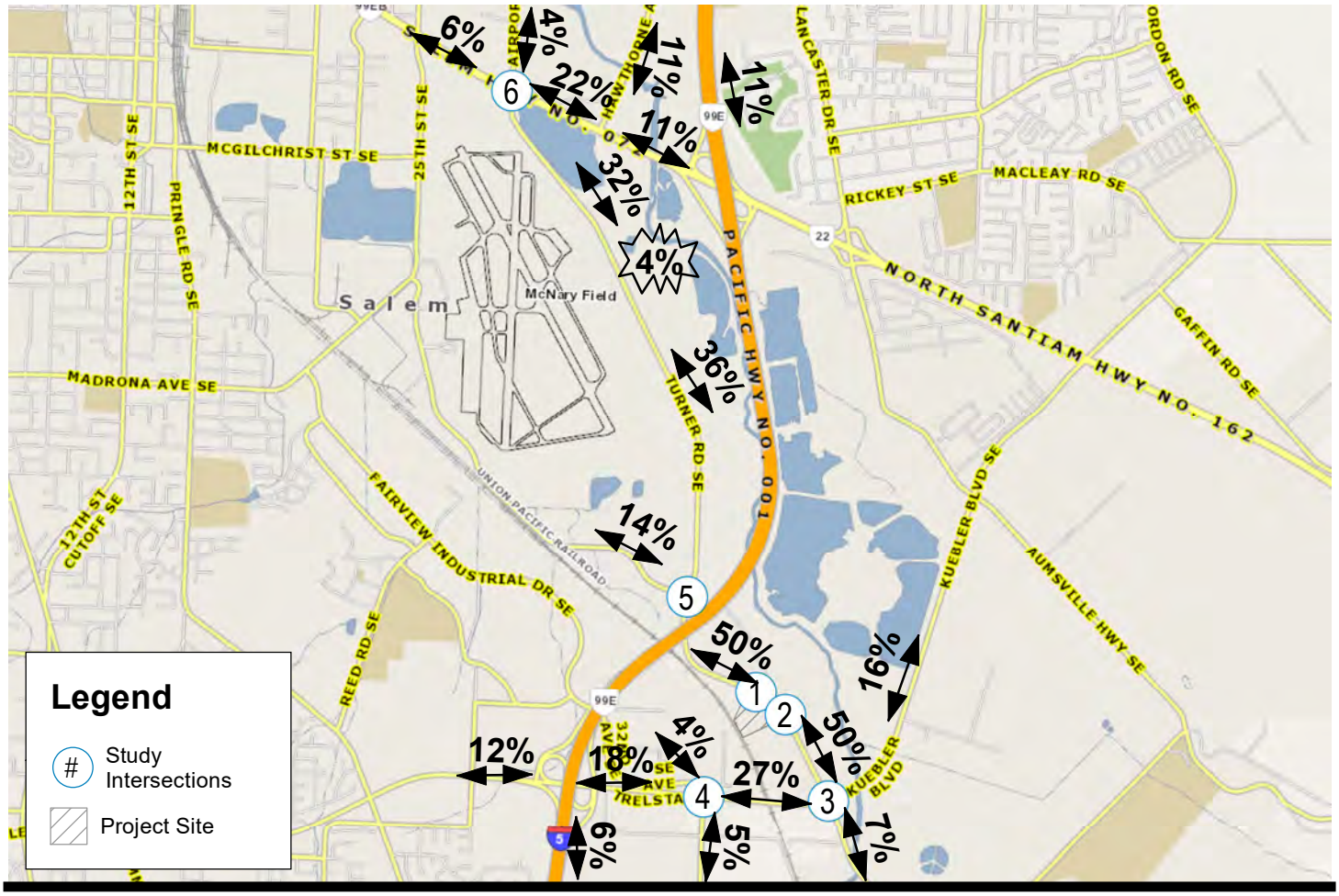
- Approximately 16 percent of trips will travel to/from the east along Kuebler Boulevard via Turner Road SE
- Approximately 14 percent of trips will travel to/from the northwest along Airway Drive SE via Turner Road SE
- Approximately 12 percent of trips will travel to/from the west along Kuebler Boulevard via Turner Road SE
- Approximately 11 percent of trips will travel to/from the north along Interstate 5 via Turner Road SE, Airport Road SE, Mission Street SE, and the I-5 Exit 253 ramps
- Approximately 11 percent of trips will travel to/from the north along Hawthorne Ave SE via Turner Road SE, Airport Road SE, and Mission Street SE
- Approximately 7 percent of trips will travel to/from the south along Turner Road SE
- Approximately 6 percent of trips will travel to/from the northwest along Mission Street SE via Turner Road SE and Airport Road SE
- Approximately 6 percent of trips will travel to/from the south along Interstate 5 via Turner Road SE, Kuebler Boulevard, and the I-5 Exit 252 ramps

[1] Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 11th Edition, 2021.

- Approximately 5 percent of trips will travel to/from the south along 36th Avenue SE via Turner Road SE and Kuebler Boulevard
- Approximately 4 percent of trips will travel to/from the north along Airport Road SE via Turner Road SE
- Approximately 4 percent of trips will travel to/from the west along 36th Avenue SE via Turner Road SE and Kuebler Boulevard
- Approximately 4 percent of trips will be captured locally due north of the site along Airport Road SE via Turner Road SE

The trip distribution and assignment for the total site trips generated during the morning and evening peak hours are shown in Figure 3.





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TRAFFIC VOLUMES
Trip Distribution & Assignment
AM & PM Peak Hour

NOT TO SCALE

Figure 3
Turner Road Industrial Building TIA
1/11/2022

Traffic Volumes

This section describes the study intersection peak hour traffic volumes under Existing Conditions (year 2021), the Background Year 2023 Conditions volumes, and the Buildout Year 2023 Conditions volumes.

Existing Conditions

The City of Salem Design Standards (Administrative Rule 109-001, Division 6, Section 6.33(f)(3)) requires traffic counts to be less than 2 years old, therefore, new turning movement counts were collected on Thursday, December 9, 2021, and Tuesday, December 14, 2021, at the study area intersections from 7:00 to 9:00 AM and 4:00 to 6:00 PM. Based on conversations with Salem's Assistant City Traffic Engineer, it was reported that Salem's current traffic volumes very near pre-pandemic levels, therefore, no factors were applied to the data for pandemic conditions.

ODOT Commuter Trends were used to develop a seasonal adjustment factor (SAF) of 1.12 that was applied to the 2021 traffic counts. The SAF is intended to adjust traffic volumes along ODOT intersections to reflect the 30th highest hour of traffic.

Figure 4 shows the existing conditions traffic volumes at the study intersections during the morning and evening peak hours.

Background Year 2023 Conditions

To provide an analysis of the impact of the proposed development on the nearby transportation facilities, an estimate of future traffic volumes is required. For the general background growth, the annual growth rate is based on MVCOG SKATS traffic model 2017 and 2043 traffic model outputs for study area roadways. Growth rates for the study area roadway segments ranged from 0.54% to 5.00% compound annual growth rate (CAGR). Therefore, for a two-year growth period, the total growth rate ranging from 1.08% to 10.25% were applied to the 2021 Existing Conditions baseline volumes for Buildout Year 2023 Background conditions.

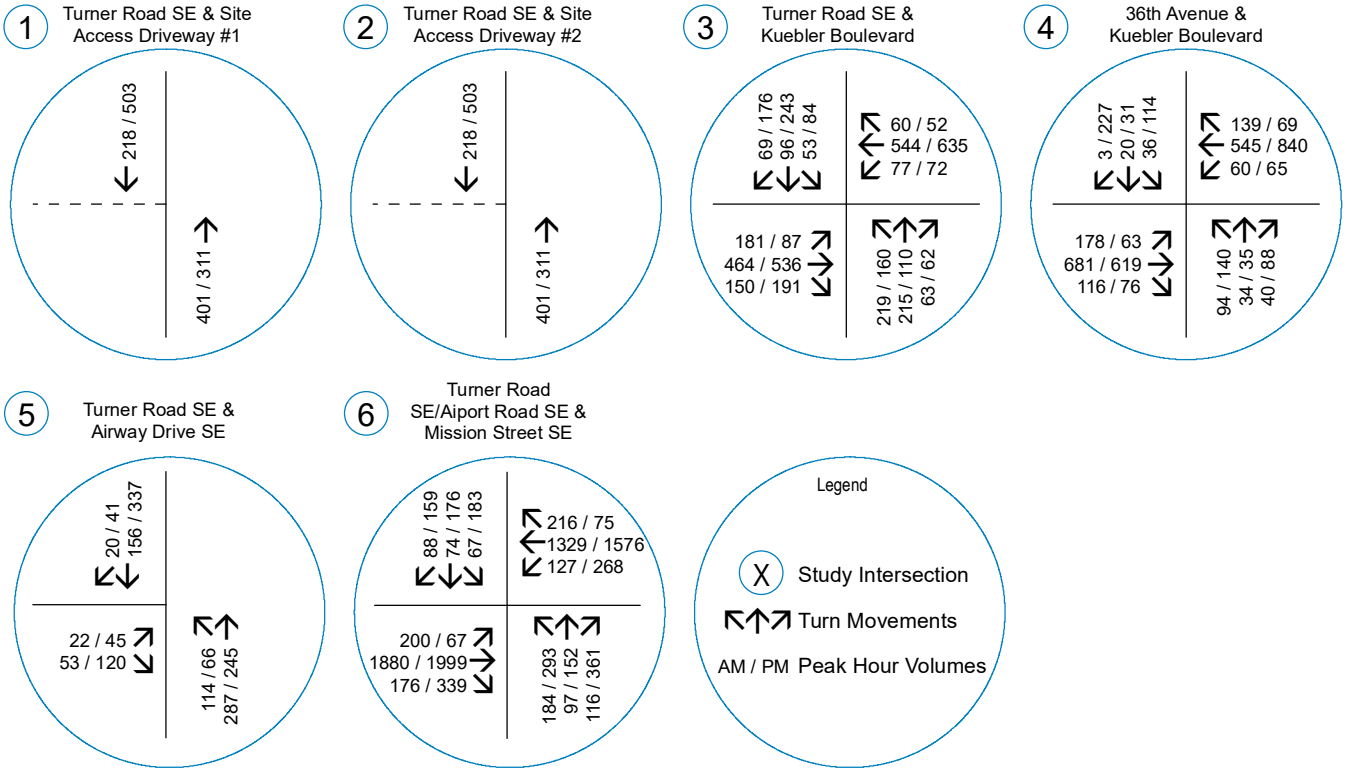
Additional traffic volume from a nearby development is included in the Year 2023 Background conditions. Traffic volumes were derived from the *Costco TIA* (prepared by Kittelson & Associates). These volumes were included in the Background Year 2023 Conditions.

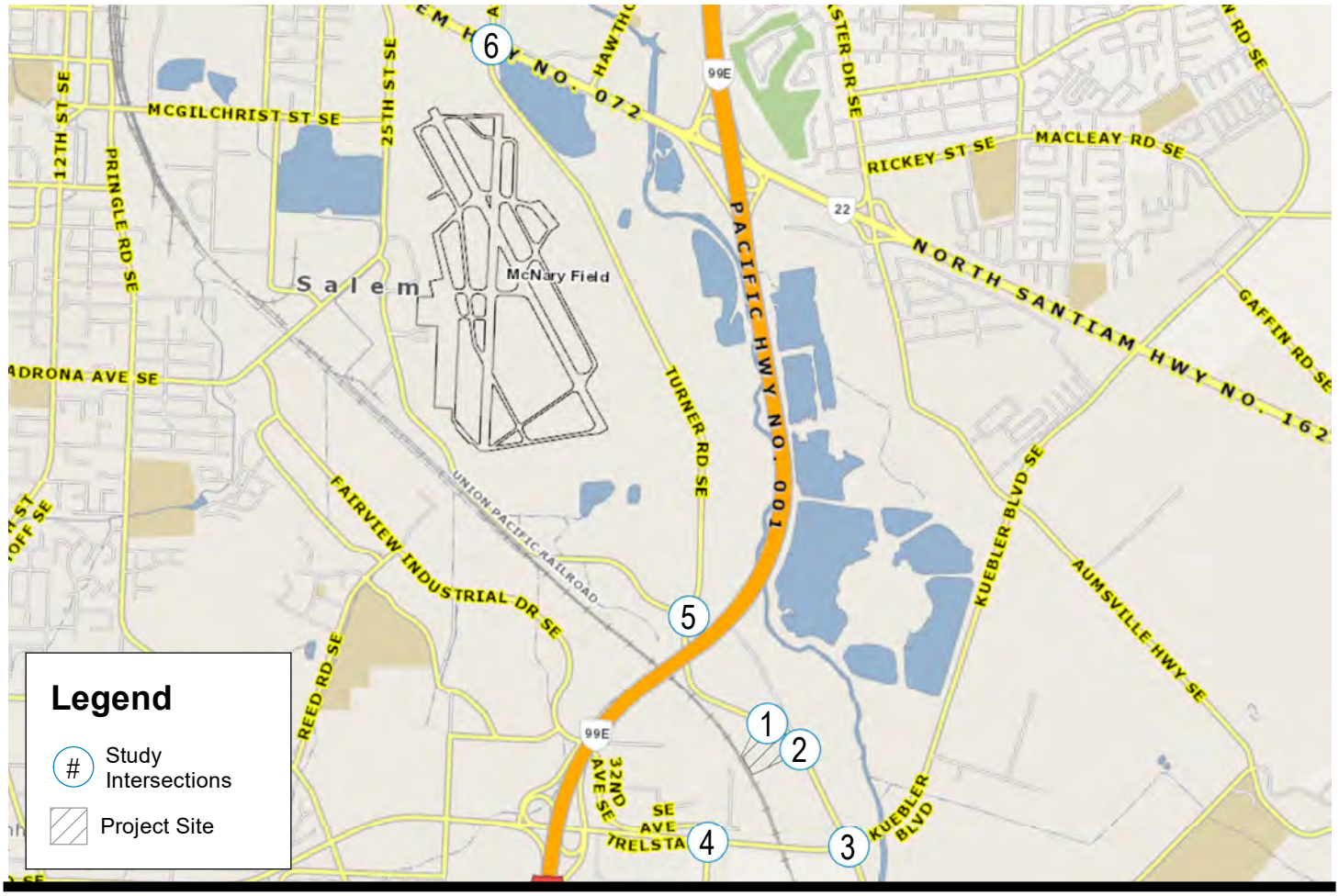
Figure 5 displays the Year 2023 Background volumes during the morning and evening peak hours.

Buildout Year 2023 Conditions

Peak hour trips to be generated by the proposed development, as described earlier within the *Site Trips* section, were added to the Year 2023 Background volumes to obtain the expected the Year 2023 Buildout conditions.

Figure 6 displays the Year 2023 Buildout volumes, which include the additional site trips projected to be generated by the proposed development.





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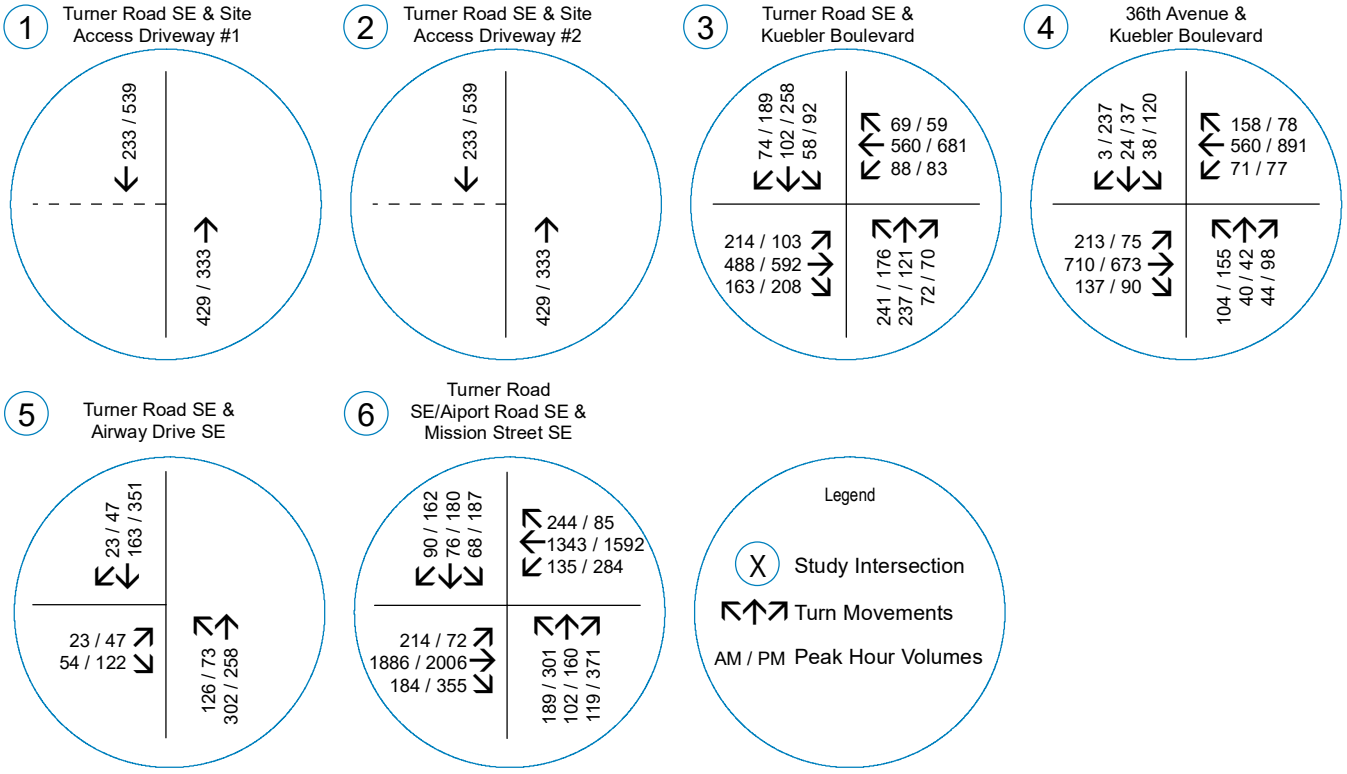
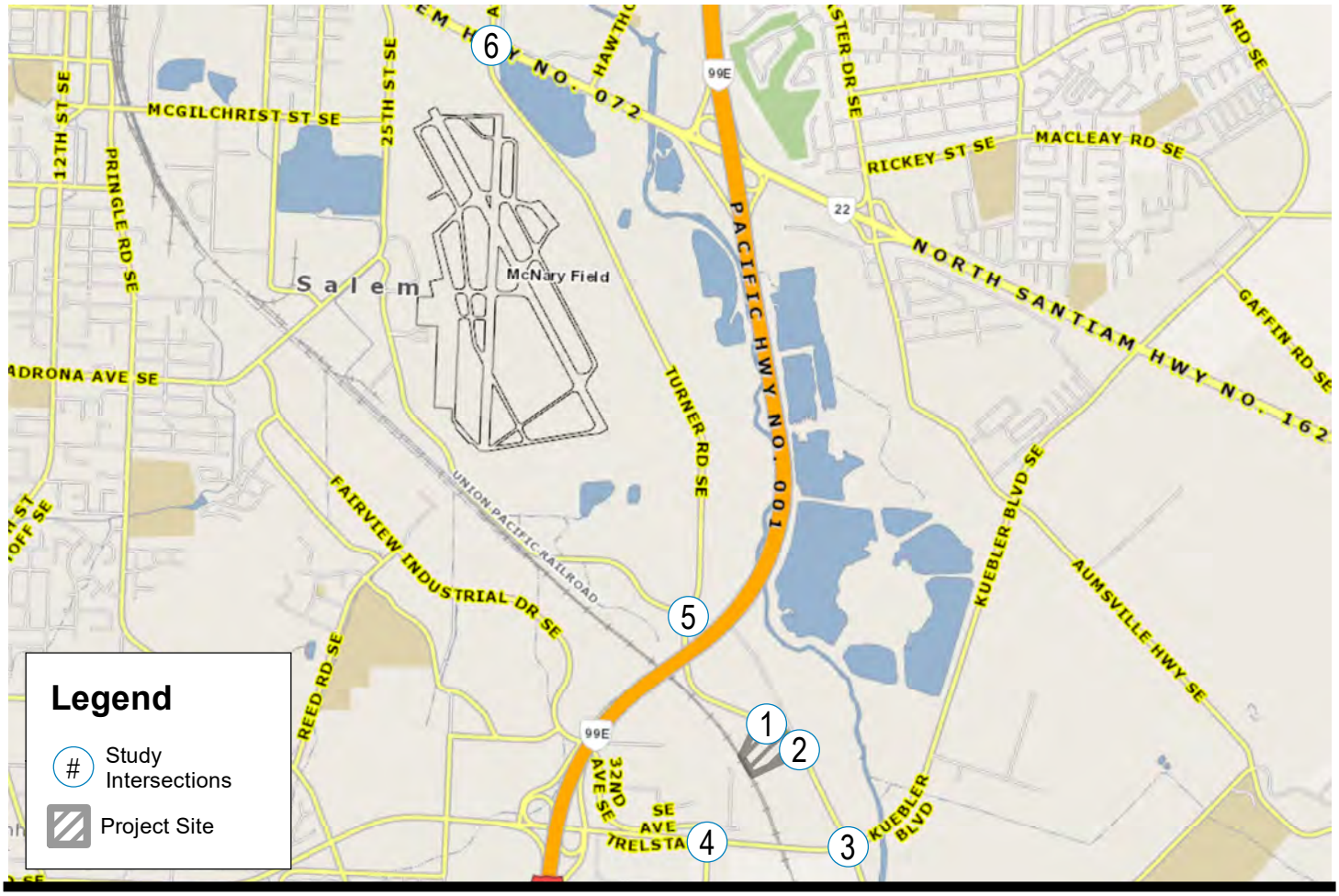
TRAFFIC VOLUMES
Existing Conditions
AM & PM Peak Hour

NOT TO SCALE

Figure 4
Turner Road Industrial Building TIA
1/11/2022





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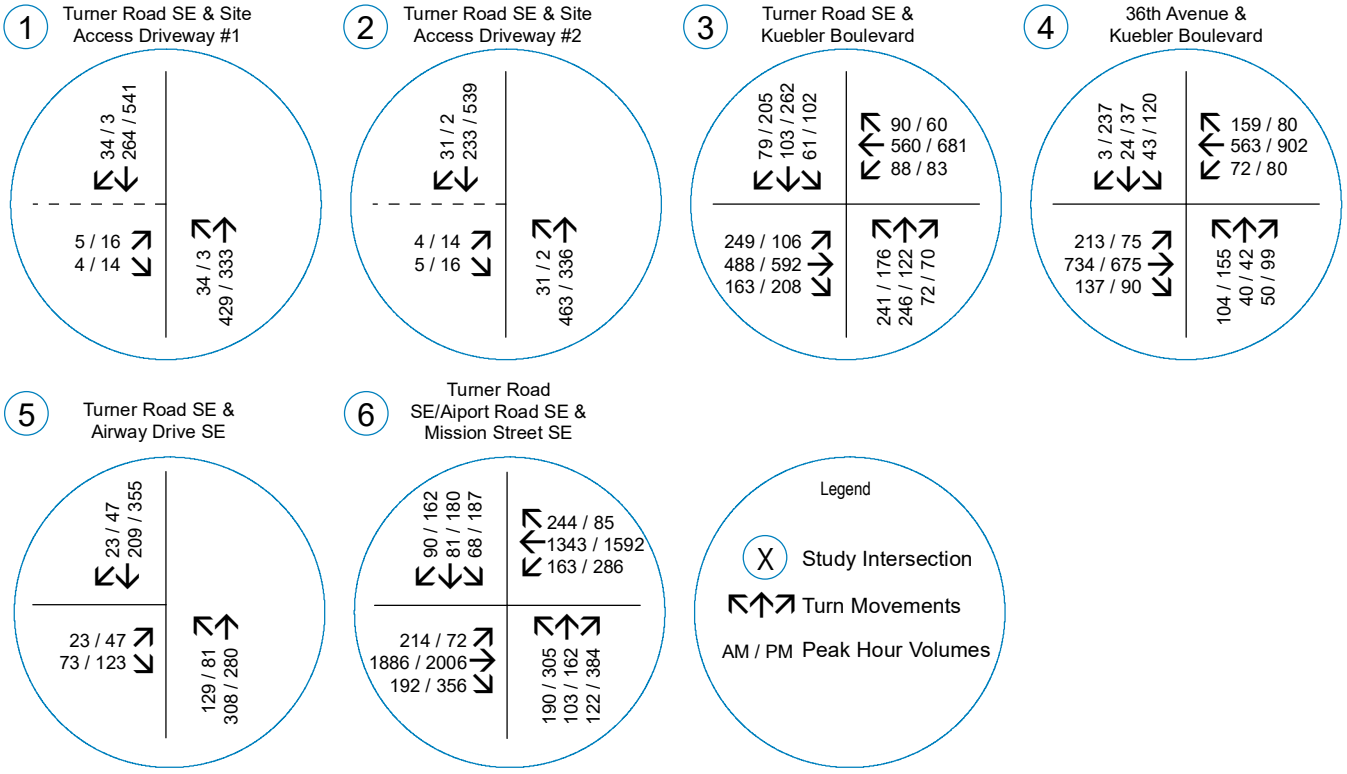
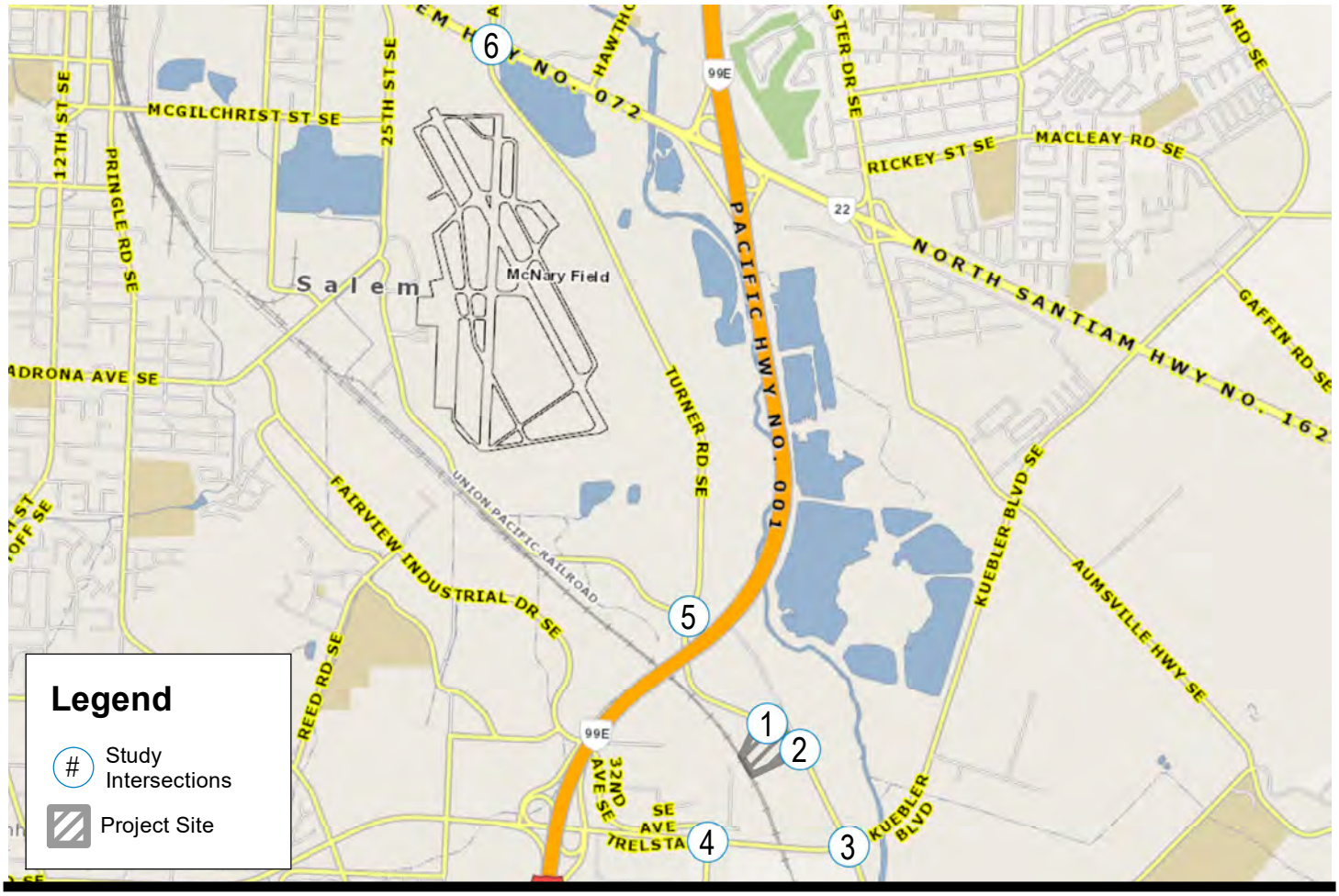
TRAFFIC VOLUMES
Background Conditions
AM & PM Peak Hour

NOT TO SCALE

Figure 5
Turner Road Industrial Building TIA
1/11/2022





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TRAFFIC VOLUMES
Buildout Conditions
AM & PM Peak Hour

NOT TO SCALE

Figure 6
Turner Road Industrial Building TIA
1/11/2022

Safety Analysis

Crash History Review

Using data obtained from ODOT's Crash Data System, a review of approximately five years of the most recent available crash history (January 2015 through December 2019) was performed at the study intersections. The crash data was evaluated based on the number of crashes, the type of collisions, and the severity of the collisions. Crash severity is based on injuries sustained by people involved in the collision, and includes five categories:

- *PDO* – Property Damage Only;
- *Injury C* – Possible Injury;
- *Injury B* – Suspected Minor Injury;
- *Injury A* – Suspected Serious Injury; and
- *Fatality*

Crash rates provide the ability to compare safety risks at different intersections by accounting for both the number of crashes that have occurred during the study period and the number of vehicles that typically travel through the intersection. Crash rates were calculated using the common assumption that traffic counted during the evening peak hour represents approximately 10 percent of the annual average daily traffic (AADT) at the intersection. Crash rates over 1.00 crashes per million entering vehicles (CMEV) may be indicative of design deficiencies and therefore require a need for further investigation and possible mitigation.

Table 5 provides a summary of crash types while Table 6 summarizes crash severities and rates for each of the study intersections. Detailed crash data is provided in the appendix to this report.

Table 4: Collision Type Summary

Intersection		Collision Type					Total Crashes
		Rear-End	Turning	Angle	Sideswipe	Fixed Object	
3	Turner Road SE & Kuebler Boulevard	17	11	4	0	0	32
4	36th Avenue SE & Kuebler Boulevard	9	8	1	0	1	19
5	Turner Road SE & Airway Drive SE	15	4	0	1	2	22
6	Turner Road SE/Airport Road SE & Mission Street SE	11	8	0	0	0	19

Table 5: Crash Severity and Rate Summary

Intersection		Severity					Total Crashes	Peak Hour Volume	Crash Rate
		PDO	C	B	A	Fatality			
3	Turner Road SE & Kuebler Boulevard	12	16	4	0	0	32	2,408	0.728
4	36th Avenue SE & Kuebler Boulevard	7	9	3	0	0	19	2,367	0.440
5	Turner Road SE & Airway Drive SE	8	12	1	1	0	22	854	**1.41**
6	Turner Road SE/Airport Road SE & Mission Street SE	7	11	1	0	0	19	5,648	0.184

Table Notes: **Bold** *indicates intersection exceeds collision rate threshold.*

One collision at the intersection of Turner Road SE & Airway Drive SE was classified as Injury A – Suspected Serious Injury. The collision occurred when the driver of a northbound passenger vehicle making a left turn struck a southbound passenger vehicle. The driver of the striking vehicle is reported to have not yielded the right-of-way to the other passenger vehicle due to inattention. The driver of the striking vehicle sustained an injury consistent with an *Injury A* classification, the driver of the struck vehicle sustained injuries consistent with an *Injury C* – Possible Injury classification. The collision occurred under clear, dry, daytime conditions.

All study area intersections are currently operating within safety standards, with the exception of the intersection of Turner Road SE & Airway Drive SE was identified as having a crash rate of 1.41 CMEV during the five-year study period, exceeding a CMEV of 1.00, indicative of a safety concern. 15 of the 22 collisions (68%), were classified as rear-end collisions. 14 of the 15 (93%) rear-end collisions involved northbound vehicles, most likely due to the absence of a left-turn lane and a posted speed of 45 mph.

According to the City of Salem's TSP, Turner Road SE is planned to be improved to Minor Arterial standards, which includes widening to include two travel lanes and the addition of a center turn lane or turn pockets. This project is listed as a low-priority project, meaning that construction will be needed within 25-years. This improvement would address the rear-end collisions; therefore, it is recommended that the City of Salem consider accelerating the implementation this full improvement or at least widening Turner Road SE at Airway Drive SE to provide a northbound left-turn lane.

All other intersections are anticipated to continue operating safely under year Buildout Year 2023 Conditions.

Sight Distance Analysis

A sight distance analysis was conducted at the site access driveways located on Turner Road SE. To evaluate the sight distance available at these intersections, intersection sight distance was measured and recommended by the current AASHTO manual[2]. According to AASHTO, the driver's eye is assumed to be 14.5 feet from the near edge of the nearest travel lane of the intersecting street and at a height of 3.5 feet above the minor-street approach pavement. The vehicle driver's eye height along the major-street approach is assumed to be 3.5 feet above the cross-street pavement.

A field investigation was conducted on Tuesday afternoon, November 14th, 2021, to measure sight distance for this location. Figure 7 and Figure 8 display sight distance viewpoints from the future northern site access driveway for the northbound and southbound approaches, respectively. Figure 9 and Figure 10 display sight distance viewpoints from the future southern site access driveway for the northbound and southbound approaches, respectively.

Based on speed data obtained on December 8th, 2021, the 85th percentile speed along Turner Road SE north of 37th Avenue SE was measured to be 48 mph. Therefore, the recommended intersection sight distance is 530 feet and the required stopping sight distance is 400 feet.

The following observations were made:

- Turner Road SE & Site Access Driveway #1: Sight distance is measured to be approximately 750 feet north and south of site access driveway #1.
- Turner Road SE & Site Access Driveway #2: Sight distance is measured to be 650 feet north of site access driveway #2 and approximately 600 feet south of site access driveway #2.

Therefore, sight distance exceeds the recommended intersection sight distance for both driveway intersections.

[2] American Association of State Highway and Transportation Officials (AASHTO), *A Policy on Geometric Design of Highways and Streets,* 7th Edition, 2018.

Figure 7: Driveway #1 Site Access Looking North

Figure 8: Driveway #1 Site Access Looking South

Figure 9: Driveway #2 Site Access Looking North

Figure 10: Driveway #2 Site Access Looking South

Warrant Analysis

Preliminary Traffic Signal Warrants

Preliminary traffic signal warrants were examined for all of the unsignalized intersections to determine whether the installation of a new traffic signal will be warranted at the intersections by the project buildout year 2023. Based on the preliminary analysis, traffic signal warrants are not projected to be met for any of the unsignalized study intersections. Accordingly, no signalization of the unsignalized study intersections is necessary or recommended.

Left-Turn Lane Warrants

A left-turn refuge is primarily a safety consideration for the major street, removing left-turning vehicles from the through traffic stream. Warrants were based on the methodology outlined in the National Cooperative Highway Research Program (NCHRP) Report Number 457[3]. This methodology evaluates the need for a left-turn lane based on the number of left-turning vehicles, the number of travel lanes, the number of advancing and opposing vehicles, and the roadway travel speed.

Detailed warrant analyses for each study intersection are included in the technical appendix to this report. Left-turn lane warrants were conducted at all intersections that are not anticipated to be operating as a traffic signal in Year 2023 and will serve a significant traffic volume, including:

1. Turner Road SE & Site Access Driveway #1
2. Turner Road SE & Site Access Driveway #2
3. Turner Road SE & Airway Drive SE

The left-turn lane analysis determined that a northbound left-turn refuge is projected to be met at the intersection of Turner Road SE & Airway Drive SE under existing conditions as well as all future conditions during the morning and evening peak hour. The northbound left-turn movement is estimated at 129 vehicles during the AM peak hour and 81 vehicles during the PM peak hour of the year 2023 buildout condition including 3 morning peak hour trips (2%) and 8 evening peak hour trips (10%) generated by the proposed development.

As stated in the *Crash History Review*, Turner Road SE is planned to be widened to include two travel lanes and a left turn lane or turn pockets within 25 years. Given that a left-turn lane is warranted under existing conditions and the absence of a left-turn lane is most likely causing a majority of rear-end collisions at the intersection, it is recommended that the City of Salem consider accelerating the implementation this full improvement or at least widening Turner Road SE at Airway Drive SE to provide a northbound left-turn lane.

The need for a left-turn lane is an existing safety deficiency and not an impact related to the proposed development; therefore, installation of a northbound left-turn lane should not be required as mitigation for the Turner Road Industrial Building project.

The left-turn lane warrant for the intersections of Turner Road SE & Site Access Driveway #1, and Turner Road SE & Site Access Driveway #2 are not projected to be met under Buildout Year 2023 Conditions.

[3] Bonneson, James A. and Michael D. Fontaine, *NCHRP Report 457: An Engineering Study Guide for Evaluating Intersection Improvements*, Transportation Research Board, 2001.

Operational Analysis

Intersection Capacity Analysis

A capacity and delay analysis was conducted for each study intersections per the signalized and unsignalized intersection analysis methodologies in the *Highway Capacity Manual* (HCM)[4]. Intersections are generally evaluated based on the average control delay experienced by vehicles and are assigned a grade according to their operation. The level of service (LOS) of an intersection can range from LOS A, which indicates very little, or no delay experienced by vehicles, to LOS F, which indicates a high degree of congestion and delay. The volume-to-capacity (v/c) ratio is a measure that compares the traffic volumes (demand) against the available capacity of an intersection.

Based on conversations with ODOT staff, a project to install adaptive signal timing on the corridor which includes the intersection of Turner Road SE/Airport Road SE & Mission Street SE has started. This project will optimize traffic flow along the given corridor. For analysis of Background Year 2023 and Buildout Year 2023, the cycle and splits were optimized to reflect these future improvements.

Performance Standards

Per the City of Salem's *Transportation System Plan Policy 2.5 Capacity Efficient Design and Level of Service (LOS) Standards 2. Peak Travel Periods*, the following performance standards are required by study area intersections:

> c. The City shall allow its existing streets and intersections to function at LOS E (where traffic volumes generally are approaching or at 100 percent of the street's effective capacity) during the morning and evening peak travel hours. However, traffic impacts created by new development, as identified in a traffic impact analysis, must be mitigated to maintain peak hour LOS D or better.

Delay & Capacity Analysis

The LOS, delay, and v/c results of the capacity analysis are shown in Table 7for the morning and evening peak hours. All of the study area intersections are projected to operate at Level of Service D or better under all analysis scenarios. Based on the results of the operational and capacity analysis, all study intersections are projected to operate acceptably or not further degrade operations under Background Year 2023 conditions, both with and without the addition of project traffic.

[4] Transportation Research Board, *Highway Capacity Manual 6th Edition*, 2016.

Table 6: Capacity Analysis Summary

Intersection & Condition	AM Peak Hour			PM Peak Hour		
	V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
1. Turner Road SE & Site Access Driveway #1						
2023 Buildout Conditions	0.03	C	13.9	0.09	C	15.9
2. Turner Road SE & Site Access Driveway #2						
2023 Buildout Conditions	0.03	B	12.9	0.09	C	15.5
3. Turner Road SE & Kuebler Boulevard						
2021 Existing Conditions	0.78	D	36.7	0.86	C	34.1
2023 Background Conditions	0.86	D	41.4	0.95	D	40.8
2023 Buildout Conditions	0.94	D	44.9	0.96	D	44.1
4. 36th Avenue & Kuebler Boulevard						
2021 Existing Conditions	0.61	B	15.3	0.76	C	34.0
2023 Background Conditions	0.66	B	16.8	0.82	D	38.3
2023 Buildout Conditions	0.66	B	17.1	0.84	D	38.7
5. Turner Road SE & Airway Drive SE						
2021 Existing Conditions	0.16	B	12.6	0.38	C	16.5
2023 Background Conditions	0.17	B	13.2	0.40	C	17.7
2023 Buildout Conditions	0.21	B	13.8	0.43	C	18.6
6. Turner Road SE/Airport Road SE & Mission Street						
2021 Existing Conditions	0.80	C	29.0	1.01	D	51.3
2023 Background Conditions	0.81	C	31.0	1.01	D	52.7
2023 Buildout Conditions	0.81	C	32.3	1.02	D	54.5

Table Notes: **BOLDED** *text indicates that the intersection exceeds the performance standards.*

Queuing Analysis

An analysis of projected queuing was conducted for the study intersection. To determine the expected queuing which may form at critical study area movements, a Synchro/SimTraffic simulation was conducted and 95th percentile queue lengths were reported. The 95th percentile queue is a statistical measurement that indicates there is a 5 percent chance that the queue may exceed this length during the analysis period; however, given this is a probability, the 95th percentile queue length may theoretically never be met or observed in the field. Reported queue lengths were rounded to the nearest 25 feet or the approximate length of one vehicle.

A comparison of the queues under Background and Buildout Year 2023 Conditions is presented in Table 8. The intersections of Turner Road SE & Kuebler Boulevard SE, 36th Avenue & Kuebler Boulevard, and Turner Road SE/ Airport Road SE & Mission Street are expected to have projected 95th percentile queues which extend more than 10 feet beyond available lane storage. Only minor changes are anticipated between the Background and Buildout Year 2023 conditions. Changes in queue lengths between different scenarios are largely within statistical error and rounding error, for instance, some queue lengths are shown to become shorter with the addition of project traffic passing through the intersection. Based on the results of the queuing analysis, the proposed project is not expected to significantly change queuing at the study intersections compared with conditions without the project.

Table 7: Queuing Analysis Summary

Intersection	Movement	Available Storage (ft)	95th Percentile Queue (ft) (AM/PM)	
			Background Year 2023	Buildout Year 2023
1. Turner Road SE & Site Access Driveway #1	EBLR	100	-	50/100
	NBL	470	-	50/25
2. Turner Road SE & Site Access Driveway #2	EBLR	100	-	50/225
	NBL	205	-	50/25
3. Turner Road SE & Kuebler Boulevard	EBL	275	**325/325**	**300/325**
	NBL	250	**325**/225	**325**/225
	WBL	275	225/250	225/**300**
	SBL	310	125/**450**	150/**450**
4. 36th Avenue & Kuebler Boulevard	EBL	320	250/250	250/225
	EBR	320	125/300	75/300
	NBL	150	150/**200**	**175/200**
	WBL	220	200/**275**	225/**325**
	SBL	125	100/**200**	125/200
	SBR	125	25/250	25/225
5. Turner Road SE & Airway Drive SE	EBLR	1,880	75/75	75/100
	NB	1,075	75/75	100/100
	SB	600	25/25	25/25
6. Turner Road SE/ Airport Road SE & Mission Street	EBL	375	**425**/325	**400**/375
	NBL	200	150/**300**	150/**300**
	NBR	645	100/**1,000**	100/**925**
	WBL	350	**400**/350	**400**/325
	WBR	1,700	350/1,075	1,000/1,500
	SBL	300	75/250	125/300
	SBR	200	0/100	25/175

Table Notes: **BOLDED** *text indicates queue length exceeding storage capacity by more than 10 feet.*

Conclusions

Key findings from this analysis include:

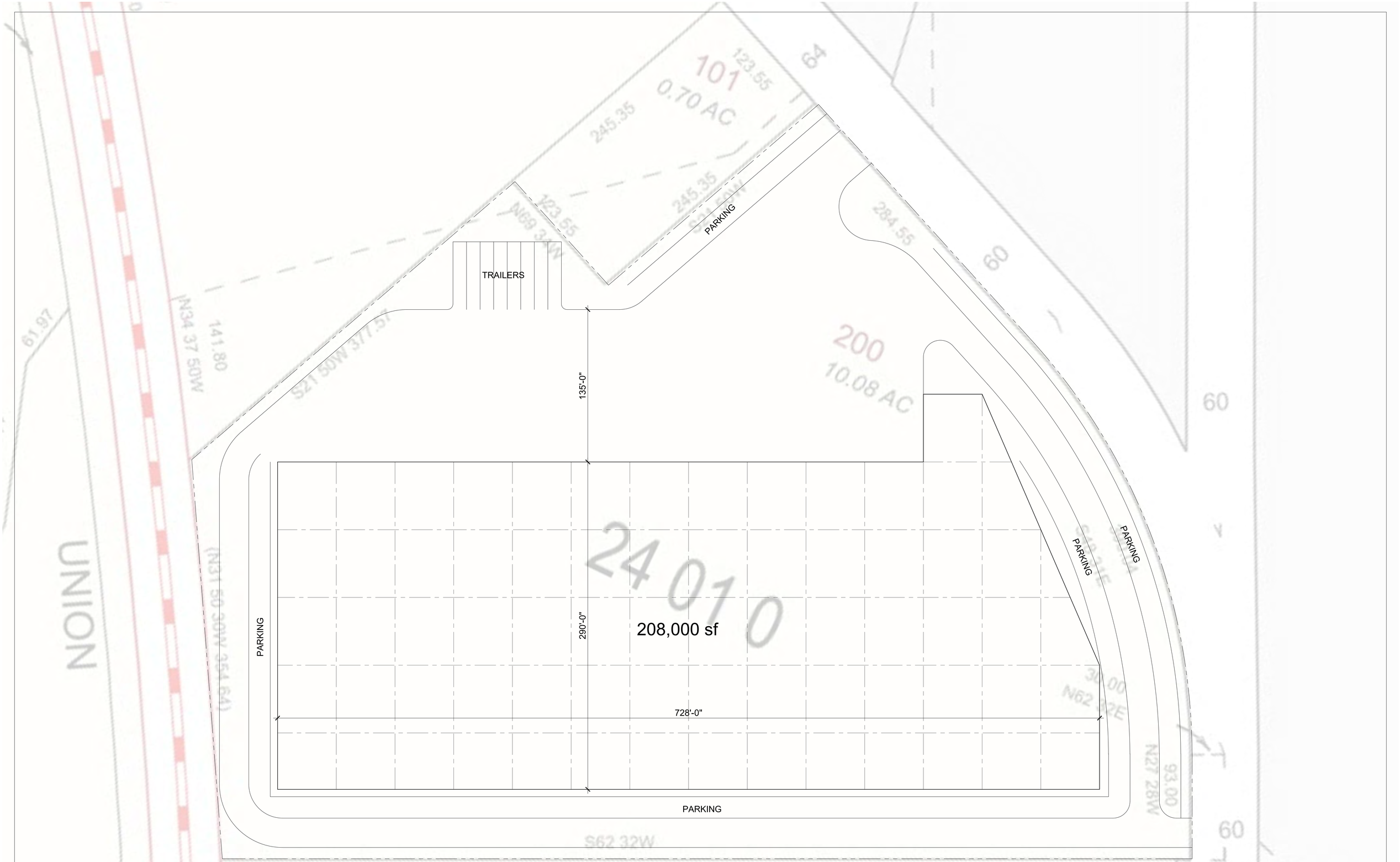
- No significant trends or crash patterns were identified at any of the study intersections except for the intersection of Turner Road SE & Airway Drive SE, which was identified as having a high crash rate. Crash patterns show a trend of rear-end collisions in the northbound direction on Turner Road SE, likely associated with vehicles slowing in the travel lane to make a left turn onto Airway Drive SE. According to the City of Salem's TSP, Turner Road SE is planned to be widened to include a three-lane cross-section within 25 years. This improvement would address this collision pattern; therefore, it is recommended that the City of Salem consider accelerating the implementation of this full improvement or at least widening Turner Road SE at Airway Drive SE to provide a northbound left-turn lane.
- A sight distance analysis was conducted at the two site access driveways located on Turner Road SE, the following observations were made:
    - The sight distance is measured to be approximately 750 feet for the northbound and southbound approaches at Turner Road SE & Site Access Driveway #1, exceeding the 530-foot intersection sight distance recommendation.
    - The sight distance is measured to be approximately 650 feet for the southbound approach and approximately 600 feet for the northbound approach at Turner Road SE & Site Access Driveway #2, exceeding the 530-foot intersection sight distance recommendation.
- The preliminary traffic signal analysis determined that signal warrants are not projected to be met at any of the applicable study intersections under year Buildout Year 2023 Conditions.
- The left-turn lane analysis determined that a northbound left-turn lane is warranted at the intersection of Turner Road SE & Airway Drive SE under existing conditions during the morning and evening peak hour. Given that this is an existing deficiency and not an impact related to the proposed development, no mitigation is recommended to be required from the Turner Road Industrial Building project.
- Based on the results of the operational and capacity analysis, all study intersections are projected to operate acceptably or not further degrade operations under Background Year 2023 Conditions, both with and without the addition of project traffic.
- No significant increases in queuing were identified as a result of the proposed development.

Appendix A

Site Plan

Trip Generation Calculations

Traffic Counts



PRELIMINARY SITE PLAN

SCHEME 1

12 September 2021

Turner Road
Salem, Oregon

SCALE: 1" = 30'

Carlile Coatsworth Architects, Inc
18600 MacArthur Boulevard - Suite 300 - Irvine, CA 92612 - Phone: (949) 833-1930

PHELAN
DEVELOPMENT
450 Newport Center Drive, Suite 405
Newport Beach, CA 92660

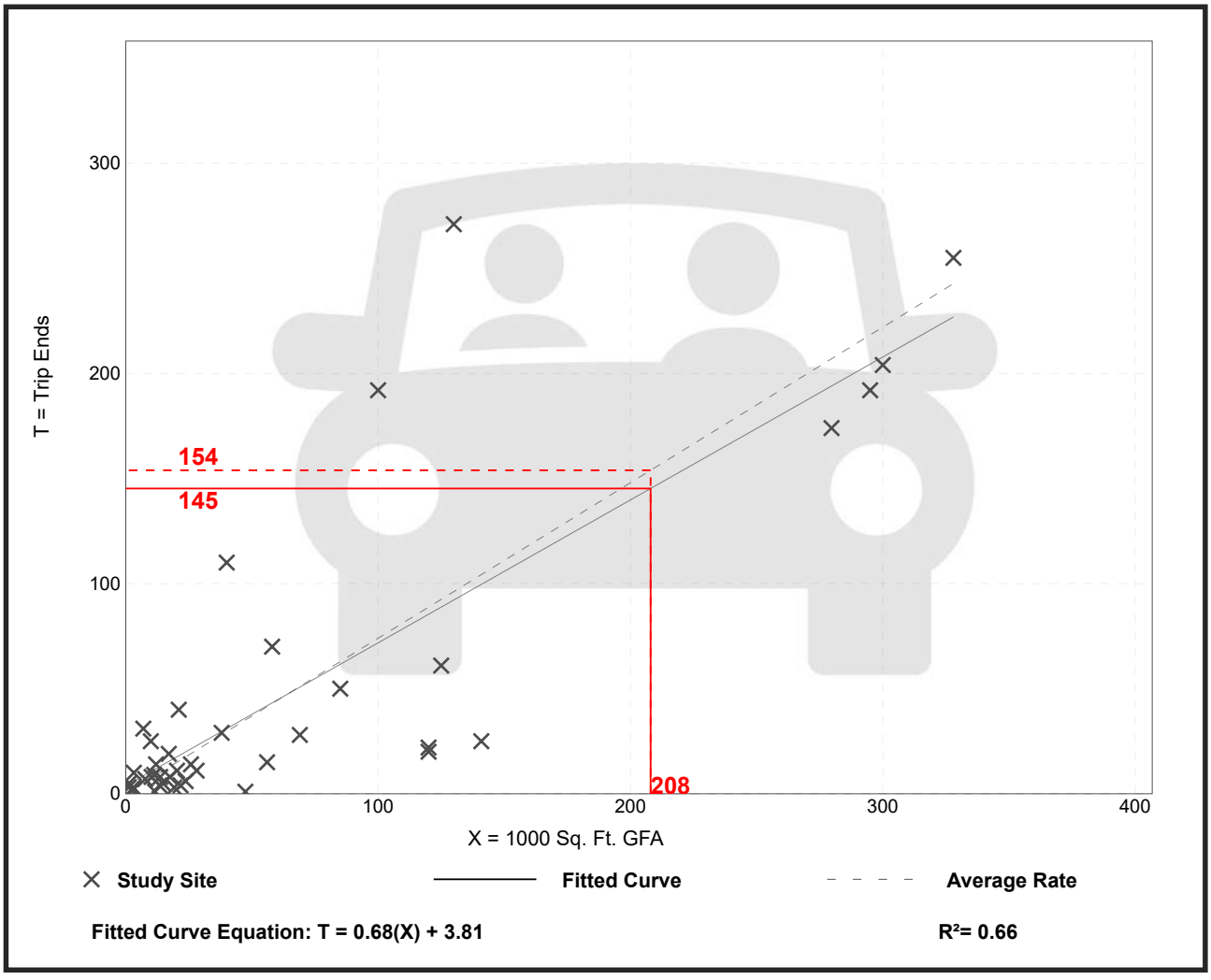
General Light Industrial
(110)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 41
Avg. 1000 Sq. Ft. GFA: 65
Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.74	0.02 - 4.46	0.61

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

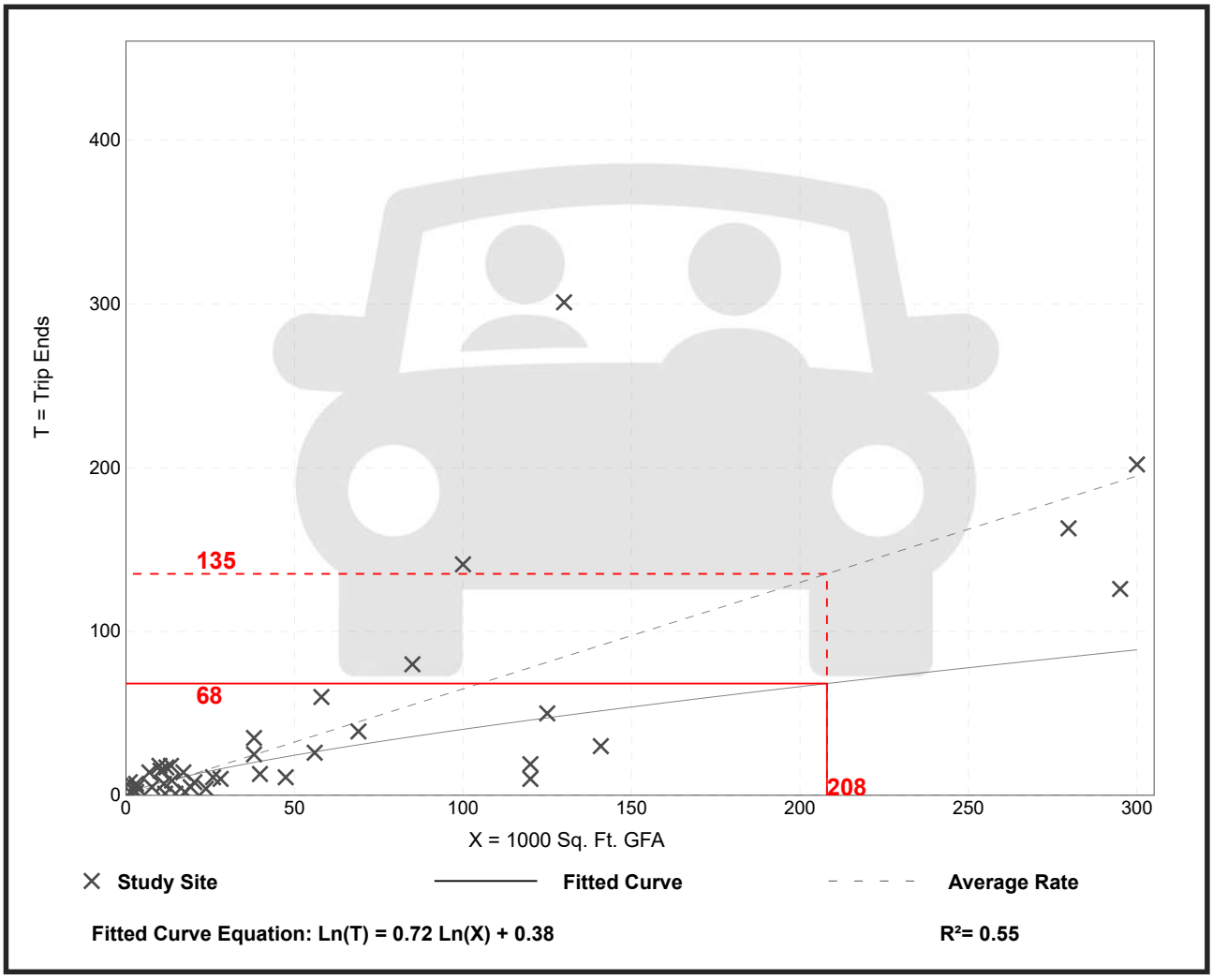
General Light Industrial
(110)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 40
Avg. 1000 Sq. Ft. GFA: 58
Directional Distribution: 14% entering, 86% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.65	0.07 - 7.02	0.56

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

General Light Industrial
(110)

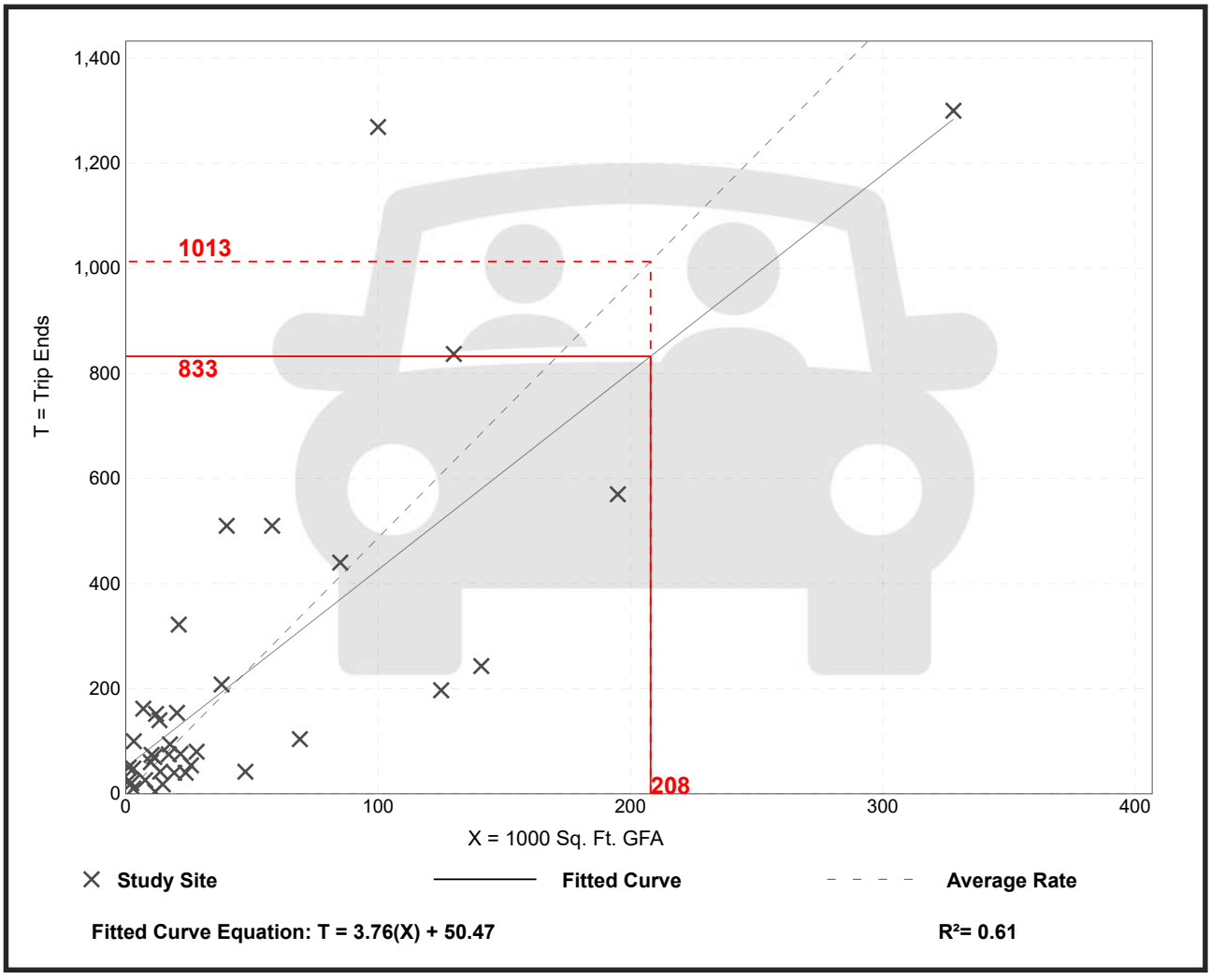
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 37
Avg. 1000 Sq. Ft. GFA: 45
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.87	0.34 - 43.86	4.08

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

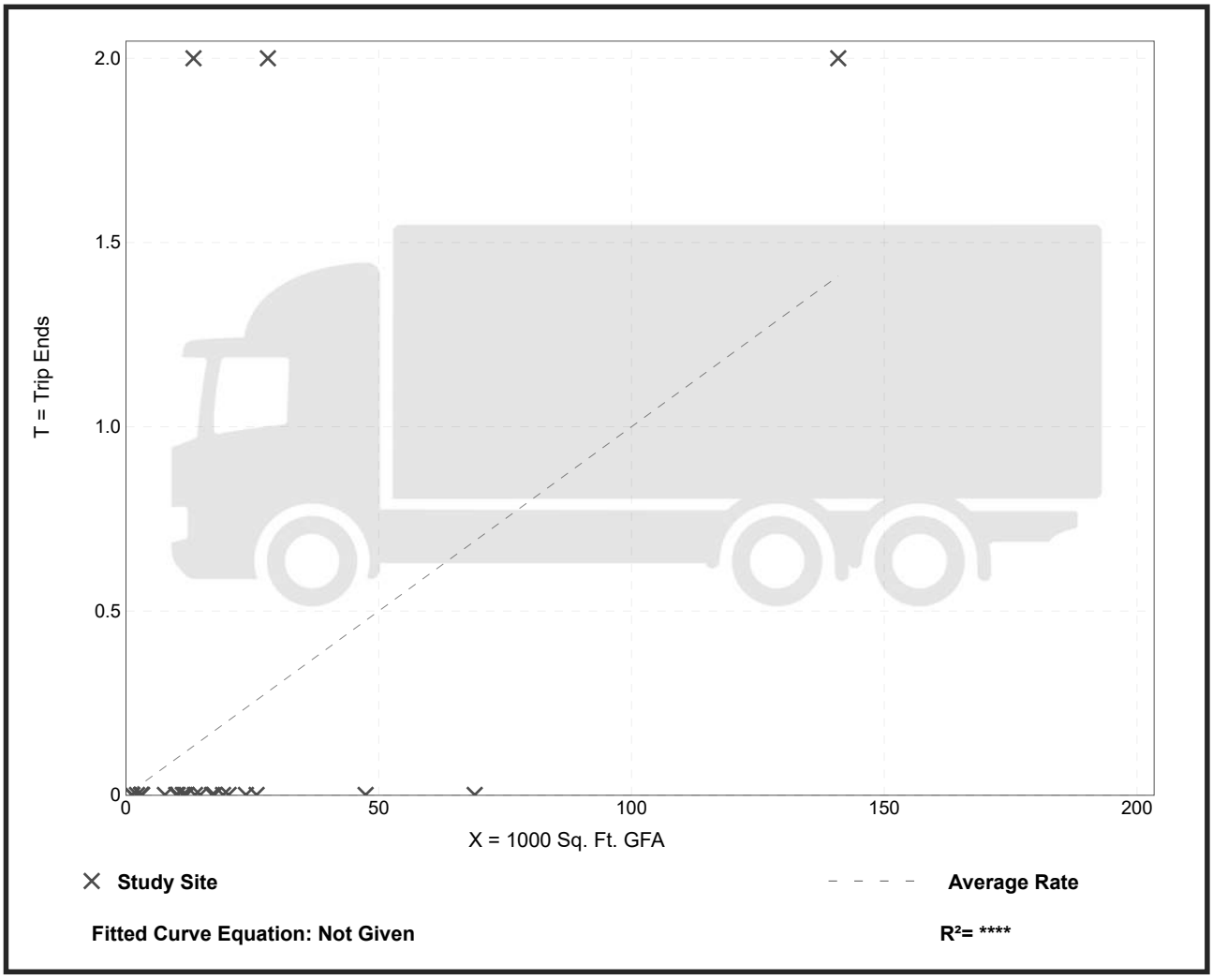
General Light Industrial
(110)

Truck Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 25
Avg. 1000 Sq. Ft. GFA: 21
Directional Distribution: 50% entering, 50% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.01	0.00 - 0.15	0.03

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

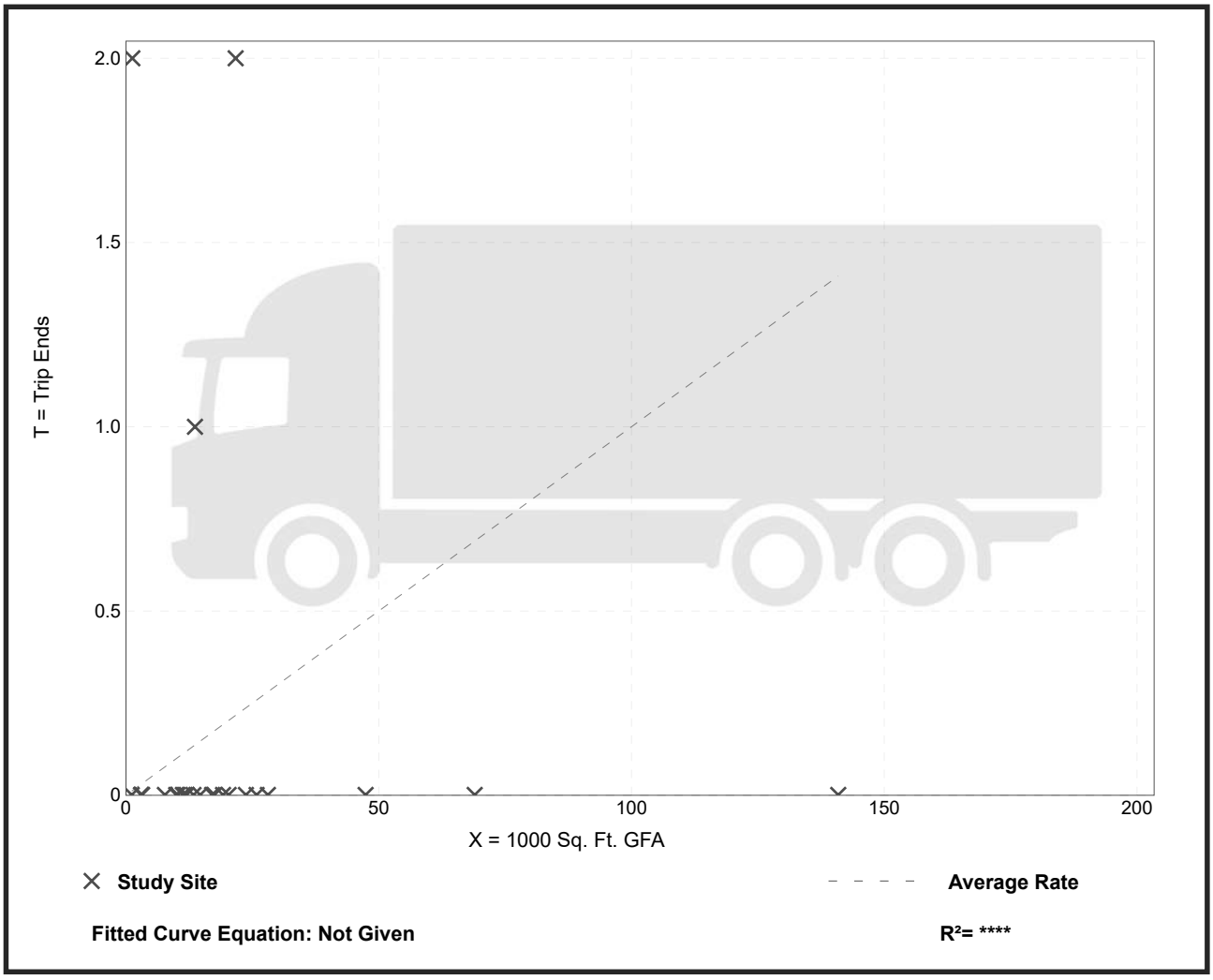
General Light Industrial
(110)

Truck Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 25
Avg. 1000 Sq. Ft. GFA: 22
Directional Distribution: 60% entering, 40% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.01	0.00 - 1.59	0.08

Data Plot and Equation



Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

General Light Industrial
(110)

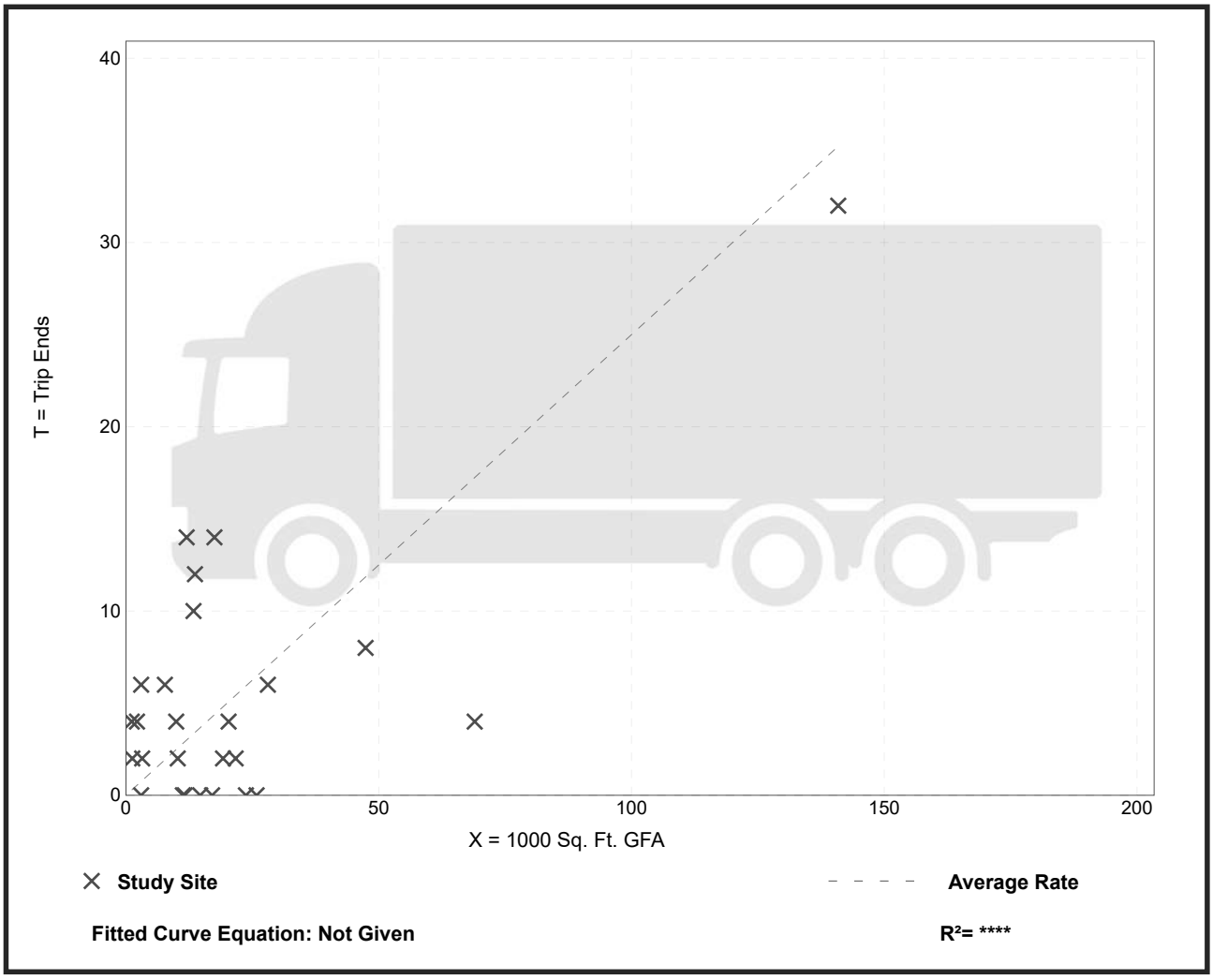
Truck Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 26
Avg. 1000 Sq. Ft. GFA: 21
Directional Distribution: 50% entering, 50% exiting

Truck Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.25	0.00 - 3.51	0.36

Data Plot and Equation



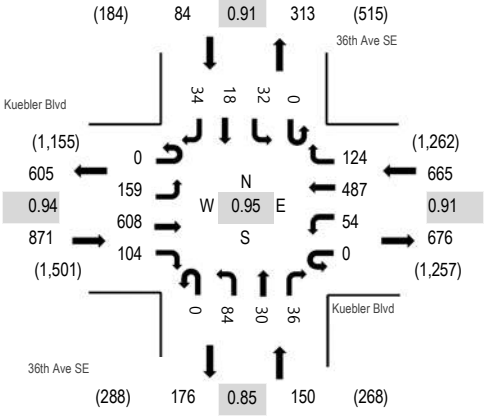
Trip Gen Manual, 11th Edition ● Institute of Transportation Engineers

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

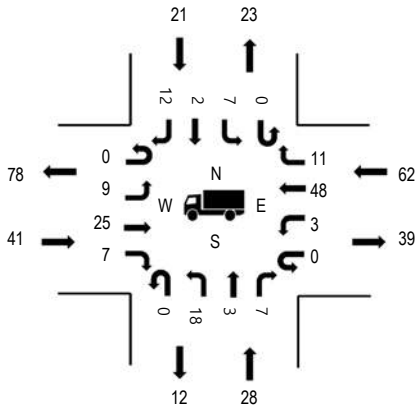
Location: 1 36th Ave SE & Kuebler Blvd AM
Date: Tuesday, December 14, 2021
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:35 AM - 07:50 AM

Peak Hour

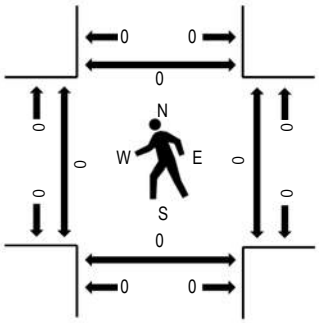
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	4.7%	0.94
WB	9.3%	0.91
NB	18.7%	0.85
SB	25.0%	0.91
All	8.6%	0.95

Traffic Counts - Motorized Vehicles

Interval Start Time	Kuebler Blvd Eastbound				Kuebler Blvd Westbound				36th Ave SE Northbound				36th Ave SE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	10	49	8	0	13	32	6	0	4	1	5	0	2	0	5	135	1,709
7:05 AM	0	7	50	5	0	5	33	6	0	4	2	5	0	5	2	2	126	1,725
7:10 AM	0	6	38	3	0	6	31	10	0	6	2	2	0	5	1	0	110	1,736
7:15 AM	0	9	54	9	0	6	31	9	0	6	0	4	0	1	1	1	131	1,770
7:20 AM	0	14	55	12	0	5	43	6	0	12	4	3	0	2	0	3	159	1,733
7:25 AM	0	16	54	9	0	3	47	7	0	12	1	2	0	0	2	2	155	1,698
7:30 AM	0	14	43	11	0	4	42	10	0	4	2	0	0	2	1	4	137	1,662
7:35 AM	0	15	61	8	0	4	27	8	0	8	0	5	0	7	3	2	148	1,640
7:40 AM	0	9	65	3	0	10	38	11	0	6	1	3	0	2	1	6	155	1,596
7:45 AM	0	11	49	11	0	7	47	17	0	5	4	4	0	2	2	2	161	1,563
7:50 AM	0	22	50	9	0	3	32	13	0	4	7	0	0	4	3	1	148	1,525
7:55 AM	0	12	45	7	0	3	42	8	0	8	5	5	0	4	2	3	144	1,503
8:00 AM	0	13	49	15	0	3	46	12	0	6	1	1	0	2	2	1	151	1,506
8:05 AM	0	12	45	5	0	2	47	7	0	6	1	5	0	2	1	4	137	
8:10 AM	0	12	38	5	0	4	45	16	0	7	4	4	0	4	0	5	144	
8:15 AM	0	5	26	4	0	2	29	6	0	5	1	4	0	7	2	3	94	
8:20 AM	0	9	33	12	0	1	37	9	0	8	4	3	0	1	1	6	124	
8:25 AM	0	7	35	3	0	3	49	8	0	2	2	1	0	4	2	3	119	
8:30 AM	0	5	34	2	0	3	43	9	0	7	0	1	0	6	1	4	115	
8:35 AM	0	9	30	2	0	2	36	6	0	5	2	3	0	2	2	5	104	
8:40 AM	0	7	57	2	0	1	37	9	0	2	0	2	0	3	0	2	122	
8:45 AM	0	2	42	3	0	2	50	4	0	4	2	5	0	1	0	8	123	
8:50 AM	0	5	42	5	0	6	42	12	0	2	2	2	0	6	1	1	126	
8:55 AM	0	9	60	4	0	1	35	13	0	6	5	7	0	3	2	2	147	
Count Total	0	240	1,104	157	0	99	941	222	0	139	53	76	0	77	32	75	3,215	
Peak Hour	0	159	608	104	0	54	487	124	0	84	30	36	0	32	18	34	1,770	

Location: 1 36th Ave SE & Kuebler Blvd AM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

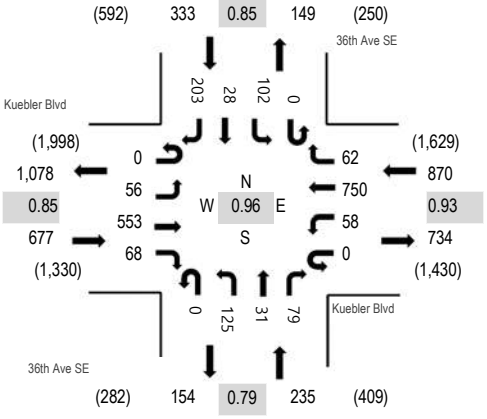
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	1	1	1	1	4	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	5	1	2	8	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	2	3	1	1	7	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	3	3	6	0	12	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	3	5	8	3	19	7:20 AM	0	0	0	0	0	7:20 AM	0	0	0	0	0
7:25 AM	1	4	7	2	14	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	3	2	8	0	13	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	3	4	3	1	11	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	4	2	7	2	15	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	1	0	2	1	4	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	9	1	2	0	12	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	4	4	6	3	17	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	1	1	2	0	4	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	2	1	5	4	12	8:05 AM	1	0	0	0	1	8:05 AM	0	0	0	0	0
8:10 AM	7	1	6	5	19	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	4	6	3	2	15	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	4	3	7	2	16	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	4	0	5	3	12	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	0	1	7	2	10	8:30 AM	1	0	0	0	1	8:30 AM	0	0	0	0	0
8:35 AM	5	2	3	3	13	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	3	0	3	0	6	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	3	1	5	2	11	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	3	0	4	4	11	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	10	5	2	3	20	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	80	55	104	46	285	Count Total	2	0	0	0	2	Count Total	0	0	0	0	0
Peak Hour	41	28	62	21	152	Peak Hour	1	0	0	0	1	Peak Hour	0	0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

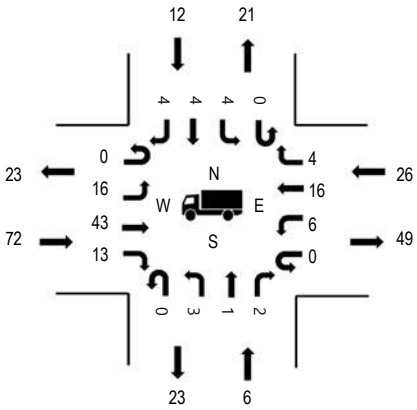
Location: 1 36th Ave SE & Kuebler Blvd PM
Date: Tuesday, December 14, 2021
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:35 PM - 04:50 PM

Peak Hour

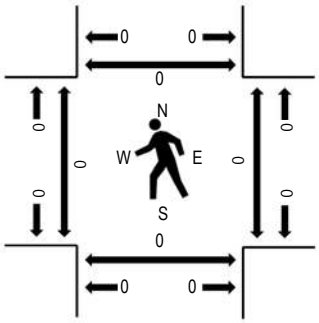
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	10.6%	0.85
WB	3.0%	0.93
NB	2.6%	0.79
SB	3.6%	0.85
All	5.5%	0.96

Traffic Counts - Motorized Vehicles

Interval Start Time	Kuebler Blvd Eastbound				Kuebler Blvd Westbound				36th Ave SE Northbound				36th Ave SE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
4:00 PM	0	8	54	9	0	4	61	5	0	7	2	1	0	4	2	6	163	2,069
4:05 PM	0	3	42	4	0	5	58	6	0	10	0	10	0	9	7	20	174	2,074
4:10 PM	0	3	27	5	0	2	57	1	0	12	2	5	0	12	9	20	155	2,093
4:15 PM	0	8	62	3	0	3	70	13	0	10	2	7	0	6	2	14	200	2,115
4:20 PM	0	5	50	8	0	6	70	2	0	9	2	2	0	7	0	11	172	2,075
4:25 PM	0	8	56	4	0	5	59	5	0	7	4	6	0	3	4	13	174	2,082
4:30 PM	0	4	36	6	0	4	53	3	0	13	2	6	0	10	2	15	154	2,071
4:35 PM	0	5	53	9	0	1	61	2	0	13	1	9	0	10	2	22	188	2,076
4:40 PM	0	3	42	9	0	8	55	7	0	10	3	7	0	8	4	30	186	2,035
4:45 PM	0	5	46	6	0	5	66	6	0	9	1	6	0	10	2	12	174	1,998
4:50 PM	0	5	41	4	0	6	64	5	0	10	2	3	0	4	0	15	159	1,962
4:55 PM	0	5	53	2	0	5	56	6	0	11	4	5	0	8	2	13	170	1,923
5:00 PM	0	1	39	8	0	3	51	3	0	14	5	7	0	14	4	19	168	1,891
5:05 PM	0	2	31	7	0	9	65	7	0	15	4	13	0	14	5	21	193	
5:10 PM	0	5	44	2	0	3	80	3	0	4	1	8	0	8	1	18	177	
5:15 PM	0	5	31	6	0	2	51	5	0	13	5	9	0	12	2	19	160	
5:20 PM	0	6	51	9	0	2	65	3	0	8	2	7	0	5	3	18	179	
5:25 PM	0	2	43	5	0	3	76	5	0	6	2	8	0	6	0	7	163	
5:30 PM	0	4	45	2	0	2	53	2	0	13	1	6	0	7	2	22	159	
5:35 PM	0	2	56	5	0	3	55	4	0	6	1	1	0	3	2	9	147	
5:40 PM	0	2	53	4	0	4	61	1	0	1	1	1	0	9	1	11	149	
5:45 PM	0	1	54	3	0	3	48	0	0	11	2	5	0	2	2	7	138	
5:50 PM	0	0	48	3	0	4	45	3	0	4	0	5	0	5	2	1	120	
5:55 PM	0	4	52	2	0	5	48	7	0	3	1	3	0	5	0	8	138	
Count Total	0	96	1,109	125	0	97	1,428	104	0	219	50	140	0	181	60	351	3,960	
Peak Hour	0	56	553	68	0	58	750	62	0	125	31	79	0	102	28	203	2,115	

Location: 1 36th Ave SE & Kuebler Blvd PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	11	1	0	2	14	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	2	3	5	2	12	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	3	0	2	4	9	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	7	1	6	0	14	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	5	2	3	0	10	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	9	0	2	1	12	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	7	0	0	0	7	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	5	1	3	0	9	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	10	1	4	1	16	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	7	0	1	2	10	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	6	0	0	2	8	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	5	1	3	1	10	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	7	0	2	1	10	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	2	0	2	3	7	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	2	0	0	1	3	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	4	1	0	1	6	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	3	0	1	1	5	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	3	0	0	1	4	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	1	0	2	1	4	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	3	0	2	3	8	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	3	1	4	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	1	0	2	0	3	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	2	0	2	2	6	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	4	1	1	0	6	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	109	12	46	30	197	Count Total	0	0	0	0	0	Count Total	0	0	0	0	0
Peak Hour	72	6	26	12	116	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Location: 3 Turner Rd SE & Airway Dr SE AM

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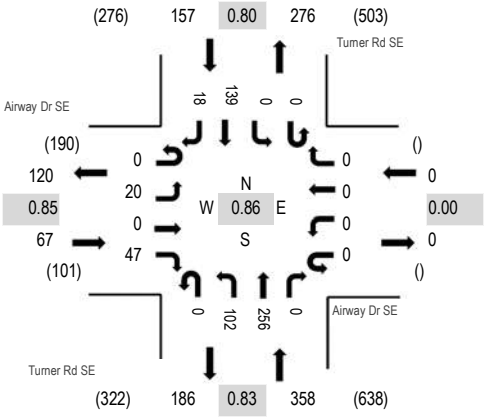
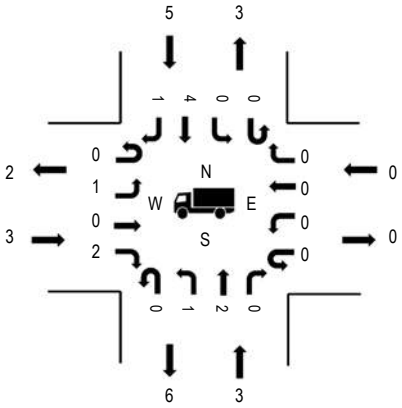
Location: 3 Turner Rd SE & Airway Dr SE AM
Date: Wednesday, December 8, 2021
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:40 AM - 07:55 AM

Peak Hour

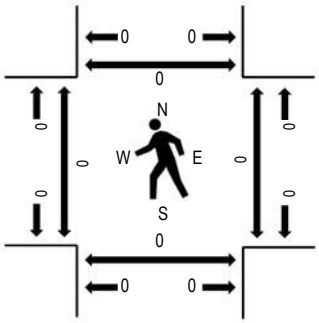
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	4.5%	0.85
WB	0.0%	0.00
NB	0.8%	0.83
SB	3.2%	0.80
All	1.9%	0.86

Traffic Counts - Motorized Vehicles

Interval Start Time	Airway Dr SE Eastbound				Airway Dr SE Westbound				Turner Rd SE Northbound				Turner Rd SE Southbound					Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total	
7:00 AM	0	0	0	2	0	0	0	0	0	1	23	0	0	0	9	2	37	536
7:05 AM	0	0	0	4	0	0	0	0	0	7	15	0	0	0	7	1	34	541
7:10 AM	0	0	0	0	0	0	0	0	0	11	16	0	0	0	9	0	36	552
7:15 AM	0	0	0	2	0	0	0	0	0	7	16	0	0	0	7	1	33	553
7:20 AM	0	0	0	1	0	0	0	0	0	4	18	0	0	0	12	0	35	566
7:25 AM	0	1	0	3	0	0	0	0	0	5	16	0	0	0	5	0	30	578
7:30 AM	0	2	0	3	0	0	0	0	0	5	30	0	0	0	16	1	57	582
7:35 AM	0	0	0	5	0	0	0	0	0	13	20	0	0	0	8	1	47	571
7:40 AM	0	0	0	5	0	0	0	0	0	10	21	0	0	0	22	1	59	559
7:45 AM	0	3	0	5	0	0	0	0	0	16	22	0	0	0	9	2	57	533
7:50 AM	0	0	0	6	0	0	0	0	0	11	21	0	0	0	15	0	53	520
7:55 AM	0	3	0	0	0	0	0	0	0	9	29	0	0	0	16	1	58	506
8:00 AM	0	2	0	1	0	0	0	0	0	5	22	0	0	0	9	3	42	479
8:05 AM	0	1	0	3	0	0	0	0	0	8	24	0	0	0	7	2	45	
8:10 AM	0	4	0	5	0	0	0	0	0	11	9	0	0	0	8	0	37	
8:15 AM	0	1	0	3	0	0	0	0	0	3	25	0	0	0	9	5	46	
8:20 AM	0	2	0	6	0	0	0	0	0	5	20	0	0	0	14	0	47	
8:25 AM	0	2	0	5	0	0	0	0	0	6	13	0	0	0	6	2	34	
8:30 AM	0	3	0	3	0	0	0	0	0	5	21	0	0	0	14	0	46	
8:35 AM	0	2	0	6	0	0	0	0	0	4	14	0	0	0	9	0	35	
8:40 AM	0	0	0	1	0	0	0	0	0	3	18	0	0	0	9	2	33	
8:45 AM	0	0	0	2	0	0	0	0	0	5	25	0	0	0	11	1	44	
8:50 AM	0	2	0	1	0	0	0	0	0	6	20	0	0	0	9	1	39	
8:55 AM	0	0	0	1	0	0	0	0	0	3	17	0	0	0	9	1	31	
Count Total	0	28	0	73	0	0	0	0	0	163	475	0	0	0	249	27	1,015	
Peak Hour	0	20	0	47	0	0	0	0	0	102	256	0	0	0	139	18	582	

Location: 3 Turner Rd SE & Airway Dr SE AM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	0	1	0	1	2	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	0	2	0	0	2	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	1	0	0	0	1	7:15 AM	0	0	0	0	0	7:15 AM	0	0	0	0	0
7:20 AM	0	2	0	0	2	7:20 AM	0	1	0	0	1	7:20 AM	0	0	0	0	0
7:25 AM	0	1	0	0	1	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	0	0	0	1	1	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	0	1	0	1	2	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0	7:55 AM	0	0	0	0	0
8:00 AM	0	0	0	1	1	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	1	1	0	0	2	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	1	0	0	1	2	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	0	1	0	0	1	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	1	0	0	1	2	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	1	2	0	1	4	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	0	1	0	0	1	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	0	0	0	1	1	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	0	2	0	1	3	8:45 AM	0	0	0	0	0	8:45 AM	0	0	0	0	0
8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	0	1	0	2	3	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	5	15	0	11	31	Count Total	0	1	0	0	1	Count Total	0	0	0	0	0
Peak Hour	3	3	0	5	11	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

Location: 3 Turner Rd SE & Airway Dr SE PM

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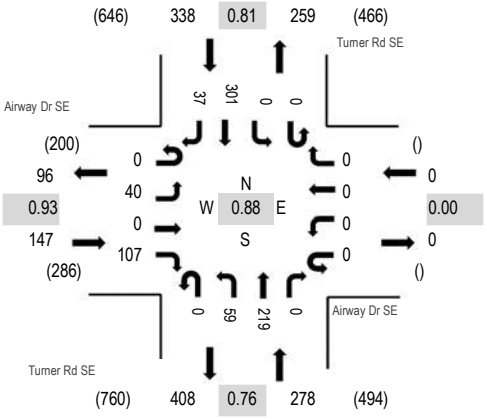
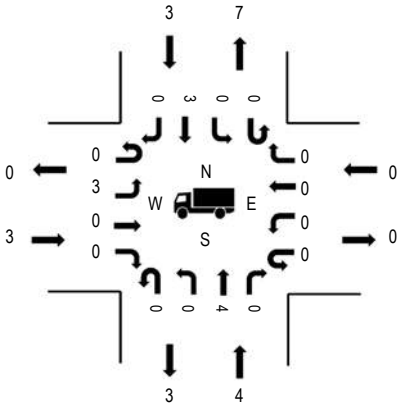
Location: 3 Turner Rd SE & Airway Dr SE PM
Date: Wednesday, December 8, 2021
Peak Hour: 04:05 PM - 05:05 PM
Peak 15-Minutes: 04:05 PM - 04:20 PM

Peak Hour

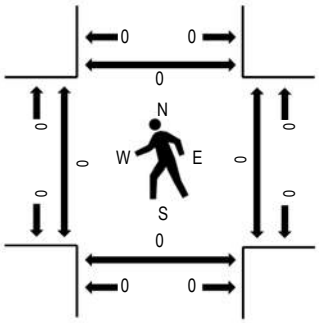
Motorized Vehicles



Heavy Vehicles



Pedestrians



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	2.0%	0.93
WB	0.0%	0.00
NB	1.4%	0.76
SB	0.9%	0.81
All	1.3%	0.88

Traffic Counts - Motorized Vehicles

Interval Start Time	Airway Dr SE Eastbound				Airway Dr SE Westbound				Turner Rd SE Northbound				Turner Rd SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	1	4	0	12	0	0	0	0	0	2	15	0	0	0	17	6	57	748
4:05 PM	0	4	0	9	0	0	0	0	0	8	29	0	0	0	33	9	92	763
4:10 PM	0	1	0	8	0	0	0	0	0	6	23	0	0	0	21	1	60	741
4:15 PM	0	2	0	11	0	0	0	0	0	7	19	0	0	0	23	4	66	751
4:20 PM	0	7	0	4	0	0	0	0	0	5	20	0	0	0	18	0	54	732
4:25 PM	0	3	0	5	0	0	0	0	0	4	15	0	0	0	24	2	53	726
4:30 PM	0	6	0	8	0	0	0	0	0	4	16	0	0	0	15	4	53	729
4:35 PM	0	6	0	4	0	0	0	0	0	2	18	0	0	0	27	2	59	735
4:40 PM	0	4	0	11	0	0	0	0	0	6	15	0	0	0	28	5	69	737
4:45 PM	0	0	0	13	0	0	0	0	0	4	15	0	0	0	26	4	62	715
4:50 PM	0	4	0	12	0	0	0	0	0	5	14	0	0	0	26	3	64	701
4:55 PM	0	1	0	12	0	0	0	0	0	4	17	0	0	0	23	2	59	690
5:00 PM	0	2	0	10	0	0	0	0	0	4	18	0	0	0	37	1	72	678
5:05 PM	0	5	0	12	0	0	0	0	0	3	10	0	0	0	32	8	70	
5:10 PM	0	3	0	12	0	0	0	0	0	8	16	0	0	0	27	4	70	
5:15 PM	0	3	0	7	0	0	0	0	0	3	12	0	0	0	16	6	47	
5:20 PM	0	3	0	7	0	0	0	0	0	5	13	0	0	0	15	5	48	
5:25 PM	0	2	0	9	0	0	0	0	0	3	12	0	0	0	25	5	56	
5:30 PM	0	6	0	9	0	0	0	0	0	3	14	0	0	0	25	2	59	
5:35 PM	0	4	0	13	0	0	0	0	0	3	15	0	0	0	21	5	61	
5:40 PM	0	1	0	7	0	0	0	0	0	3	15	0	0	0	18	3	47	
5:45 PM	0	1	0	4	0	0	0	0	0	6	17	0	0	0	18	2	48	
5:50 PM	0	3	0	5	0	0	0	0	0	5	14	0	0	0	19	7	53	
5:55 PM	0	3	0	3	0	0	0	0	0	3	16	0	0	0	19	3	47	
Count Total	1	78	0	207	0	0	0	0	0	106	388	0	0	0	553	93	1,426	
Peak Hour	0	40	0	107	0	0	0	0	0	59	219	0	0	0	301	37	763	

Location: 3 Turner Rd SE & Airway Dr SE PM

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	0	0	0	2	2	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	1	0	0	0	1	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	2	1	0	0	3	4:35 PM	0	0	0	0	0	4:35 PM	0	0	0	0	0
4:40 PM	0	1	0	0	1	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	0	1	0	0	1	4:45 PM	0	0	0	0	0	4:45 PM	0	0	0	0	0
4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	0	0	0	1	1	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	0	1	0	0	1	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	0	0
5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	0	0
5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	0	1	0	0	1	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	0	0	0	1	1	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	0	0
5:35 PM	0	1	0	1	2	5:35 PM	0	0	0	0	0	5:35 PM	0	0	0	0	0
5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0	5:40 PM	0	0	0	0	0
5:45 PM	0	0	0	1	1	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	1	0	0	0	1	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0	5:55 PM	1	0	0	0	1
Count Total	4	6	0	6	16	Count Total	0	0	0	0	0	Count Total	1	0	0	0	1
Peak Hour	3	4	0	3	10	Peak Hour	0	0	0	0	0	Peak Hour	0	0	0	0	0

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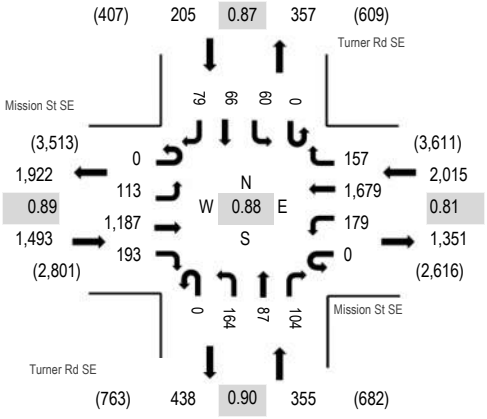
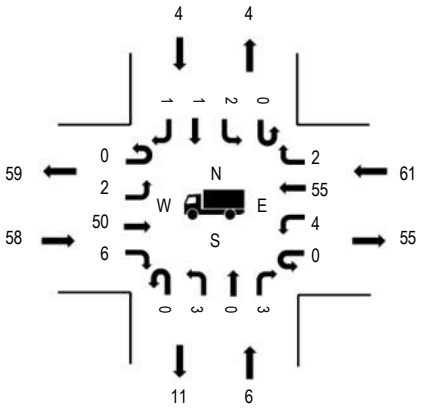
Location: 4 Turner Rd SE & Mission St SE AM
Date: Wednesday, December 8, 2021
Study Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes in Study Peak Hour: 07:40 AM - 07:55 AM

Study Peak Hour (for all study intersections)

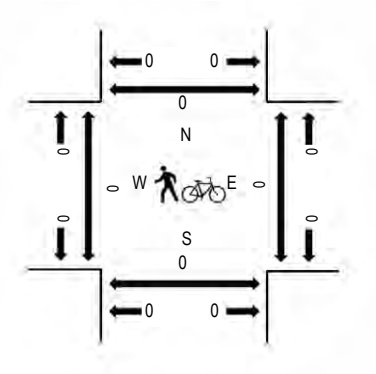
Motorized Vehicles



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	3.9%	0.89
WB	3.0%	0.81
NB	1.7%	0.90
SB	2.0%	0.87
All	3.2%	0.88

Traffic Counts - Motorized Vehicles

Interval Start Time	Mission St SE Eastbound				Mission St SE Westbound				Turner Rd SE Northbound				Turner Rd SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
7:00 AM	0	6	75	7	0	9	74	10	0	7	6	5	0	2	4	3	208	3,703
7:05 AM	0	2	84	6	0	5	102	13	0	14	6	4	0	7	5	5	253	3,851
7:10 AM	0	4	85	6	0	7	106	5	0	12	2	6	0	4	3	3	243	3,920
7:15 AM	0	4	105	7	0	4	137	11	0	9	5	4	0	4	10	4	304	3,938
7:20 AM	0	3	103	9	0	7	103	16	0	9	5	9	0	6	2	6	278	4,007
7:25 AM	0	10	75	16	0	5	150	15	0	13	6	5	0	5	5	2	307	4,035
7:30 AM	0	7	91	10	0	8	117	10	0	9	5	4	0	7	4	4	276	4,068
7:35 AM	0	6	82	13	0	11	148	8	0	18	12	12	0	5	7	5	327	4,068
7:40 AM	0	8	105	25	0	15	152	9	0	17	11	7	0	7	4	10	370	4,047
7:45 AM	0	7	95	17	0	17	188	18	0	10	7	5	0	1	6	4	375	3,988
7:50 AM	0	7	120	20	0	20	178	19	0	9	9	9	0	5	4	6	406	3,941
7:55 AM	0	16	95	19	0	12	159	9	0	18	6	3	0	6	5	8	356	3,830
8:00 AM	0	11	95	11	0	25	134	22	0	18	8	13	0	5	9	5	356	3,798
8:05 AM	0	11	92	18	0	14	124	17	0	16	5	8	0	6	3	8	322	
8:10 AM	0	9	75	9	0	10	100	5	0	13	7	10	0	3	10	10	261	
8:15 AM	0	7	120	20	0	18	154	15	0	7	5	8	0	4	7	8	373	
8:20 AM	0	8	112	15	0	8	103	8	0	15	6	16	0	6	5	4	306	
8:25 AM	0	16	105	16	0	21	122	17	0	14	6	9	0	5	2	7	340	
8:30 AM	0	6	92	18	0	7	94	11	0	9	4	18	0	4	8	5	276	
8:35 AM	0	3	99	12	0	14	130	6	0	10	7	8	0	1	8	8	306	
8:40 AM	0	5	93	17	1	10	98	11	0	18	15	14	0	10	9	10	311	
8:45 AM	0	4	92	15	0	17	146	8	0	16	3	6	0	6	4	11	328	
8:50 AM	0	5	88	16	0	13	102	7	0	20	8	13	0	8	4	11	295	
8:55 AM	0	4	115	17	0	14	120	8	0	16	8	7	0	2	5	8	324	
Count Total	0	169	2,293	339	1	291	3,041	278	0	317	162	203	0	119	133	155	7,501	
Peak Hour	0	113	1,187	193	0	179	1,679	157	0	164	87	104	0	60	66	79	4,068	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

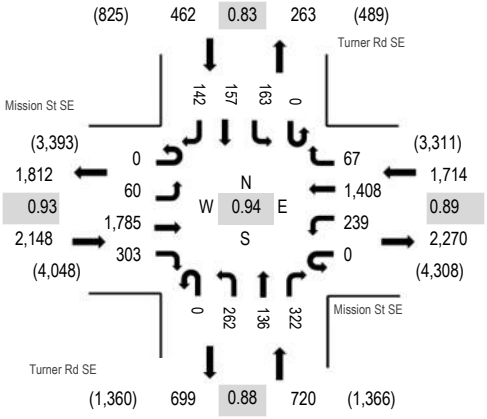
Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
7:00 AM	3	1	3	0	7	7:00 AM	0	0	0	0	0	7:00 AM	0	0	0	0	0
7:05 AM	5	1	4	2	12	7:05 AM	0	0	0	0	0	7:05 AM	0	0	0	0	0
7:10 AM	3	2	4	0	9	7:10 AM	0	0	0	0	0	7:10 AM	0	0	0	0	0
7:15 AM	4	0	8	1	13	7:15 AM	0	0	0	0	0	7:15 AM	0	1	0	0	1
7:20 AM	3	0	2	0	5	7:20 AM	0	0	0	0	0	7:20 AM	0	0	1	1	2
7:25 AM	5	2	6	0	13	7:25 AM	0	0	0	0	0	7:25 AM	0	0	0	0	0
7:30 AM	4	1	2	0	7	7:30 AM	0	0	0	0	0	7:30 AM	0	0	0	0	0
7:35 AM	3	0	8	1	12	7:35 AM	0	0	0	0	0	7:35 AM	0	0	0	0	0
7:40 AM	3	1	5	1	10	7:40 AM	0	0	0	0	0	7:40 AM	0	0	0	0	0
7:45 AM	5	0	3	0	8	7:45 AM	0	0	0	0	0	7:45 AM	0	0	0	0	0
7:50 AM	4	0	7	1	12	7:50 AM	0	0	0	0	0	7:50 AM	0	0	0	0	0
7:55 AM	3	0	6	0	9	7:55 AM	1	0	0	0	1	7:55 AM	0	0	0	0	0
8:00 AM	4	2	9	0	15	8:00 AM	0	0	0	0	0	8:00 AM	0	0	0	0	0
8:05 AM	6	0	5	0	11	8:05 AM	0	0	0	0	0	8:05 AM	0	0	0	0	0
8:10 AM	6	1	5	0	12	8:10 AM	0	0	0	0	0	8:10 AM	0	0	0	0	0
8:15 AM	8	0	4	0	12	8:15 AM	0	0	0	0	0	8:15 AM	0	0	0	0	0
8:20 AM	5	1	1	0	7	8:20 AM	0	0	0	0	0	8:20 AM	0	0	0	0	0
8:25 AM	7	0	6	1	14	8:25 AM	0	0	0	0	0	8:25 AM	0	0	0	0	0
8:30 AM	1	1	5	1	8	8:30 AM	0	0	0	0	0	8:30 AM	0	0	0	0	0
8:35 AM	3	0	7	0	10	8:35 AM	0	0	0	0	0	8:35 AM	0	0	0	0	0
8:40 AM	8	0	3	1	12	8:40 AM	0	0	0	0	0	8:40 AM	0	0	0	0	0
8:45 AM	6	1	5	0	12	8:45 AM	0	0	0	0	0	8:45 AM	0	0	1	0	1
8:50 AM	4	1	5	0	10	8:50 AM	0	0	0	0	0	8:50 AM	0	0	0	0	0
8:55 AM	6	1	6	0	13	8:55 AM	0	0	0	0	0	8:55 AM	0	0	0	0	0
Count Total	109	16	119	9	253	Count Total	1	0	0	0	1	Count Total	0	1	2	1	4
Peak Hour	58	6	61	4	129	Peak Hour	1	0	0	0	1	Peak Hour	0	0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

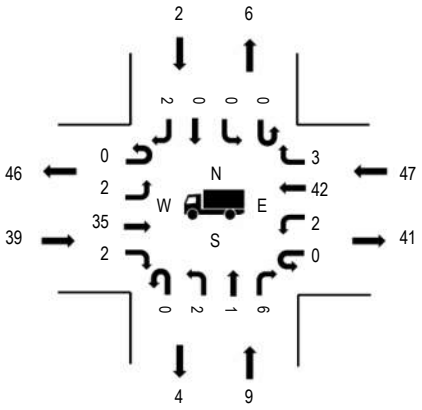
Location: 4 Turner Rd SE & Mission St SE PM
Date: Wednesday, December 8, 2021
Study Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes in Study Peak Hour: 04:05 PM - 04:20 PM

Study Peak Hour (for all study intersections)

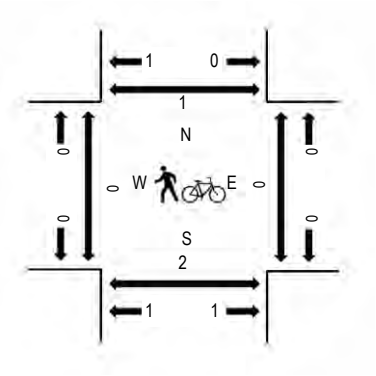
Motorized Vehicles



Heavy Vehicles



Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

	HV%	PHF
EB	1.8%	0.93
WB	2.7%	0.89
NB	1.3%	0.88
SB	0.4%	0.83
All	1.9%	0.94

Traffic Counts - Motorized Vehicles

Interval Start Time	Mission St SE Eastbound				Mission St SE Westbound				Turner Rd SE Northbound				Turner Rd SE Southbound				Total	Rolling Hour
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right		
4:00 PM	0	1	123	33	0	35	140	9	0	16	5	25	0	14	11	16	428	5,044
4:05 PM	0	2	157	27	0	21	130	8	0	24	13	31	0	14	12	18	457	5,012
4:10 PM	0	9	166	21	0	17	111	10	0	30	9	31	0	21	9	7	441	5,007
4:15 PM	0	8	155	30	0	15	134	4	0	23	14	30	0	9	14	14	450	4,966
4:20 PM	0	8	130	25	0	13	134	6	0	26	14	14	0	11	16	9	406	4,937
4:25 PM	0	4	147	20	0	19	105	2	0	21	17	23	0	13	9	15	395	4,955
4:30 PM	0	4	132	24	0	26	126	4	0	14	8	22	0	21	17	18	416	4,941
4:35 PM	0	5	129	24	0	20	92	3	0	21	9	31	0	16	14	9	373	4,901
4:40 PM	0	7	160	25	0	28	135	5	0	24	14	30	0	14	17	13	472	4,884
4:45 PM	0	7	163	24	0	13	107	7	0	24	11	30	0	9	9	8	412	4,764
4:50 PM	0	3	172	19	0	12	98	5	0	25	13	28	0	15	15	8	413	4,692
4:55 PM	0	2	151	31	0	20	96	4	0	14	9	27	0	6	14	7	381	4,590
5:00 PM	0	1	136	20	0	17	101	5	0	27	16	29	0	22	11	11	396	4,506
5:05 PM	0	4	153	24	0	20	111	7	0	23	15	40	0	18	20	17	452	
5:10 PM	0	7	145	22	0	32	108	9	0	18	7	24	0	8	12	8	400	
5:15 PM	0	9	160	28	0	21	132	7	0	13	7	15	0	14	12	3	421	
5:20 PM	0	2	171	17	0	29	125	4	0	14	7	24	0	12	13	6	424	
5:25 PM	0	2	139	17	0	25	107	3	0	21	12	26	0	8	15	6	381	
5:30 PM	0	5	141	23	0	23	97	3	0	13	12	22	0	12	18	7	376	
5:35 PM	0	4	109	18	0	23	106	4	0	26	13	26	0	7	10	10	356	
5:40 PM	0	6	119	23	0	20	91	7	0	20	4	31	0	13	13	5	352	
5:45 PM	0	2	120	22	0	28	105	1	0	14	5	26	0	8	6	3	340	
5:50 PM	0	2	97	19	0	19	87	6	0	21	12	24	0	5	13	6	311	
5:55 PM	0	2	113	18	0	8	101	5	0	14	9	16	0	5	2	4	297	
Count Total	0	106	3,388	554	0	504	2,679	128	0	486	255	625	0	295	302	228	9,550	
Peak Hour	0	60	1,785	303	0	239	1,408	67	0	262	136	322	0	163	157	142	5,044	

Traffic Counts - Heavy Vehicles, Bicycles on Road, and Pedestrians/Bicycles on Crosswalk

Interval Start Time	Heavy Vehicles					Interval Start Time	Bicycles on Roadway					Interval Start Time	Pedestrians/Bicycles on Crosswalk				
	EB	NB	WB	SB	Total		EB	NB	WB	SB	Total		EB	NB	WB	SB	Total
4:00 PM	2	3	8	1	14	4:00 PM	0	0	0	0	0	4:00 PM	0	0	0	0	0
4:05 PM	2	1	7	0	10	4:05 PM	0	0	0	0	0	4:05 PM	0	0	0	0	0
4:10 PM	6	0	7	0	13	4:10 PM	0	0	0	0	0	4:10 PM	0	0	0	1	1
4:15 PM	5	0	2	0	7	4:15 PM	0	0	0	0	0	4:15 PM	0	0	0	0	0
4:20 PM	1	0	3	0	4	4:20 PM	0	0	0	0	0	4:20 PM	0	0	0	0	0
4:25 PM	6	0	4	0	10	4:25 PM	0	0	0	0	0	4:25 PM	0	0	0	0	0
4:30 PM	5	0	5	1	11	4:30 PM	0	0	0	0	0	4:30 PM	0	0	0	0	0
4:35 PM	4	1	1	0	6	4:35 PM	0	0	0	0	0	4:35 PM	0	1	0	0	1
4:40 PM	1	2	2	0	5	4:40 PM	0	0	0	0	0	4:40 PM	0	0	0	0	0
4:45 PM	6	1	2	0	9	4:45 PM	0	0	0	0	0	4:45 PM	0	1	0	0	1
4:50 PM	0	1	2	0	3	4:50 PM	0	0	0	0	0	4:50 PM	0	0	0	0	0
4:55 PM	1	0	4	0	5	4:55 PM	0	0	0	0	0	4:55 PM	0	0	0	0	0
5:00 PM	3	0	4	1	8	5:00 PM	0	0	0	0	0	5:00 PM	0	0	0	0	0
5:05 PM	2	2	6	0	10	5:05 PM	0	0	0	0	0	5:05 PM	0	0	0	1	1
5:10 PM	2	0	2	0	4	5:10 PM	0	0	0	0	0	5:10 PM	0	0	0	0	0
5:15 PM	3	0	5	0	8	5:15 PM	0	0	0	0	0	5:15 PM	0	0	0	1	1
5:20 PM	2	0	5	0	7	5:20 PM	0	0	0	0	0	5:20 PM	0	0	0	0	0
5:25 PM	2	0	0	0	2	5:25 PM	0	0	0	0	0	5:25 PM	0	0	0	0	0
5:30 PM	2	0	3	0	5	5:30 PM	0	0	0	0	0	5:30 PM	0	0	0	1	1
5:35 PM	2	0	2	0	4	5:35 PM	0	0	0	0	0	5:35 PM	0	2	0	0	2
5:40 PM	2	0	2	1	5	5:40 PM	0	0	0	0	0	5:40 PM	0	0	1	1	2
5:45 PM	2	1	2	0	5	5:45 PM	0	0	0	0	0	5:45 PM	0	0	0	0	0
5:50 PM	2	1	1	0	4	5:50 PM	0	0	0	0	0	5:50 PM	0	0	0	0	0
5:55 PM	2	0	2	0	4	5:55 PM	0	0	0	0	0	5:55 PM	0	0	0	0	0
Count Total	65	13	81	4	163	Count Total	0	0	0	0	0	Count Total	0	4	1	5	10
Peak Hour	39	9	47	2	97	Peak Hour	0	0	0	0	0	Peak Hour	0	2	0	1	3

Appendix B

Left-Turn Lane Warrant Analysis

Preliminary Signal Warrant Analysis

Left-Turn Lane Warrant Analysis

Project: 21199 - Turner Road Industrial
Intersection: 1. Turner Road SE & Site Access Driveway #1
Date: 1/12/2022
Scenario: 2023 Buildout - AM Peak Hour

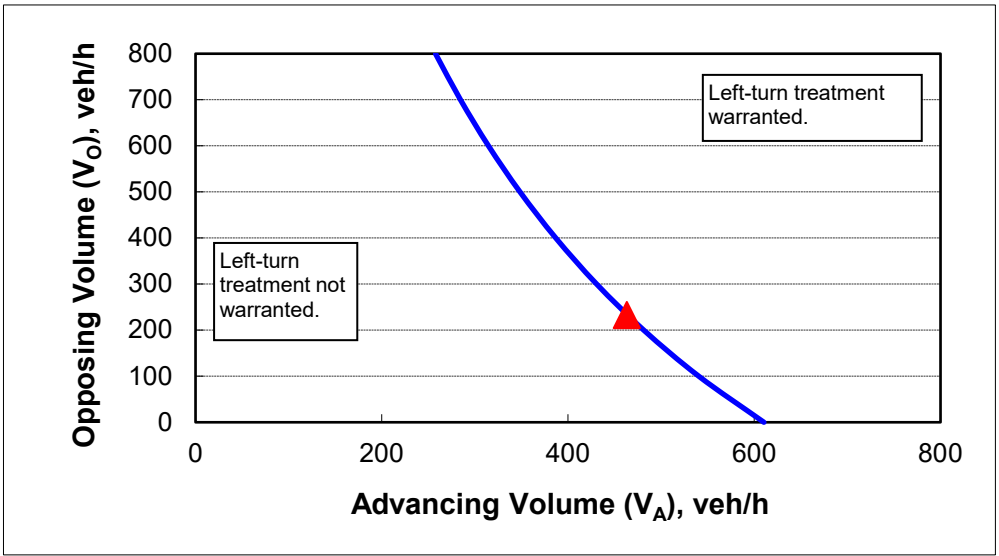
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	48
Percent of left-turns in advancing volume (V_A), %:	7%
Advancing volume (V_A), veh/h:	463
Opposing volume (V_O), veh/h:	233

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	464
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 21199 - Turner Road Industrial
Intersection: 1. Turner Road SE & Site Access Driveway #1
Date: 1/12/2022
Scenario: 2023 Buildout - PM Peak Hour (NB)

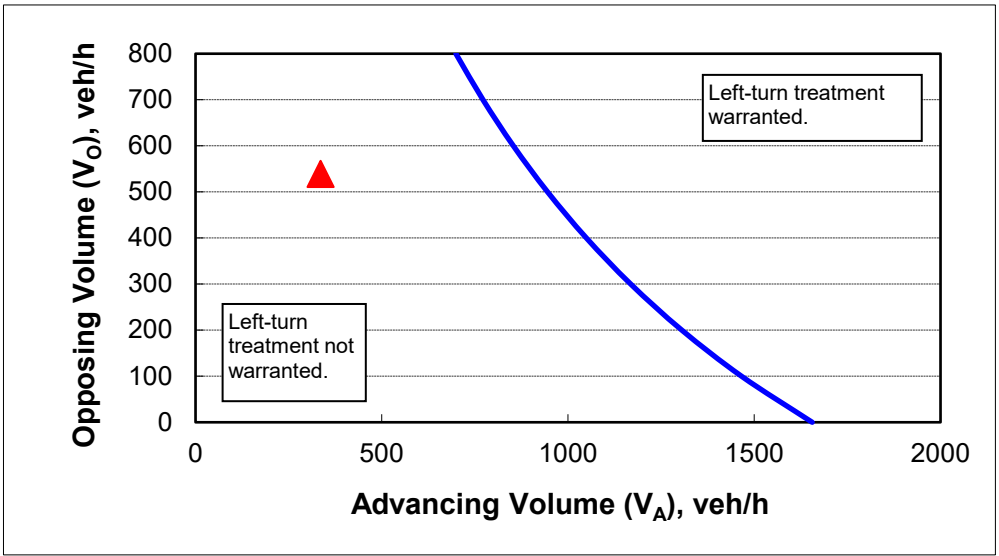
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	48
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	336
Opposing volume (V_O), veh/h:	539

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	908
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 21199 - Turner Road Industrial
Intersection: 2. Turner Road SE & Site Access Driveway #2
Date: 1/12/2022
Scenario: 2023 Buildout - AM Peak Hour

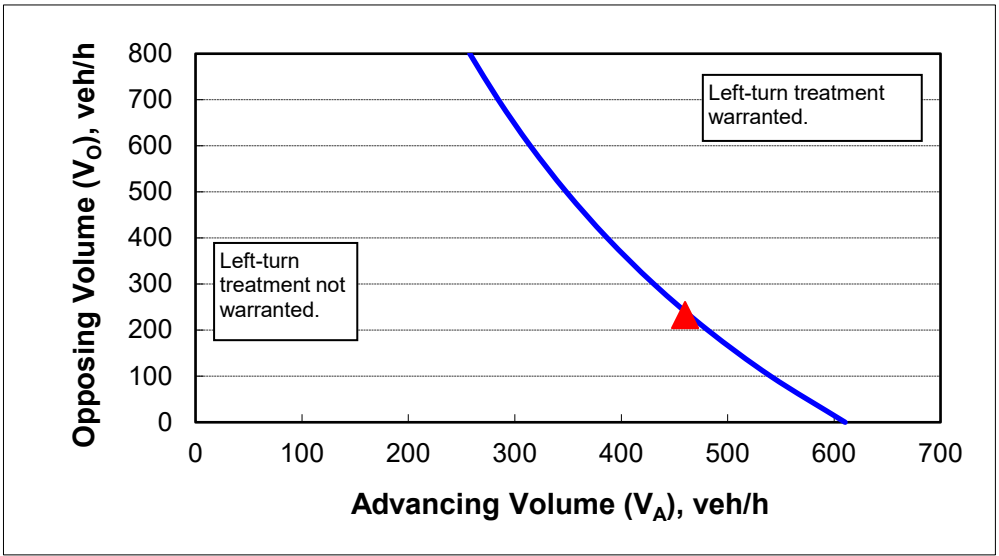
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	48
Percent of left-turns in advancing volume (V_A), %:	7%
Advancing volume (V_A), veh/h:	460
Opposing volume (V_O), veh/h:	233

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	464
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 21199 - Turner Road Industrial
Intersection: 2. Turner Road SE & Site Access Driveway #2
Date: 1/12/2022
Scenario: 2023 Buildout - PM Peak Hour

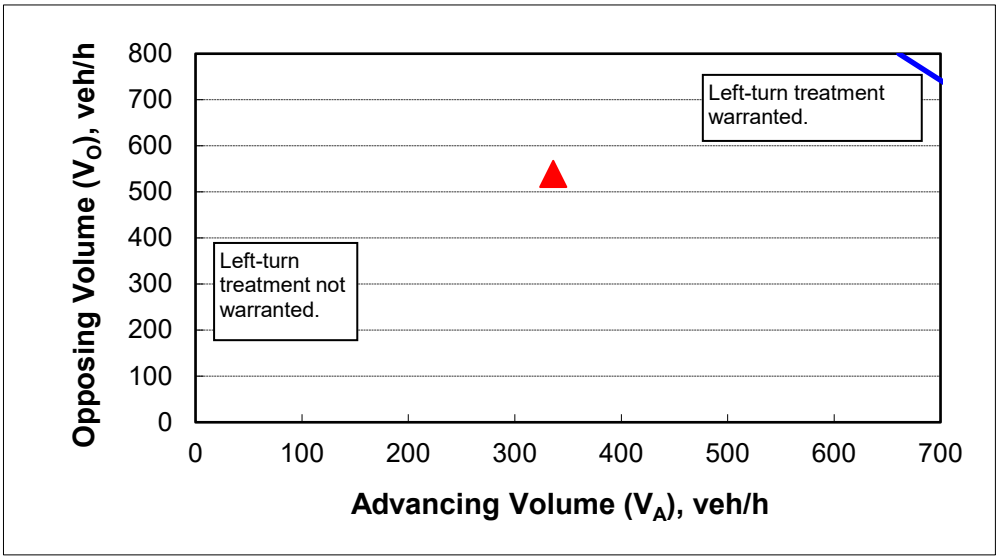
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	48
Percent of left-turns in advancing volume (V_A), %:	1%
Advancing volume (V_A), veh/h:	336
Opposing volume (V_O), veh/h:	539

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	858
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment NOT warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 21199 - Turner Road Industrial
Intersection: 5. Turner Road SE & Airway Drive SE
Date: 1/12/2022
Scenario: 2021 Existing - AM Peak Hour (NB)

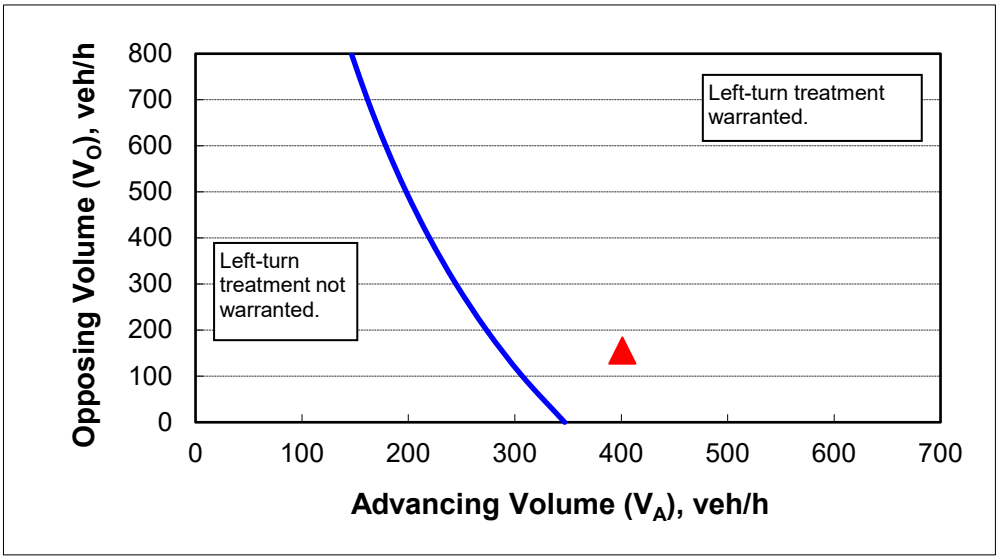
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	48
Percent of left-turns in advancing volume (V_A), %:	28%
Advancing volume (V_A), veh/h:	401
Opposing volume (V_O), veh/h:	156

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	288
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 21199 - Turner Road Industrial
Intersection: 5. Turner Road SE & Airway Drive SE
Date: 1/12/2022
Scenario: 2021 Background - PM Peak Hour (NB)

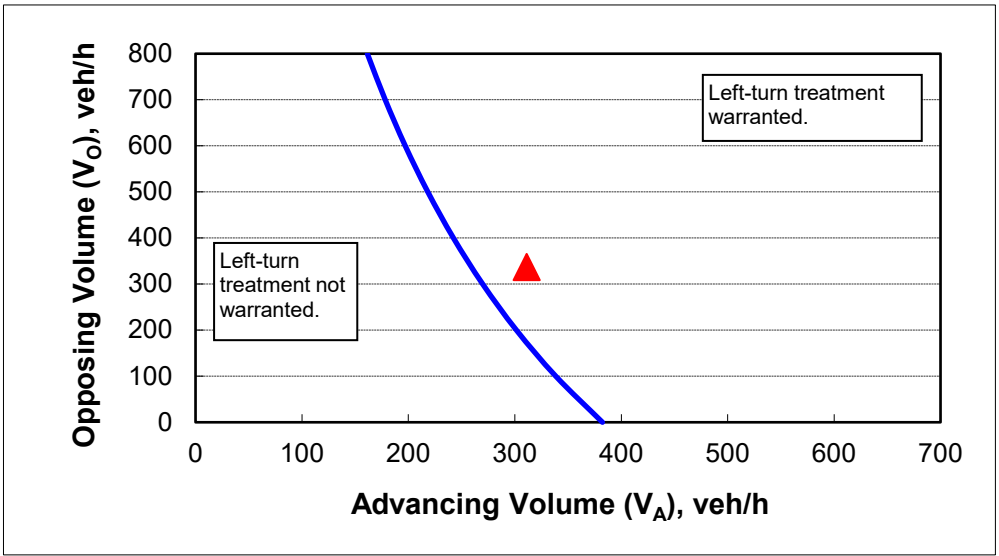
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	48
Percent of left-turns in advancing volume (V_A), %:	21%
Advancing volume (V_A), veh/h:	311
Opposing volume (V_O), veh/h:	337

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	259
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 21199 - Turner Road Industrial
Intersection: 5. Turner Road SE & Airway Drive SE
Date: 1/12/2022
Scenario: 2023 Buildout - AM Peak Hour (NB)

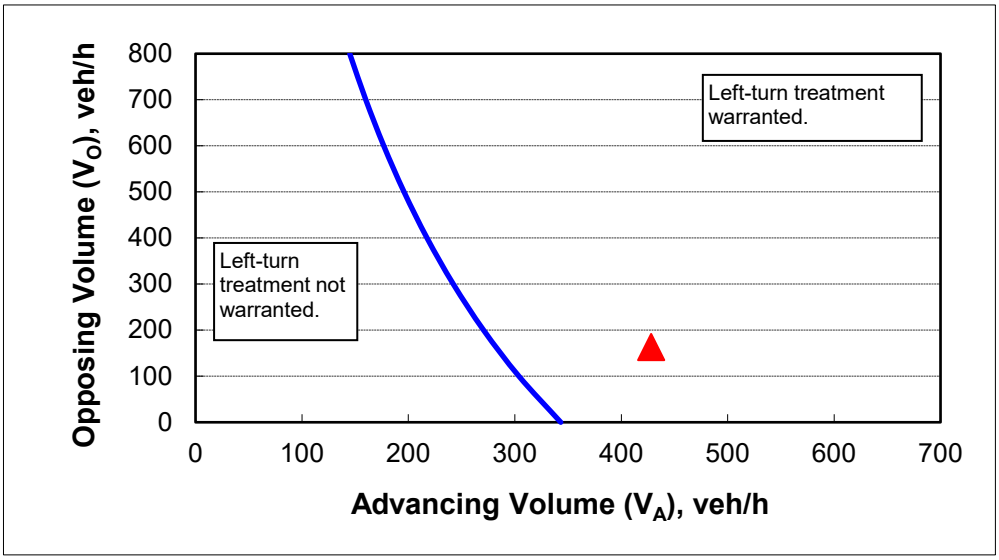
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	48
Percent of left-turns in advancing volume (V_A), %:	29%
Advancing volume (V_A), veh/h:	428
Opposing volume (V_O), veh/h:	163

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	282
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 21199 - Turner Road Industrial
Intersection: 5. Turner Road SE & Airway Drive SE
Date: 1/12/2022
Scenario: 2023 Background - PM Peak Hour (NB)

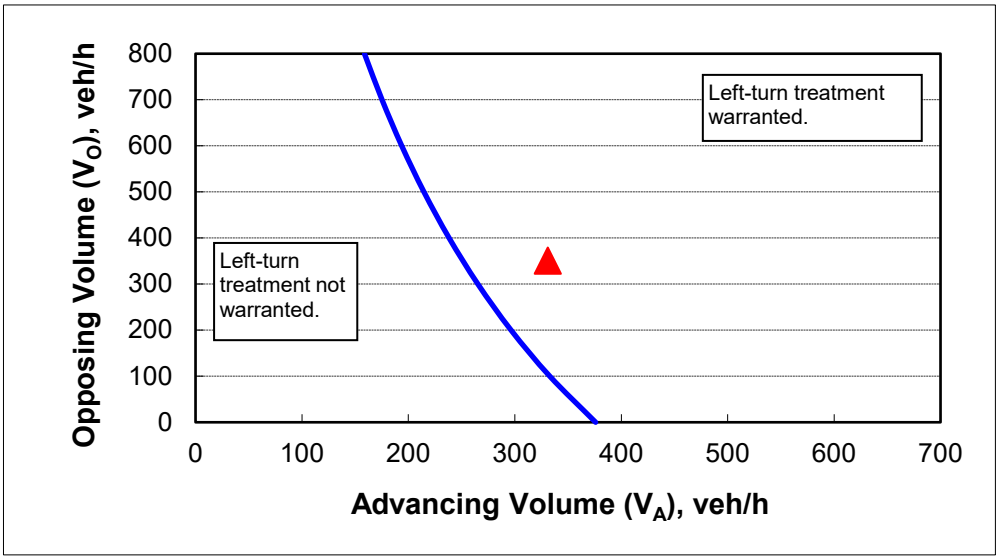
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	48
Percent of left-turns in advancing volume (V_A), %:	22%
Advancing volume (V_A), veh/h:	331
Opposing volume (V_O), veh/h:	351

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	251
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 21199 - Turner Road Industrial
Intersection: 5. Turner Road SE & Airway Drive SE
Date: 1/12/2022
Scenario: 2023 Buildout - AM Peak Hour (NB)

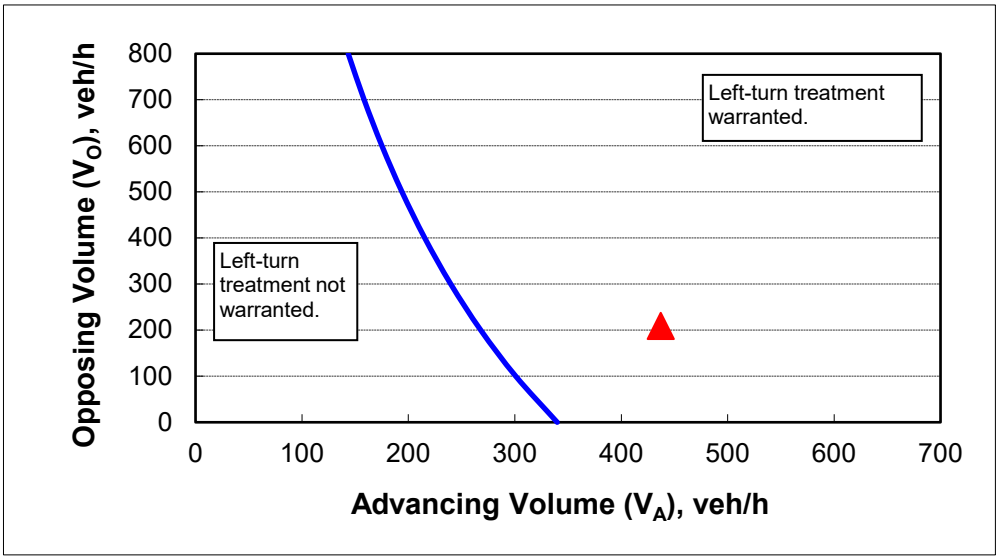
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	48
Percent of left-turns in advancing volume (V_A), %:	30%
Advancing volume (V_A), veh/h:	437
Opposing volume (V_O), veh/h:	209

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	265
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Left-Turn Lane Warrant Analysis

Project: 21199 - Turner Road Industrial
Intersection: 5. Turner Road SE & Airway Drive SE
Date: 1/12/2022
Scenario: 2023 Buildout - PM Peak Hour (NB)

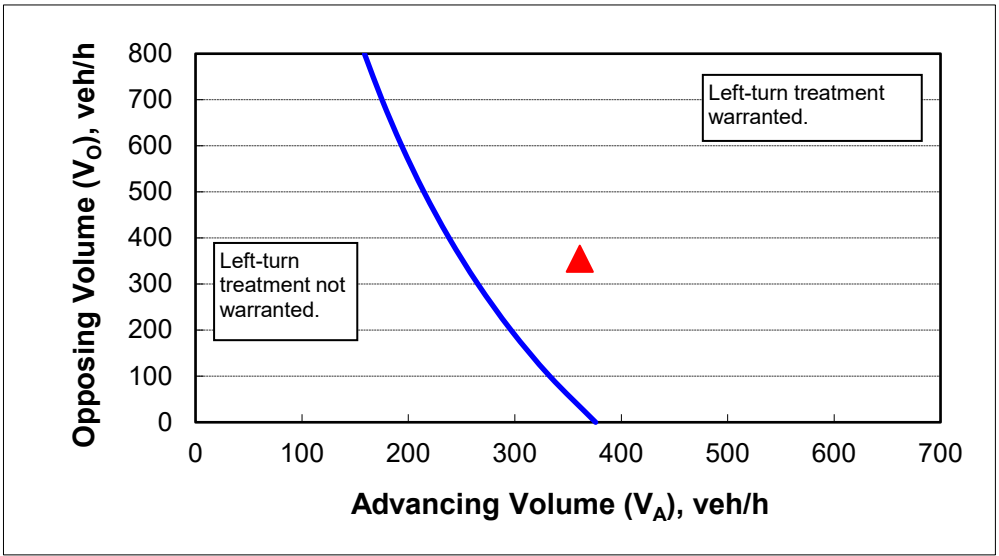
2-lane roadway (English)

INPUT

Variable	Value
85th percentile speed, mph:	48
Percent of left-turns in advancing volume (V_A), %:	22%
Advancing volume (V_A), veh/h:	361
Opposing volume (V_O), veh/h:	355

OUTPUT

Variable	Value
Limiting advancing volume (V_A), veh/h:	250
Guidance for determining the need for a major-road left-turn bay:	
Left-turn treatment warranted.	



CALIBRATION CONSTANTS

Variable	Value
Average time for making left-turn, s:	3.0
Critical headway, s:	5.0
Average time for left-turn vehicle to clear the advancing lane, s:	1.9

Preliminary Traffic Signal Warrant Analysis

Project: 21199 - Turner Road Industrial
Date: 1/12/2022
Scenario: 2023 Buildout Conditions - PM Peak Hour

Major Street:	Turner Road SE		Minor Street:	Site Access Driveway #1	
Number of Lanes:	1		Number of Lanes:	1	
PM Peak Hour Volumes:	878		PM Peak Hour Volumes:	30	Total
				14	Rights
				50%	RT Discount

Warrant Used:

	100 percent of standard warrants used
X	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	8,780	6,200	
Minor Street*	230	1,850	No
Condition B: Interruption of Continuous Traffic			
Major Street	8,780	9,300	
Minor Street*	230	950	No
Combination Warrant			
Major Street	8,780	7,440	
Minor Street*	230	1,480	No

* Minor street right-turning traffic volumes reduced by 50%.

Preliminary Traffic Signal Warrant Analysis

Project: 21199 - Turner Road Industrial
Date: 1/12/2022
Scenario: 2023 Buildout Conditions - PM Peak Hour

Major Street:	Turner Road SE		Minor Street:	Site Access Driveway #2	
Number of Lanes:	1		Number of Lanes:	1	
PM Peak Hour Volumes:	878		PM Peak Hour Volumes:	30	Total
				16	Rights
				50%	RT Discount

Warrant Used:

	100 percent of standard warrants used
X	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	8,780	6,200	
Minor Street*	220	1,850	No
Condition B: Interruption of Continuous Traffic			
Major Street	8,780	9,300	
Minor Street*	220	950	No
Combination Warrant			
Major Street	8,780	7,440	
Minor Street*	220	1,480	No

* Minor street right-turning traffic volumes reduced by 50%.

Preliminary Traffic Signal Warrant Analysis

Project: 21199 - Turner Road Industrial
Date: 1/12/2022
Scenario: 2023 Buildout Conditions - PM Peak Hour

Major Street:	Turner Road SE		Minor Street:	Airway Drive SE	
Number of Lanes:	1		Number of Lanes:	1	
PM Peak Hour Volumes:	763		PM Peak Hour Volumes:	170 123 50%	Total Rights RT Discount

Warrant Used:

	100 percent of standard warrants used
X	70 percent of standard warrants used due to 85th percentile speed in excess of 40 mph or isolated community with population less than 10,000.

Number of Lanes for Moving Traffic on Each Approach:		ADT on Major St. (total of both approaches)		ADT on Minor St. (higher-volume approach)	
WARRANT 1, CONDITION A		100%	70%	100%	70%
Major St.	Minor St.	Warrants	Warrants	Warrants	Warrants
1	1	8,850	6,200	2,650	1,850
2 or more	1	10,600	7,400	2,650	1,850
2 or more	2 or more	10,600	7,400	3,550	2,500
1	2 or more	8,850	6,200	3,550	2,500
WARRANT 1, CONDITION B					
1	1	13,300	9,300	1,350	950
2 or more	1	15,900	11,100	1,350	950
2 or more	2 or more	15,900	11,100	1,750	1,250
1	2 or more	13,300	9,300	1,750	1,250

Note: ADT volumes assume 8th highest hour is 5.6% of the daily volume

	Approach Volumes	Minimum Volumes	Is Signal Warrant Met?
Warrant 1			
Condition A: Minimum Vehicular Volume			
Major Street	7,630	6,200	
Minor Street*	1,090	1,850	**No**
Condition B: Interruption of Continuous Traffic			
Major Street	7,630	9,300	
Minor Street*	1,090	950	**No**
Combination Warrant			
Major Street	7,630	7,440	
Minor Street*	1,090	1,480	**No**

* Minor street right-turning traffic volumes reduced by 50%.

Appendix C

Crash History Data

12/16/2021 TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT

URBAN NON-SYSTEM CRASH LISTING

CITY OF SALEM, MARION COUNTY

TURNER RD at KUEBLER BLVD, City of Salem, Marion County, 01/01/2015 to 12/31/2019

1 - 5 of 32 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D / D M R J S W / E A U I C O / E L G N H R / D C S V L K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE / (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
01804	N N N	05/09/2017	14	KUEBLER BLVD SE	INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 9	STRGHT										29
NONE		TU	0	TURNER RD SE	UN		TRF SIGNAL	N	UNK	REAR		N/A	UN-UN									000	00
N		2P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N		44 53 5.23	-122 58 47.21																UNK				
											02	NONE 9	STOP										
												N/A	UN-UN									011	00
												PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																			UNK				
04888	N N N	12/19/2018	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										27,29
NONE		WE	0	TURNER RD SE	UN		TRF SIGNAL	N	WET	REAR		PRVTE	UN-UN									000	00
N		5A			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	47	M	OR-Y		016,026	038	27,29
N		44 53 5.23	-122 58 47.21																OR<25				
											02	NONE 0	STOP										
												PRVTE	UN-UN									011	00
												PSNGR CAR		01	DRVR	INJC	39	M	OR-Y		000	000	00
																			OR<25				
02285	N N N	06/02/2016	16	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT										29
NONE		TH	0	TURNER RD SE	N		TRF SIGNAL	N	DRY	REAR		N/A	N -S									000	00
N		6A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N		44 53 5.23	-122 58 47.21																UNK				
											02	NONE 9	STOP										
												N/A	N -S									011	00
												PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																			UNK				
02805	N N N	07/24/2019	16	TURNER RD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT										29
NONE		WE	0	KUEBLER BLVD SE	N		TRF SIGNAL	N	DRY	REAR		N/A	N -S									000	00
N		11A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N		44 53 5.23	-122 58 47.21																UNK				
											02	NONE 9	STOP										
												N/A	N -S									011	00
												PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																			UNK				
03137	N N N	08/19/2015	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										27,29
NONE		WE	0	TURNER RD SE	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000	00
N		4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	46	F	OR-Y		016,026	038	27,29
N		44 53 5.23	-122 58 47.21																OR<25				
											02	NONE 0	STOP										
												PRVTE	E -W									011	00
												PSNGR CAR		01	DRVR	INJC	42	M	OR-Y		000	000	00
																			OR<25				

CITY OF SALEM, MARION COUNTY

TURNER RD at KUEBLER BLVD, City of Salem, Marion County, 01/01/2015 to 12/31/2019

6 - 9 of 32 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N V	I H L	S C O K	W R	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02395	N	N	N					06/26/2015	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE								FR	0	TURNER RD SE	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000	00
N								11A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	73	F	OR-Y		026	000		29
N								44 53 5.23	-122 58 47.21										OR<25										
																	02	NONE 1	STOP										
																		PRVTE	E -W									011	00
																		PSNGR CAR		01	DRVR	NONE	00	M	UNK		000	000	00
																			UNK										
02637	N	N	N		N	N		06/24/2016	16	KUEBLER BLVD SE	INTER	CROSS	N	N	CLD	BIKE	01	NONE 0	TURN-R											02
CITY								FR	0	TURNER RD SE	S		TRF SIGNAL	N	DRY	TURN		PRVTE	W -S									000	00
N								3P			05	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	40	M	OR-Y		027	000		02
N								44 53 5.23	-122 58 47.21										OR<25										
																			- STRGHT	01	BIKE	INJB	41	M		I XWLK	000	000		00
																			W E										
																			- STRGHT	02	BIKE	INJC	41	F		I XWLK	000	000		00
																			W E										
01241	N	N	N		N	N		03/31/2017	16	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
CITY								FR	0	TURNER RD SE	S		L-GRN-SIG	N	DRY	REAR		PRVTE	S -N									000	00
N								9A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	16	M	OR-Y		043,026	000		07
N								44 53 5.23	-122 58 47.21										OR<25										
																	02	NONE 0	STOP										
																		PRVTE	S -N									012	00
																		PSNGR CAR		01	DRVR	INJC	73	M	OR-Y		000	000		00
																			OR<25										
00743	N	N	N					02/27/2019	16	KUEBLER BLVD SE	INTER	CROSS	N	N	SNOW	S-1STOP	01	NONE 0	STRGHT											29
NONE								WE	0	TURNER RD SE	S		TRF SIGNAL	N	SNO	REAR		PRVTE	S -N									000	00
N								5A			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	27	F	OR-Y		026	000		29
N								44 53 5.23	-122 58 47.21										OR<25										
																	02	NONE 0	STOP										
																		PRVTE	S -N									011	00
																		PSNGR CAR		01	DRVR	INJC	61	F	OR-Y		000	000		00
																			OR<25										

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R J U G S V	I N H L	C S O W R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
02929	N	N	N		N	08/03/2015	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 1	STRGHT											07
STATE						MO	0	TURNER RD SE	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000		00
N			7A						06	0		N	DAY	INJ		SEMI TOW		01	DRVR	NONE	33	F	OR-Y		043,026	000		07
N			44 53 5.23				-122 58 47.21																OR<25					
															02	NONE 0	STOP											
																PRVTE	W -E									011		00
																PSNGR CAR		01	DRVR	INJC	62	F	OR-Y		000	000		00
																							OR<25					
04160	N	N	N			10/28/2015	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NONE						WE	0	TURNER RD SE	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000		00
N			12P						06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y		026	000		07
N			44 53 5.23				-122 58 47.21																OR<25					
															02	NONE 0	STOP											
																PRVTE	W -E									011		00
																PSNGR CAR		01	DRVR	INJC	45	F	OR-Y		000	000		00
																							OR<25					
01310	N	N	N			04/06/2015	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE						MO	0	TURNER RD SE	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000		00
N			3P						06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	F	UNK		026	000		29
N			44 53 5.23				-122 58 47.21																OR<25					
															02	NONE 0	STOP											
																PRVTE	W -E									011		00
																PSNGR CAR		01	DRVR	NONE	17	F	OTH-Y		000	000		00
																							N-RES					
04978	N	N	N		N	11/10/2016	14	KUEBLER BLVD SE	INTER	CROSS	N	N	FOG	S-1STOP	01	NONE 1	STRGHT										013	07,29
CITY						TH	0	TURNER RD SE	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000		00
N			5P						06	0		N	DLIT	INJ		TRUCK		01	DRVR	NONE	24	M	OR-Y		043,026	000		07,29
N			44 53 5.23				-122 58 47.21																OR<25					
															02	NONE 0	STOP											
																PRVTE	W -E									011	013	00
																OTH BUS		01	DRVR	NONE	56	M	OR-Y		000	000		00
																							OR<25					
															03	NONE 0	STOP											
																PRVTE	W -E									022	013	00
																PSNGR CAR		01	DRVR	NONE	31	F	OR-Y		000	000		00
																							OR<25					
															04	NONE 0	STOP											
																PRVTE	W -E									022		00
																MTRCYCLE		01	DRVR	INJB	47	M	OR-Y		000	000		00
																							OR<25					

CITY OF SALEM, MARION COUNTY

TURNER RD at KUEBLER BLVD, City of Salem, Marion County, 01/01/2015 to 12/31/2019

14 - 17 of 32 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N S	I H V	C O W L	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
04184	N	N	N				10/05/2017	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NONE							TH	0	TURNER RD SE	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000		00
N							10A			06	0		N	DAY	INJ		SEMI TOW		01	DRVR	NONE	00	M	UNK		026	000		29
N							44 53 5.23	-122 58 47.21																UNK					
																02	NONE 0	STOP											
																	PRVTE	W -E									011		00
																	PSNGR CAR		01	DRVR	INJC	20	F	OR-Y		000	000		00
																								OR<25					
00802	N	N	N				03/08/2018	14	KUEBLER BLVD SE	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NONE							TH	0	TURNER RD SE	W		TRF SIGNAL	N	WET	REAR		PRVTE	W -E									000		00
N							1P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	19	M	OR-Y		026	000		29
N							44 53 5.23	-122 58 47.21																OR<25					
																02	NONE 0	STOP											
																	PRVTE	W -E									011		00
																	PSNGR CAR		01	DRVR	INJC	28	M	OR-Y		000	000		00
																								OR<25					
																02	NONE 0	STOP											
																	PRVTE	W -E									011		00
																	PSNGR CAR		02	PSNG	INJC	29	F			000	000		00
00210	N	N	N	N	N		01/18/2019	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
CITY							FR	0	TURNER RD SE	W		TRF SIGNAL	N	DRY	REAR		N/A	W -E									000		00
N							9A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 53 5.26	-122 58 47.22																UNK					
																02	NONE 9	STOP											
																	N/A	W -E									011		00
																	SEMI TOW		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
00321	N	N	N				01/27/2019	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
NONE							SU	0	TURNER RD SE	W		TRF SIGNAL	N	DRY	REAR		N/A	W -E									000		00
N							10A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 53 5.23	-122 58 47.21																UNK					
																02	NONE 9	STOP											
																	N/A	W -E									011		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
03715	N	N	N				09/23/2019	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
NONE							MO	0	TURNER RD SE	W		TRF SIGNAL	N	DRY	REAR		N/A	W -E									000		00
N							9A			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 53 5.24	-122 58 47.24																UNK					

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R J U G S	I N V	S H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES / LOC	PED / ERROR	ACT	EVENT	CAUSE
																02	NONE 9 N/A PSNGR CAR	STOP W -E	01	DRVR	NONE	00	Unk	UNK UNK		011 000		00 00
02343	N	N	N				06/24/2015 WE 4P 44 53 5.23	14 0 -122 58 47.21	KUEBLER BLVD SE TURNER RD SE	INTER CN 04	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	53	M	OR-Y OR<25	000	000		02 00 00
																02	NONE 0 PRVTE PSNGR CAR	TURN-L N -E	01	DRVR	INJC	34	M	OR-Y OR<25	028,004	000 000		00 02
04547	N	N	N	N	N		11/17/2015 TU 9A 44 53 5.23	14 0 -122 58 47.21	KUEBLER BLVD SE TURNER RD SE	INTER CN 01	CROSS 0	N TRF SIGNAL	N N	RAIN WET DAY	ANGL-OTH ANGL INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	NONE	49	F	OR-Y OR<25	000	000		04 00 00
																02	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	INJC	60	M	OR-Y OR<25	020	000		00 04
05669	N	N	N	N	N		12/21/2016 WE 5P 44 53 5.23	14 0 -122 58 47.21	KUEBLER BLVD SE TURNER RD SE	INTER CN 02	CROSS 0	N TRF SIGNAL	N N	FOG DRY DLIT	O-1 L-TURN TURN INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	NONE	26	F	OR-Y OR<25	000	000		02 00 00
																02	NONE 0 PRVTE PSNGR CAR	TURN-L W -N	01	DRVR	INJC	51	F	OR-Y OR<25	028,004	000 000		00 02
03236	N	N	N	N	N		08/10/2017 TH 9P 44 53 5.23	14 0 -122 58 47.21	KUEBLER BLVD SE TURNER RD SE	INTER CN 03	CROSS 0	N TRF SIGNAL	Y N	CLR DRY DLIT	ANGL-OTH ANGL INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	01	DRVR	INJC	20	M	OR-Y OR<25	000	000		04 00 00
																01	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	02	PSNG	INJC	24	M		000	000		00 00
																02	NONE 0 PRVTE PSNGR CAR	STRGHT N -S	01	DRVR	NONE	19	M	OR-Y OR<25	020	000		00 04

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G	J I N V	S C H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03384	N	N	N		N	N	08/20/2017	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											04
CITY							SU	0	TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	W -E									000		00
N							8P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	27	F	OR-Y		020	000		04
N							44 53 5.23	-122 58 47.21																OR<25					
																01	NONE 0	STRGHT											
																	PRVTE	W -E									000		00
																	PSNGR CAR		02	PSNG	INJC	08	F			000	000		00
																02	NONE 0	TURN-L											
																	PRVTE	N -E									000		00
																	PSNGR CAR		01	DRVR	INJC	52	F	OR-Y		000	000		00
																								OR<25					
04208	N	N	N		N	N	10/07/2017	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT											053	02
CITY							SA	0	TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	N -S									000		00
N							9P			01	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJB	45	F	OR-Y		000	000		00
N							44 53 5.23	-122 58 47.21																OR<25					
																01	NONE 0	STRGHT											
																	PRVTE	N -S									000		00
																	PSNGR CAR		02	PSNG	INJB	12	F			000	000		00
																02	NONE 0	TURN-L											
																	PRVTE	S -W									000	053	00
																	PSNGR CAR		01	DRVR	INJC	17	M	OR-Y		028,004	000		02
																								OR<25					
05384	N	N	N		N	N	12/12/2017	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L												02
CITY							TU	0	TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	W -N									000		00
N							4P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	68	M	OR-Y		028,004	000		02
N							44 53 5.23	-122 58 47.21																OR<25					
																02	NONE 0	STRGHT											
																	PRVTE	E -W									000		00
																	PSNGR CAR		01	DRVR	NONE	65	M	OR-Y		000	000		00
																								OR<25					
02310	N	N	N		N	N	06/28/2018	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L											001	27,02
CITY							TH	0	TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -W									000		00
N							4P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	35	F	OR-Y		016,028,004	038		27,02
N							44 53 5.23	-122 58 47.21																OR<25					
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000		00
																	MTRCYCLE		01	DRVR	INJB	55	M	OR-Y		000	000	001	00
																								OR<25					

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N H V	S I C L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03687	N	N	N		N	N	09/30/2018	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLD	O-1 L-TURN	01	NONE 0	TURN-L											02
CITY							SU	0	TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	W -N									000	00
N							2P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	18	M	OR-Y		028,004	000	02
N							44 53 5.23	-122 58 47.21																OR>25				
																02	NONE 1	STRGHT										
																	PRVTE	E -W									000	00
																	PSNGR CAR		01	DRVR	INJC	41	F	OR-Y		000	000	00
																								OR<25				
																02	NONE 1	STRGHT										
																	PRVTE	E -W									000	00
																	PSNGR CAR		02	PSNG	INJC	11	M			000	000	00
01435	N	N	N				04/27/2018	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT											04
NONE							FR	0	TURNER RD SE	CN		TRF SIGNAL	N	DRY	ANGL		N/A	E -W									000	00
N							11A			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N							44 53 5.23	-122 58 47.21																UNK				
																02	NONE 9	STRGHT										
																	N/A	S -N									000	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				
01910	N	N	N				06/01/2018	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 9	STRGHT											02
NONE							FR	0	TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		N/A	E -W									000	00
N							6P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N							44 53 5.25	-122 58 47.23																UNK				
																02	NONE 9	TURN-L										
																	N/A	W -N									000	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				
03548	N	N	N				09/18/2018	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 9	STRGHT											27,02
CITY							TU	0	TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		N/A	E -W									000	00
N							2P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N							44 53 5.23	-122 58 47.21																UNK				
																02	NONE 9	TURN-L										
																	N/A	W -N									000	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				
03445	N	N	N		N	N	09/07/2019	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										087	02
CITY							SA	0	TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	E -S									000	087	00
N							11P			03	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	16	M	OR-Y		028,004	000		02
N							44 53 5.23	-122 58 47.22																OR<25				

CITY OF SALEM, MARION COUNTY

TURNER RD at KUEBLER BLVD, City of Salem, Marion County, 01/01/2015 to 12/31/2019

31 - 32 of 32 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J I N V	S C H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																02	NONE 0	STRGHT										
																	PRVTE	W -E									000	087	00
																	PSNGR CAR		01	DRVR	INJC	36	M	OR-Y		000	000		00
																								OR<25					
01471	N	N	N				04/19/2019	14	KUEBLER BLVD SE	INTER	CROSS	N	N	UNK	ANGL-OTH	01	NONE 9	STRGHT											04
NO RPT							FR	0	TURNER RD SE	CN		TRF SIGNAL	N	UNK	ANGL		N/A	UN-UN									000		00
N							7A			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 53 5.26	-122 58 47.25																UNK					
																02	NONE 9	STRGHT										
																	N/A	UN-UN									000		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					

CITY OF SALEM, MARION COUNTY

TURNER RD at MISSION ST, City of Salem, Marion County, 01/01/2015 to 12/31/2019

1 - 4 of 19 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G	J I N	S C H	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00405	N	N	N				02/05/2015	16	MISSION ST SE	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
NONE							TH	0	TURNER RD SE	NE		TRF SIGNAL	N	WET	REAR		PRVTE	SW-NE									000		00
N							2P			09	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	25	F	OR-Y		026	000		07
N							44 55 12.63	-123 0 14.13																OR<25					
																02	NONE 0	STOP											
																	PRVTE	SW-NE									011		00
																	PSNGR CAR		01	DRVR	INJC	41	M	OR-Y		000	000		00
																								OR<25					
00213	N	N	N				01/19/2018	12	MISSION ST SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NONE							FR		TURNER RD SE	E		TRF SIGNAL	N	DRY	REAR		PRVTE	E -W									000		00
N							8A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		026	000		29
N							44 55 12.52	-123 0 13.79	007200100S00															UNK					
																02	NONE 0	STOP											
																	PRVTE	E -W									011	013	00
																	PSNGR CAR		01	DRVR	NONE	00	F	OR-Y		000	022		00
																								OR<25					
																03	NONE 0	STOP											
																	PRVTE	E -W									011		00
																	PSNGR CAR		01	DRVR	INJC	57	M	OR-Y		000	000		00
																								OR<25					
03410	Y	N	N	N	N		09/11/2018	12	MISSION ST SE	INTER	CROSS	N	N	RAIN	ANGL-STP	01	NONE 9	TURN-R											08,01
CITY							TU		TURNER RD SE	S		L-GRN-SIG	N	WET	TURN		N/A	W -S									000		00
N							4P			06	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 55 12.53	-123 0 13.79	007200100S00															UNK					
																02	NONE 9	STOP											
																	N/A	S -N									012		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
05041	N	N	N				11/06/2016	16	MISSION ST SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
NONE							SU	0	TURNER RD SE	S		TRF SIGNAL	N	DRY	REAR		N/A	S -N									000		00
N							9P			06	0		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 55 12.52	-123 0 13.79																UNK					
																02	NONE 9	STOP											
																	N/A	S -N									011		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
01005	N	N	N				03/25/2018	16	MISSION ST SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
NO RPT							SU	0	TURNER RD SE	S		TRF SIGNAL	N	DRY	REAR		N/A	S -N									000		00
N							10A			06	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 55 12.53	-123 0 13.79																UNK					

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R U G S	M J I N V	S C H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																02	NONE 9 N/A PSNGR CAR	STOP S -N	01	DRVR	NONE	00	Unk	UNK UNK		000	011 000		00 00
04629	N	N	N				12/04/2018 TU 12P 44 55 12.52	16 0 -123 0 13.79	MISSION ST SE TURNER RD SE	INTER S 06	CROSS 2	N TRF SIGNAL	N N N	CLR DRY DAY	S-1STOP REAR PDO	01	NONE 9 N/A PSNGR CAR	STRGHT S -N	01	DRVR	NONE	00	Unk	UNK UNK UNK		000	000		29 00 00
NONE N N																02	NONE 9 N/A PSNGR CAR	STOP S -N	01	DRVR	NONE	00	Unk	UNK UNK		000	012 000		00 00
00829	Y	N	Y		N	N	03/05/2019 TU 2P 44 55 12.52	16 0 -123 0 13.79	MISSION ST SE TURNER RD SE	INTER S 06	CROSS 2	N TRF SIGNAL	N N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	31	M	OR-Y OR<25		043,047,026	000		07,01 00 07,01
CITY N N																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	53	M	OR-Y OR<25		000	011 000		00 00
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	02	PSNG	INJC	50	F			000	011 000		00 00
01264	N	N	N				03/27/2016 SU 6P 44 55 12.52	14 0 -123 0 13.79	MISSION ST SE TURNER RD SE 007200100S00	INTER W 06	CROSS 2	N TRF SIGNAL	N N N	RAIN WET DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	01	DRVR	NONE	28	M	OR-Y OR<25		026	000		29 00 29
NO RPT N N																02	NONE 0 PRVTE PSNGR CAR	STOP W -E	01	DRVR	INJC	77	F	OR-Y OR<25		000	011 000		00 00
00891	N	N	N				03/07/2017 TU 1P 44 55 12.52	12 0 -123 0 13.79	MISSION ST SE TURNER RD SE 007200100S00	INTER W 06	CROSS 2	N TRF SIGNAL	N N N	RAIN WET DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	01	DRVR	NONE	00	M	OR-Y OR>25		026	000		29 00 29
NONE N N																02	NONE 0 PRVTE PSNGR CAR	STOP W -E	01	DRVR	INJC	48	F	OR-Y OR<25		000	011 000		00 00

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R J S W U I C O N H R V L K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
													02	NONE 0 PRVTE PSNGR CAR	STOP W -E									011 000		00 00
04540	N	N	N	10/25/2017	14	MISSION ST SE	INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 9	STRGHT											29
NONE				WE		TURNER RD SE	W		TRF SIGNAL	N	UNK	REAR		N/A	W -E									000		00
N				1P			06	0		N	DAY	PDO		TRUCK		01	DRVR	NONE	00	Unk	UNK		000	000		00
N				44 55 12.52 -123 0 13.79		007200100S00															UNK					
													02	NONE 9 N/A PSNGR CAR	STOP W -E	01	DRVR	NONE	00	Unk	UNK UNK		000	011 000		00 00
00078	N	N	N	01/09/2018	14	MISSION ST SE	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NONE				TU		TURNER RD SE	W		TRF SIGNAL	N	WET	REAR		PRVTE	W -E									000		00
N				6P			06	2		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	55	M	OR-Y		026	000		29
N				44 55 12.52 -123 0 13.79		007200100S00															OR<25					
													02	NONE 0 PRVTE PSNGR CAR	STOP W -E	01	DRVR	INJC	48	F	OR-Y OR<25		000	011 000		00 00
													02	NONE 0 PRVTE PSNGR CAR	STOP W -E	02	PSNG	INJC	11	M			000	011 000		00 00
													02	NONE 0 PRVTE PSNGR CAR	STOP W -E	03	PSNG	INJC	09	F			000	011 000		00 00
02179	N	N	N	06/18/2018	14	MISSION ST SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	27,29
NO RPT				MO		TURNER RD SE	W		TRF SIGNAL	N	DRY	REAR		PRVTE	W -E									000		00
N				5P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	64	F	OR-Y	016,026		038		27,29
N				44 55 12.52 -123 0 13.79		007200100S00															OR<25					
													02	NONE 0 PRVTE PSNGR CAR	STOP W -E	01	DRVR	INJC	26	F	OR-Y OR<25		000	011 022	013	00 00
													03	NONE 0 PRVTE PSNGR CAR	STOP W -E	01	DRVR	NONE	64	M	OR-Y OR<25		000	011 000		00 00

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R G S	J N V	S H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / TYPE / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
03211	N	N	N				08/24/2015	14	MISSION ST SE	INTER	CROSS	N	N	CLR	S-OTHER	01	NONE 0	TURN-L										07
NONE							MO		TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -W									000	00
N							2P			01	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	36	M	OR-Y		042	000	07
N							44 55 12.52	-123 0 13.79	007200100S00															OR<25				
																02	NONE 0	TURN-L										
																	PRVTE	S -W									000	00
																	PSNGR CAR		01	DRVR	NONE	42	F	OTH-Y N-RES		000	000	00
03335	N	N	N		N	N	08/06/2016	12	MISSION ST SE	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										40,04
CITY							SA		TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	W -E									000	00
N							8P			04	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	66	M	OR-Y		020	026	40,04
N							44 55 12.52	-123 0 13.79	007200100S00															OR<25				
																02	NONE 0	TURN-L										
																	PRVTE	S -W									000	00
																	PSNGR CAR		01	DRVR	NONE	47	F	OR-Y OR<25		000	000	00
																02	NONE 0	TURN-L										
																	PRVTE	S -W									000	00
																	PSNGR CAR		02	PSNG	INJC	47	F			000	000	00
01903	N	N	N		N	N	05/16/2017	12	MISSION ST SE	INTER	CROSS	N	N	CLD	O-1 L-TURN	01	NONE 0	STRGHT										013	04
CITY							TU		TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -N									000	00
N							5P			04	2		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	44	M	NONE		020	000	04
N							44 55 12.52	-123 0 13.79	007200100S00															OR<25				
																02	NONE 0	TURN-L										
																	PRVTE	N -E									000	013 00
																	PSNGR CAR		01	DRVR	INJB	65	M	OR-Y OR<25		000	022	00
																03	NONE 0	STOP										
																	PRVTE	E -W									012	00
																	PSNGR CAR		01	DRVR	NONE	20	M	OR-Y OR<25		000	000	00
02829	N	N	N				07/15/2017	12	MISSION ST SE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										04
NONE							SA		TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	E -S									000	00
N							9A			03	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	71	F	OR-Y		097	000	00
N							44 55 12.52	-123 0 13.79	007200100S00															OR<25				
																02	NONE 0	STRGHT										
																	PRVTE	W -E									000	00
																	PSNGR CAR		01	DRVR	INJC	28	F	OR-Y OR<25		097	000	00

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G	J I N V	S C H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT EVENT	CAUSE
03369	N	N	N				08/19/2017	12	MISSION ST SE	INTER	CROSS	N	N	CLR	S-1TURN	01	NONE 9	TURN-R									08
CITY							SA		TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		N/A	W -S								000	00
N							7P			03	2		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N							44 55 12.52	-123 0 13.79	007200100S00															UNK				
																02	NONE 9	STRGHT									
																	N/A	W -E								000	00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																								UNK				
02525	Y	N	N		N	N	07/13/2018	12	MISSION ST SE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT									04,40,01
CITY							FR		TURNER RD SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	W -E								000	00
N							8P			03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	53	F	OR-Y		047,020	026	04,40,01
N							44 55 12.52	-123 0 13.79	007200100S00															OR<25				
																02	NONE 0	TURN-L									
																	PRVTE	E -S								000	00
																	PSNGR CAR		01	DRVR	INJC	44	M	OR-Y		000	000	00
																								OR<25				
00709	N	N	N				02/24/2019	12	MISSION ST SE	INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE 0	STRGHT									02
NONE							SU		TURNER RD SE	CN		TRF SIGNAL	N	WET	TURN		PRVTE	W -E								000	00
N							5A			03	2		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	33	F	OR-Y		000	000	00
N							44 55 12.52	-123 0 13.79	007200100S00															OR<25				
																02	NONE 0	TURN-L									
																	PRVTE	E -S								000	00
																	PSNGR CAR		01	DRVR	INJC	20	M	OR-Y		028,004	000	02
																								OR<25				

CITY OF SALEM, MARION COUNTY

TURNER RD at AIRWAY DR, City of Salem, Marion County, 01/01/2015 to 12/31/2019

1 - 4 of 22 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J I N V	S C H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03062	N	N	N		N	N	07/22/2016	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 0	STRGHT										013,004	07
CITY			FR					0	TURNER RD SE	N		STOP SIGN	N	DRY	REAR		PRVTE	N -S									000		00
N			2P							06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	54	F	OR-Y		043,026	000		07
N			44 53 41.51				-122 59 25.09											OR<25										
																01	NONE 0	STRGHT										
																	PRVTE	N -S								000		00
																	PSNGR CAR		02	PSNG	INJC	54	F		000	000		00
																02	NONE 0	STOP										
																	PRVTE	N -S								011	013	00
																	PSNGR CAR		01	DRVR	NONE	19	M	OR-Y		000	022		00
																								OR<25				
																02	NONE 0	STOP										
																	PRVTE	N -S								011	013	00
																	PSNGR CAR		02	PSNG	INJC	11	F		000	000		00
																02	NONE 0	STOP										
																	PRVTE	N -S								011	013	00
																	PSNGR CAR		03	PSNG	INJC	06	F		000	000		00
																03	NONE 0	STOP										
																	PRVTE	N -S								011	004	00
																	PSNGR CAR		01	DRVR	NONE	43	M	OR-Y		000	000		00
																								OR<25				
03523	Y	N	N		N	N	08/28/2017	16	AIRWAY DR SE	INTER	3-LEG	N	Y	SMOK	FIX OBJ	01	NONE 9	TURN-L										079	01,08
CITY			MO					0	TURNER RD SE	N		STOP SIGN	N	DRY	FIX		N/A	S -W									000		00
N			7P							06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			44 53 41.51				-122 59 25.09											UNK										
00747	Y	N	N		N	N	02/27/2019	16	AIRWAY DR SE	INTER	3-LEG	N	N	SNOW	O-STRGHT	01	NONE 9	STRGHT											01
STATE			WE					0	TURNER RD SE	N		STOP SIGN	N	SNO	SS-M		N/A	S -N									000		00
N			7A							06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			44 53 41.54				-122 59 25.11											UNK										
																02	NONE 9	STRGHT										
																	N/A	N -S								000		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK				
01725	N	N	N				05/06/2019	16	AIRWAY DR SE	INTER	3-LEG	N	Y	CLR	FIX OBJ	01	NONE 0	STRGHT										079,092,010	26
NO RPT			MO					0	TURNER RD SE	E		STOP SIGN	N	DRY	FIX		PRVTE	S -N									007	079,010	00
N			12P							05	0		N	DAY	INJ		TRUCK		01	DRVR	INJB	52	M	OR-Y		081	000	092	26
N			44 53 41.54				-122 59 25.1											OR>25										

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N S	I H V	C O L	W R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00005	N	N	N					01/02/2015	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	07
NO RPT								FR	0	TURNER RD SE	S		STOP SIGN	N	DRY	REAR		PRVTE	S -N									000		00
N								4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	36	M	OR-Y		026	000		07
N								44 53 41.51	-122 59 25.09																OR<25					
																	02	NONE 0	STOP											
																		PRVTE	S -N									012	013	00
																		PSNGR CAR		01	DRVR	INJC	31	M	OR-Y		000	022		00
																									OR<25					
																	02	NONE 0	STOP											
																		PRVTE	S -N									012	013	00
																		PSNGR CAR		02	PSNG	INJC	33	F			000	000		00
																	02	NONE 0	STOP											
																		PRVTE	S -N									012	013	00
																		PSNGR CAR		03	PSNG	INJC	06	F			000	000		00
																	03	NONE 0	STRGHT											
																		PRVTE	N -S									000		00
																		PSNGR CAR		01	DRVR	INJC	52	M	OR-Y		000	000		00
																									OR<25					
03649	N	N	N					09/23/2015	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											29
NO RPT								WE	0	TURNER RD SE	S		STOP SIGN	N	DRY	REAR		PRVTE	S -N									000		00
N								12P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	49	F	OR-Y		026	000		29
N								44 53 41.51	-122 59 25.09																OR<25					
																	02	NONE 0	STOP											
																		PRVTE	S -N									012		00
																		PSNGR CAR		01	DRVR	NONE	81	M	OR-Y		000	000		00
																									UNK					
02002	N	N	N	N	N			05/13/2016	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											32,27,29
CITY								FR	0	TURNER RD SE	S		STOP SIGN	N	DRY	REAR		PRVTE	S -N									000		00
N								2P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	20	M	OR-Y		052,016,026	038		32,27,29
N								44 53 41.51	-122 59 25.09																OR<25					
																	02	NONE 0	STOP											
																		PRVTE	S -N									012		00
																		PSNGR CAR		01	DRVR	INJC	35	M	OR-Y		000	000		00
																									OR<25					
00246	N	N	N	N	N			01/18/2017	16	AIRWAY DR SE	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											07
CITY								WE	0	TURNER RD SE	S		STOP SIGN	N	WET	REAR		PRVTE	S -N									000		00
N								12P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	77	F	OR-Y		043,026	000		07
N								44 53 41.51	-122 59 25.09																OR<25					

URBAN NON-SYSTEM CRASH LISTING

CITY OF SALEM, MARION COUNTY

TURNER RD at AIRWAY DR, City of Salem, Marion County, 01/01/2015 to 12/31/2019

8 - 11 of 22 Crash records shown.

	S D M																				
SER#	P R J S W	DATE	CLASS	CITY STREET		INT-TYPE					SPCL USE										
INVEST	E A U I C O	DAY	DIST	FIRST STREET	RD CHAR	(MEDIAN)	INT-REL	OFFRD	WTHR	CRASH	TRLR QTY	MOVE			A	S					
RD DPT	E L G N H R	TIME	FROM	SECOND STREET	DIRECT	LEGS	TRAF-	RNDBT	SURF	COLL	OWNER	FROM	PRTC	INJ	G	E	LICNS	PED			
UNLOC?	D C S V L K	LAT	LONG	LRS	LOCTN	(#LANES)	CONTL	DRVWY	LIGHT	SVRTY	V# TYPE	TO	P# TYPE	SVRTY	E	X	RES	LOC	ERROR	ACT EVENT	CAUSE
											02 NONE 0	STOP									
											PRVTE	S -N								012	00
											PSNGR CAR		01 DRVR	INJC	70	F	OR-Y		000	000	00
																	OR<25				
00530	N N N N N	02/11/2017	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE 0	STRGHT									29
CITY		SA	0	TURNER RD SE	S		STOP SIGN	N	DRY	REAR	PRVTE	S -N								000	00
N		12P			06	0		N	DAY	INJ	PSNGR CAR		01 DRVR	INJC	31	F	OR-Y		026	000	29
N		44 53 41.51	-122 59 25.09														OR<25				
											02 NONE 0	STOP									
											PRVTE	S -N								012	00
											PSNGR CAR		01 DRVR	NONE	70	F	OR-Y		000	000	00
																	OR<25				
05413	N N N N N	12/13/2017	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE 9	STRGHT									07
CITY		WE	0	TURNER RD SE	S		STOP SIGN	N	DRY	REAR	N/A	S -N								000	00
N		12P			06	0		N	DAY	PDO	PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000	00
N		44 53 41.51	-122 59 25.09														UNK				
											02 NONE 9	STOP									
											N/A	S -N								012	00
											PSNGR CAR		01 DRVR	NONE	00	Unk	UNK		000	000	00
																	UNK				
01782	N N N	05/24/2018	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE 0	STRGHT									29
NONE		TH	0	TURNER RD SE	S		STOP SIGN	N	DRY	REAR	PRVTE	S -N								000	00
N		5P			06	0		N	DAY	INJ	PSNGR CAR		01 DRVR	INJC	52	F	OR-Y		026	000	29
N		44 53 41.51	-122 59 25.09														OR<25				
											02 NONE 0	STOP									
											PRVTE	S -N								012	00
											PSNGR CAR		01 DRVR	INJC	43	M	OR-Y		000	000	00
																	OR<25				
00483	N N N	02/11/2018	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	S-1STOP	01 NONE 0	STRGHT									40,29
NONE		SU	0	TURNER RD SE	S		STOP SIGN	N	DRY	REAR	PRVTE	S -N								000	00
N		4P			06	0		N	DAY	INJ	PSNGR CAR		01 DRVR	NONE	20	F	OR-Y		026	026	40,29
N		44 53 41.51	-122 59 25.09														OR<25				
											02 NONE 0	STOP									
											PRVTE	S -N								011	00
											PSNGR CAR		01 DRVR	INJC	50	M	OR-Y		000	000	00
																	OR<25				
											02 NONE 0	STOP									
											PRVTE	S -N								011	00
											PSNGR CAR		02 PSNG	INJC	46	F			000	000	00

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G	J I N V	S C H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	03	PSNG	INJC	13	F			000	011 000		00 00
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	04	PSNG	INJC	16	F			000	011 000		00 00
00764	N	N	N	N	N		03/05/2018	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	S-1TURN	01	NONE 9	STRGHT										079	07
CITY			MO					0	TURNER RD SE	S		STOP SIGN	N	DRY	REAR		N/A	S -N									000		00
N N			11A 44 53 41.51					-122 59 25.09		06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
																02	NONE 9 N/A PSNGR CAR	TURN-L S -W	01	DRVR	NONE	00	Unk	UNK UNK		000	000 000		00 00
00854	N	N	N	N	N		03/08/2019	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	27,07
CITY			FR					0	TURNER RD SE	S		STOP SIGN	N	DRY	REAR		PRVTE	S -N									000		00
N N			5P 44 53 41.52					-122 59 25.1		06	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	NONE	36	M	OR-Y OR<25		016,043,026	038		27,07
																02	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	18	M	OR-Y OR<25		000	012 022	013	00 00
																03	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	23	M	OR-Y OR<25		000	012 000		00 00
																03	NONE 0 PRVTE PSNGR CAR	STOP S -N	02	PSNG	INJC	24	M			000	012 000		00 00
																03	NONE 0 PRVTE PSNGR CAR	STOP S -N	03	PSNG	INJC	36	F			000	012 000		00 00
00690	N	N	N				02/22/2019	16	AIRWAY DR SE	INTER	3-LEG	N	N	RAIN	S-1STOP	01	NONE 9	STRGHT											29
NONE			FR					0	TURNER RD SE	S		STOP SIGN	N	WET	REAR		N/A	S -N									000		00
N N			5P 44 53 41.52					-122 59 25.13		06	0		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
																02	NONE 9 N/A PSNGR CAR	STOP S -N	01	DRVR	NONE	00	Unk	UNK UNK		000	012 000		00 00

URBAN NON-SYSTEM CRASH LISTING

CITY OF SALEM, MARION COUNTY

TURNER RD at AIRWAY DR, City of Salem, Marion County, 01/01/2015 to 12/31/2019

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R U S	M J I N V	S C H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE / (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00277	N	N	N		N	N	01/20/2017	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	STRGHT											02
CITY							FR	0	TURNER RD SE	CN		STOP SIGN	N	DRY	TURN		PRVTE	N -S									000		00
N							3P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	62	F	OR-Y		000	000		00
N							44 53 41.51	-122 59 25.09																OR<25					
																02	NONE 0	TURN-L											
																	PRVTE	S -W									000		00
																	PSNGR CAR		01	DRVR	INJC	49	M	OR-Y		028,004	000		02
																								OR<25					
02427	N	N	N				06/19/2017	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	S-1TURN	01	NONE 9	STRGHT											29
NONE							MO	0	TURNER RD SE	CN		STOP SIGN	N	DRY	REAR		N/A	S -N									000		00
N							1P			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 53 41.51	-122 59 25.09																UNK					
																02	NONE 9	TURN-L											
																	N/A	S -W									000		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
00347	N	N	N		N	N	01/30/2018	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLD	O-1 L-TURN	01	NONE 0	TURN-L											02
CITY							TU	0	TURNER RD SE	CN		STOP SIGN	N	DRY	TURN		PRVTE	S -W									000		00
N							12P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	46	M	OR-Y		028,004	000		02
N							44 53 41.51	-122 59 25.09																OR<25					
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000		00
																	PSNGR CAR		01	DRVR	INJC	62	M	OR-Y		000	000		00
																								OR<25					
01096	N	N	N				04/03/2018	16	AIRWAY DR SE	INTER	3-LEG	N	N	UNK	O-1 L-TURN	01	NONE 0	TURN-L											02
NONE							TU	0	TURNER RD SE	CN		STOP SIGN	N	UNK	TURN		PRVTE	S -W									000		00
N							12P			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	21	M	OR-Y		028,004	000		02
N							44 53 41.51	-122 59 25.1																OR<25					
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000		00
																	PSNGR CAR		01	DRVR	INJC	19	F	OR-Y		000	000		00
																								OR<25					
04328	N	N	N		N	N	11/13/2018	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L										087	27,02
CITY							TU	0	TURNER RD SE	CN		STOP SIGN	N	DRY	TURN		PRVTE	S -W									000	087	00
N							10A			01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJA	75	F	OR-Y		016,028,004	038		27,02
N							44 53 41.51	-122 59 25.09																OR<25					
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000	087	00
																	PSNGR CAR		01	DRVR	INJC	66	M	SUSP		000	000		00
																								OR<25					

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G	J N S	I H V	C L L	O R K	W DAY / TIME / LAT	CLASS / DIST FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
01034	N	N	N		N	N		03/20/2019	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										27,29
CITY								WE	0	TURNER RD SE	CN		STOP SIGN	N	DRY	REAR		PRVTE	S -N								000	00
N								3P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	81	M	OR-Y		016,026	038	27,29
N								44 53 41.55	-122 59 25.1																OR>25				
																	02	NONE 0	STOP										
																		PRVTE	S -N									012	00
																		PSNGR CAR		01	DRVR	INJC	32	F	OR-Y		000	000	00
																									OR<25				
05242	N	N	N					12/27/2019	16	AIRWAY DR SE	INTER	3-LEG	N	N	CLD	S-1STOP	01	NONE 9	STRGHT										29
NO RPT								FR	0	TURNER RD SE	CN		STOP SIGN	N	DRY	REAR		N/A	S -N								000	00
N								12P			04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N								44 53 41.52	-122 59 25.11																UNK				
																	02	NONE 9	STOP										
																		N/A	S -N									012	00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
																									UNK				

CITY OF SALEM, MARION COUNTY

36TH AVE at KUEBLER BLVD, City of Salem, Marion County, 01/01/2015 to 12/31/2019

1 - 3 of 19 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R J S W U I C O G N H R K V L	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
03237	N	N	N	06/27/2016	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
NONE				MO	0	36TH AVE SE	UN		TRF SIGNAL	N	DRY	REAR		N/A	UN-UN									000		00
N				1P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N				44 53 5.32	-122 59 19.34																UNK					
													02	NONE 9	STOP											
														N/A	UN-UN									011		00
														PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																					UNK					
04190	N	N	N	10/03/2017	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT										013	29
NO RPT				TU	0	36TH AVE SE	UN		TRF SIGNAL	N	DRY	REAR		PRVTE	UN-UN									000		00
N				4P			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	54	F	OR-Y		026	000		29
N				44 53 5.32	-122 59 19.34																OR<25					
													01	NONE 0	STRGHT											
														PRVTE	UN-UN									000		00
														PSNGR CAR		02	PSNG	INJB	12	M			000	000		00
													02	NONE 0	STOP											
														PRVTE	UN-UN									011	013	00
														PSNGR CAR		01	DRVR	NONE	46	M	OR-Y		000	022		00
																					OR<25					
													03	NONE 0	STOP											
														PRVTE	UN-UN									011		00
														PSNGR CAR		01	DRVR	NONE	62	F	OR-Y		000	000		00
																					OR<25					
01474	N	N	N	05/01/2018	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											07
NO RPT				TU	0	36TH AVE SE	UN		TRF SIGNAL	N	DRY	REAR		PRVTE	UN-UN									000		00
N				10A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	30	F	OR-Y		043,026	000		07
N				44 53 5.32	-122 59 19.34																OR<25					
													01	NONE 0	STRGHT											
														PRVTE	UN-UN									000		00
														PSNGR CAR		02	PSNG	INJC	33	M			000	000		00
													02	NONE 0	STOP											
														PRVTE	UN-UN									011		00
														PSNGR CAR		01	DRVR	INJC	43	F	OR-Y		000	000		00
																					OR<25					
03447	N	Y	N	N N 08/12/2016	16	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	ANGL-STP	01	NONE 0	TURN-R											08
CITY				FR	0	36TH AVE SE	N		TRF SIGNAL	N	DRY	TURN		PRVTE	E -N									000		00
N				1A			06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	21	F	OR-Y		001,026	000		08
N				44 53 5.32	-122 59 19.34																OR<25					

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	M R J U G S	S N I V	W O R H	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
															02	NONE 0 PRVTE PSNGR CAR	STOP N -S									011		00 00
02470	N	N	N			07/01/2015 WE 6A 44 53 5.32	14 0 -122 59 19.34	KUEBLER BLVD SE 36TH AVE SE	INTER E 06	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	NONE	62	M	OR-Y OR<25		016,026	038		27,07 00 27,07
															02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	INJC	21	F	OR-Y OR<25		000	011 000		00 00
03007	N	N	N			07/25/2017 TU 4P 44 53 5.32	14 0 -122 59 19.34	KUEBLER BLVD SE 36TH AVE SE	INTER E 06	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	NONE	19	M	OR-Y OR<25		026	000		29 00 29
															02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	INJC	19	M	OR-Y OR<25		000	011 000		00 00
00825	N	N	N			03/10/2018 SA 8A 44 53 5.32	14 0 -122 59 19.34	KUEBLER BLVD SE 36TH AVE SE	INTER E 06	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	NONE	68	M	OR-Y OR<25		026	000		29 00 29
															02	NONE 0 PRVTE PSNGR CAR	STOP E -W	01	DRVR	INJC	37	F	OR-Y OR<25		000	011 000		00 00
03193	N	N	N	N	N	08/22/2019 TH 1P 44 53 5.33	17 0 -122 59 19.37	KUEBLER BLVD SE 36TH AVE SE	INTER S 05	3-LEG 0	N TRF SIGNAL	Y N	CLR DRY DAY	FIX OBJ FIX PDO	01	NONE 9 N/A FARM TRCTR	TURN-L E -S	01	DRVR	NONE	00	Unk	UNK UNK		000	079 000		21,08 00 00
01634	N	N	N			05/06/2015 WE 8A 44 53 5.32	14 0 -122 59 19.34	KUEBLER BLVD SE 36TH AVE SE	INTER W 06	CROSS 0	N TRF SIGNAL	N N	CLR DRY DAY	S-1STOP REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	01	DRVR	NONE	28	F	OR-Y OR<25		026	000		07 00 07
															02	NONE 0 PRVTE PSNGR CAR	STOP W -E	01	DRVR	INJC	62	M	OR-Y OR<25		000	011 000		00 00

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G	J I N V	S C H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01507	N	N	N				04/18/2017	14	KUEBLER BLVD SE	INTER	CROSS	N	N	RAIN	S-1STOP	01	NONE 0	STRGHT											29
NONE							TU	0	36TH AVE SE	W		TRF SIGNAL	N	WET	REAR		PRVTE	W -E									000		00
N							7A			06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	53	M	OR-Y		026	000		29
N							44 53 5.32	-122 59 19.34																OR<25					
																02	NONE 0	STOP											
																	PRVTE	W -E									011		00
																	PSNGR CAR		01	DRVR	INJC	19	M	OR-Y		000	000		00
																								OR<25					
																02	NONE 0	STOP											
																	PRVTE	W -E									011		00
																	PSNGR CAR		02	PSNG	INJC	19	M			000	000		00
02009	N	N	N				05/22/2017	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											116	27,29
NONE							MO	0	36TH AVE SE	W		TRF SIGNAL	N	DRY	REAR		N/A	W -E									000		00
N							5P			06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 53 5.32	-122 59 19.34																UNK					
																02	NONE 9	STOP											
																	N/A	W -E									011		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
04607	N	N	N				11/20/2015	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L											02
NONE							FR	0	36TH AVE SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	S -W									000		00
N							3P			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	UNK		028,004	000		02
N							44 53 5.32	-122 59 19.34																OR<25					
																02	NONE 0	TURN-R											
																	PRVTE	N -W									000		00
																	PSNGR CAR		01	DRVR	NONE	45	M	OR-Y		000	000		00
																								OR<25					
00299	N	N	N	N	N		01/21/2016	14	KUEBLER BLVD SE	INTER	CROSS	N	N	RAIN	O-1 L-TURN	01	NONE 9	TURN-L											02
CITY							TH	0	36TH AVE SE	CN		TRF SIGNAL	N	WET	TURN		N/A	N -E									000		00
N							4P			04	0		N	DUSK	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N							44 53 5.32	-122 59 19.34																UNK					
																02	NONE 9	STRGHT											
																	N/A	S -N									000		00
																	PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																								UNK					
00314	N	N	N	N	N		01/24/2017	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L											02
CITY							TU	0	36TH AVE SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	W -N									000		00
N							2P			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	58	M	OTH-Y		028,004	000		02
N							44 53 5.32	-122 59 19.34																N-RES					

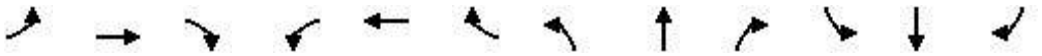
SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N S	S H V	W O R L	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC / TYPE	INJ / SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																02	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	INJB	33	M	NONE OR<25		000	000		00 00
																02	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	02	PSNG	INJB	22	F			000	000		00 00
02559	N	N	N	N	N		06/27/2017	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L											02
CITY							TU	0	36TH AVE SE	CN		TRF SIGNAL	N	DRY	TURN		PRVTE	W -N									000		00
N N							10A 44 53 5.32	-122 59 19.34		02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	M	OR-Y OR<25		028,004	000		02
																02	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	INJB	30	F	OR-Y OR<25		000	000		00 00
																02	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	02	PSNG	INJB	61	F			000	000		00 00
00388	N	N	N				01/31/2017	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 9	TURN-L											02
NO RPT							TU	0	36TH AVE SE	CN		TRF SIGNAL	N	DRY	TURN		N/A	E -S									000		00
N N							8A 44 53 5.32	-122 59 19.34		03	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK UNK		000	000		00
																02	NONE 9 N/A PSNGR CAR	STRGHT W -E	01	DRVR	NONE	00	Unk	UNK UNK		000	000		00 00
04979	N	N	N	N	N		12/26/2018	14	KUEBLER BLVD SE	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	STRGHT											04
CITY							WE	0	36TH AVE SE	CN		TRF SIGNAL	N	WET	ANGL		PRVTE	S -N									000		00
N N							9P 44 53 5.32	-122 59 19.34		02	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	62	M	OR-Y OR<25		000	000		00
																02	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	NONE	00	M	UNK UNK		020	000		00 04
04085	N	N	N	N	N		10/18/2019	14	KUEBLER BLVD SE	INTER	CROSS	N	N	RAIN	ANGL-OTH	01	NONE 0	TURN-R											02
CITY							FR	0	36TH AVE SE	CN		TRF SIGNAL	N	WET	TURN		PRVTE	N -W									000		00
N N							5P 44 53 5.33	-122 59 19.34		01	0		N	DUSK	INJ		PSNGR CAR		01	DRVR	INJC	62	F	OR-Y OR>25		028	000		02

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R U G S	M J I N V	S C H L	W O R K	DATE / DAY / TIME / LAT	CLASS / DIST / FROM / LONG	CITY STREET / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
																02	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	NONE	71	F	OR-Y OR<25		000	000	00 00
04197	N	N	N	N	N		10/25/2019	14	KUEBLER BLVD SE	INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 9	STRGHT										14
CITY			FR					0	36TH AVE SE	CN		OFCR/FLAG	N	DRY	TURN		N/A	W -E								000	00
N			10P							03	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000	00
N			44 53 5.34					-122 59 19.36																UNK				
																02	NONE 9 N/A PSNGR CAR	TURN-L E -S	01	DRVR	NONE	00	Unk	UNK UNK		000	000	00 00

Appendix D

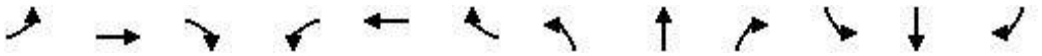
Capacity Reports

Queuing Reports



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	464	150	77	544	60	219	215	63	53	96	69
Future Volume (vph)	181	464	150	77	544	60	219	215	63	53	96	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	0.97		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1760		1719	1783		1719	1748		1612	1590	
Flt Permitted	0.19	1.00		0.25	1.00		0.30	1.00		0.32	1.00	
Satd. Flow (perm)	356	1760		455	1783		544	1748		540	1590	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	203	521	169	87	611	67	246	242	71	60	108	78
RTOR Reduction (vph)	0	7	0	0	2	0	0	8	0	0	21	0
Lane Group Flow (vph)	203	683	0	87	676	0	246	305	0	60	165	0
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	5%	5%	5%	12%	12%	12%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	81.6	72.0		72.1	66.5		36.4	26.7		23.9	18.2	
Effective Green, g (s)	81.6	73.0		72.1	67.5		36.4	27.7		23.9	19.2	
Actuated g/C Ratio	0.63	0.56		0.55	0.52		0.28	0.21		0.18	0.15	
Clearance Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lane Grp Cap (vph)	341	988		306	925		280	372		146	234	
v/s Ratio Prot	c0.05	0.39		0.01	c0.38		c0.10	0.17		0.02	0.10	
v/s Ratio Perm	0.32			0.14			c0.15			0.06		
v/c Ratio	0.60	0.69		0.28	0.73		0.88	0.82		0.41	0.70	
Uniform Delay, d1	17.4	20.4		16.3	24.2		41.0	48.8		45.2	52.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	4.0		0.2	5.1		24.6	12.9		0.7	7.6	
Delay (s)	19.2	24.4		16.5	29.3		65.6	61.7		45.9	60.3	
Level of Service	B	C		B	C		E	E		D	E	
Approach Delay (s)		23.2			27.8			63.4			56.8	
Approach LOS		C			C			E			E	

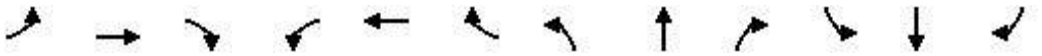
Intersection Summary			
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	464	150	77	544	60	219	215	63	53	96	69
Future Volume (veh/h)	181	464	150	77	544	60	219	215	63	53	96	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1826	1826	1826	1826	1826	1826	1722	1722	1722
Adj Flow Rate, veh/h	203	521	169	87	611	67	246	242	71	60	108	78
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	4	4	4	5	5	5	5	5	5	12	12	12
Cap, veh/h	363	761	247	331	877	96	276	287	84	156	128	93
Arrive On Green	0.07	0.57	0.56	0.04	0.54	0.53	0.12	0.21	0.20	0.04	0.14	0.13
Sat Flow, veh/h	1753	1331	432	1739	1617	177	1739	1356	398	1640	930	672
Grp Volume(v), veh/h	203	0	690	87	0	678	246	0	313	60	0	186
Grp Sat Flow(s),veh/h/ln	1753	0	1763	1739	0	1794	1739	0	1754	1640	0	1601
Q Serve(g_s), s	6.6	0.0	35.9	2.9	0.0	36.2	15.0	0.0	22.3	4.1	0.0	14.7
Cycle Q Clear(g_c), s	6.6	0.0	35.9	2.9	0.0	36.2	15.0	0.0	22.3	4.1	0.0	14.7
Prop In Lane	1.00		0.24	1.00		0.10	1.00		0.23	1.00		0.42
Lane Grp Cap(c), veh/h	363	0	1008	331	0	973	276	0	372	156	0	221
V/C Ratio(X)	0.56	0.00	0.68	0.26	0.00	0.70	0.89	0.00	0.84	0.39	0.00	0.84
Avail Cap(c_a), veh/h	450	0	1008	428	0	973	276	0	378	277	0	345
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.82	0.00	0.82	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.5	0.0	19.7	17.1	0.0	21.9	43.3	0.0	49.3	46.9	0.0	54.9
Incr Delay (d2), s/veh	0.4	0.0	3.1	0.2	0.0	4.1	27.6	0.0	14.7	0.6	0.0	6.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	15.2	1.2	0.0	16.0	8.9	0.0	11.3	1.7	0.0	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.0	0.0	22.8	17.2	0.0	26.1	70.9	0.0	63.9	47.5	0.0	60.9
LnGrp LOS	B	A	C	B	A	C	E	A	E	D	A	E
Approach Vol, veh/h		893			765			559			246	
Approach Delay, s/veh		21.9			25.1			67.0			57.7	
Approach LOS		C			C			E			E	

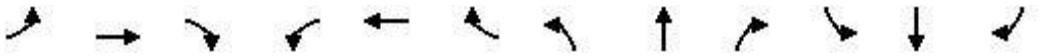
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	79.3	19.0	22.9	12.6	75.5	9.4	32.5
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	12.0	56.0	15.0	27.0	15.0	53.0	15.0	27.0
Max Q Clear Time (g_c+I1), s	4.9	37.9	17.0	16.7	8.6	38.2	6.1	24.3
Green Ext Time (p_c), s	0.0	1.2	0.0	0.2	0.0	1.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	178	681	116	60	545	139	94	34	40	36	20	3
Future Volume (vph)	178	681	116	60	545	139	94	34	40	36	20	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1553	1719	1754		1517	1468		1444	1520	1292
Flt Permitted	0.27	1.00	1.00	0.30	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	491	1827	1553	548	1754		1517	1468		1444	1520	1292
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	187	717	122	63	574	146	99	36	42	38	21	3
RTOR Reduction (vph)	0	0	38	0	6	0	0	39	0	0	0	3
Lane Group Flow (vph)	187	717	84	63	714	0	99	39	0	38	21	0
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	19%	19%	19%	25%	25%	25%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								4
Actuated Green, G (s)	80.3	74.3	74.3	75.3	71.8		9.8	8.8		6.4	5.4	5.4
Effective Green, g (s)	80.3	75.3	75.3	75.3	72.8		9.8	8.8		6.4	5.4	5.4
Actuated g/C Ratio	0.73	0.68	0.68	0.68	0.66		0.09	0.08		0.06	0.05	0.05
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lane Grp Cap (vph)	426	1250	1063	412	1160		135	117		84	74	63
v/s Ratio Prot	c0.02	0.39		0.00	c0.41		c0.07	0.03		c0.03	0.01	
v/s Ratio Perm	0.30		0.05	0.10								0.00
v/c Ratio	0.44	0.57	0.08	0.15	0.62		0.73	0.34		0.45	0.28	0.00
Uniform Delay, d1	7.8	9.0	5.8	7.0	10.6		48.8	47.8		50.1	50.4	49.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.3	1.9	0.1	0.1	2.4		16.2	0.6		1.4	0.8	0.0
Delay (s)	8.1	10.9	5.9	7.1	13.1		65.0	48.5		51.5	51.2	49.7
Level of Service	A	B	A	A	B		E	D		D	D	D
Approach Delay (s)		9.8			12.6			57.7			51.3	
Approach LOS		A			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	178	681	116	60	545	139	94	34	40	36	20	3
Future Volume (veh/h)	178	681	116	60	545	139	94	34	40	36	20	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1826	1826	1826	1618	1618	1618	1530	1530	1530
Adj Flow Rate, veh/h	187	717	122	63	574	146	99	36	42	38	21	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	5	5	5	19	19	19	25	25	25
Cap, veh/h	495	1327	1125	450	979	249	120	48	56	56	48	41
Arrive On Green	0.05	0.72	0.72	0.02	0.70	0.69	0.08	0.07	0.07	0.04	0.03	0.03
Sat Flow, veh/h	1753	1841	1560	1739	1404	357	1541	681	794	1457	1530	1296
Grp Volume(v), veh/h	187	717	122	63	0	720	99	0	78	38	21	3
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1739	0	1762	1541	0	1475	1457	1530	1296
Q Serve(g_s), s	3.4	19.6	2.6	1.2	0.0	23.1	7.0	0.0	5.7	2.8	1.5	0.2
Cycle Q Clear(g_c), s	3.4	19.6	2.6	1.2	0.0	23.1	7.0	0.0	5.7	2.8	1.5	0.2
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.54	1.00		1.00
Lane Grp Cap(c), veh/h	495	1327	1125	450	0	1228	120	0	104	56	48	41
V/C Ratio(X)	0.38	0.54	0.11	0.14	0.00	0.59	0.83	0.00	0.75	0.68	0.44	0.07
Avail Cap(c_a), veh/h	505	1327	1125	502	0	1228	126	0	201	146	236	200
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.56	0.00	0.56	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.6	7.0	4.6	6.2	0.0	8.6	50.0	0.0	50.2	52.2	52.3	51.7
Incr Delay (d2), s/veh	0.2	1.6	0.2	0.0	0.0	1.2	31.3	0.0	4.0	5.2	2.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	7.2	0.8	0.4	0.0	8.2	3.7	0.0	2.2	1.1	0.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	7.7	8.6	4.8	6.2	0.0	9.8	81.3	0.0	54.2	57.4	54.7	52.0
LnGrp LOS	A	A	A	A	A	A	F	A	D	E	D	D
Approach Vol, veh/h		1026			783			177			62	
Approach Delay, s/veh		8.0			9.5			69.4			56.2	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	83.3	12.5	7.4	9.4	80.7	8.2	11.7
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	61.0	9.0	17.0	6.0	61.0	11.0	15.0
Max Q Clear Time (g_c+I1), s	3.2	21.6	9.0	3.5	5.4	25.1	4.8	7.7
Green Ext Time (p_c), s	0.0	1.1	0.0	0.0	0.0	1.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	15.3
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

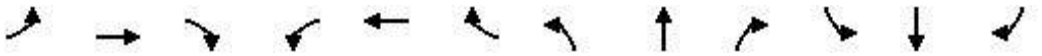
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	22	53	114	287	156	20
Future Vol, veh/h	22	53	114	287	156	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	1	1	3	3
Mvmt Flow	26	62	133	334	181	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	793	193	204	0	-	0
Stage 1	193	-	-	-	-	-
Stage 2	600	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.11	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.209	-	-	-
Pot Cap-1 Maneuver	353	841	1374	-	-	-
Stage 1	833	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	311	841	1374	-	-	-
Mov Cap-2 Maneuver	311	-	-	-	-	-
Stage 1	734	-	-	-	-	-
Stage 2	542	-	-	-	-	-

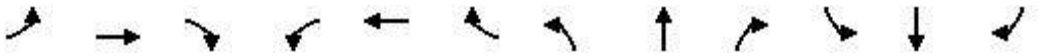
Approach	EB	NB	SB
HCM Control Delay, s	12.6	2.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1374	-	561	-	-
HCM Lane V/C Ratio	0.096	-	0.155	-	-
HCM Control Delay (s)	7.9	0	12.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.3	-	0.5	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	1880	176	127	1329	216	184	97	116	67	74	88
Future Volume (vph)	200	1880	176	127	1329	216	184	97	116	67	74	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.1		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	4923		3400	3505	1568	3433	1863	1583	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1736	4923		3400	3505	1568	3433	1863	1583	3433	1863	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	227	2136	200	144	1510	245	209	110	132	76	84	100
RTOR Reduction (vph)	0	5	0	0	0	72	0	0	0	0	0	91
Lane Group Flow (vph)	227	2331	0	144	1510	173	209	110	132	76	84	9
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	19.0	85.9		10.8	77.7	77.7	13.4	16.9	16.9	8.0	11.5	11.5
Effective Green, g (s)	19.0	85.8		10.8	78.7	78.7	13.4	18.3	18.3	8.0	12.9	12.9
Actuated g/C Ratio	0.14	0.61		0.08	0.56	0.56	0.10	0.13	0.13	0.06	0.09	0.09
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.4	5.4	4.0	5.4	5.4
Vehicle Extension (s)	2.5	4.8		2.5	4.8	4.8	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	235	3017		262	1970	881	328	243	206	196	171	145
v/s Ratio Prot	c0.13	c0.47		0.04	0.43		c0.06	0.06		0.02	0.05	
v/s Ratio Perm						0.11			c0.08			0.01
v/c Ratio	0.97	0.77		0.55	0.77	0.20	0.64	0.45	0.64	0.39	0.49	0.06
Uniform Delay, d1	60.2	19.9		62.3	23.6	15.1	61.0	56.2	57.7	63.6	60.4	58.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	48.7	2.0		1.9	2.9	0.5	3.5	1.0	5.9	0.9	1.6	0.1
Delay (s)	108.9	21.9		64.1	26.5	15.6	64.5	57.2	63.6	64.6	62.0	58.2
Level of Service	F	C		E	C	B	E	E	E	E	E	E
Approach Delay (s)		29.6			27.9			62.5			61.3	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	33.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	69.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	1880	176	127	1329	216	184	97	116	67	74	88
Future Volume (veh/h)	200	1880	176	127	1329	216	184	97	116	67	74	88
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	227	2136	200	144	1510	245	209	110	132	76	84	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	3	3	3	2	2	2	2	2	2
Cap, veh/h	238	3159	293	196	2131	951	264	207	175	121	130	
Arrive On Green	0.14	0.68	0.68	0.06	0.60	0.60	0.08	0.11	0.11	0.03	0.07	0.00
Sat Flow, veh/h	1753	4679	433	3428	3526	1572	3456	1870	1585	3456	1870	1585
Grp Volume(v), veh/h	227	1522	814	144	1510	245	209	110	132	76	84	0
Grp Sat Flow(s),veh/h/ln	1753	1675	1763	1714	1763	1572	1728	1870	1585	1728	1870	1585
Q Serve(g_s), s	18.0	37.9	39.0	5.8	41.5	10.2	8.3	7.8	11.3	3.0	6.1	0.0
Cycle Q Clear(g_c), s	18.0	37.9	39.0	5.8	41.5	10.2	8.3	7.8	11.3	3.0	6.1	0.0
Prop In Lane	1.00		0.25	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	238	2262	1190	196	2131	951	264	207	175	121	130	
V/C Ratio(X)	0.95	0.67	0.68	0.73	0.71	0.26	0.79	0.53	0.75	0.63	0.65	
Avail Cap(c_a), veh/h	238	2262	1190	514	2131	951	494	240	204	518	254	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	60.1	13.5	13.7	64.9	19.2	13.0	63.6	58.8	60.4	66.7	63.5	0.0
Incr Delay (d2), s/veh	45.4	1.6	3.2	3.9	2.0	0.7	4.0	1.6	11.6	4.0	4.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	14.1	15.8	2.6	17.1	3.8	3.8	3.8	5.1	1.4	3.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	105.5	15.2	16.9	68.9	21.2	13.6	67.6	60.4	72.0	70.6	67.5	0.0
LnGrp LOS	F	B	B	E	C	B	E	E	E	E	E	
Approach Vol, veh/h		2563			1899			451			160	A
Approach Delay, s/veh		23.7			23.8			67.1			69.0	
Approach LOS		C			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	99.6	14.7	13.7	23.0	88.6	8.9	19.5
Change Period (Y+Rc), s	4.0	5.0	4.0	* 5.4	4.0	5.0	4.0	* 5.4
Max Green Setting (Gmax), s	21.0	63.0	20.0	* 18	19.0	65.0	21.0	* 17
Max Q Clear Time (g_c+I1), s	7.8	41.0	10.3	8.1	20.0	43.5	5.0	13.3
Green Ext Time (p_c), s	0.3	20.8	0.4	0.2	0.0	17.9	0.1	0.2

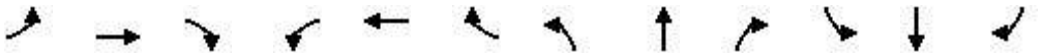
Intersection Summary	
HCM 6th Ctrl Delay	29.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

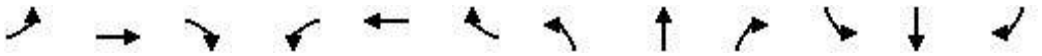
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	536	191	72	635	52	160	110	62	84	243	176
Future Volume (vph)	87	536	191	72	635	52	160	110	62	84	243	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	0.95		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1772		1787	1860		1787	1779		1805	1781	
Flt Permitted	0.15	1.00		0.14	1.00		0.12	1.00		0.62	1.00	
Satd. Flow (perm)	281	1772		258	1860		222	1779		1175	1781	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	90	553	197	74	655	54	165	113	64	87	251	181
RTOR Reduction (vph)	0	8	0	0	2	0	0	15	0	0	20	0
Lane Group Flow (vph)	90	742	0	74	707	0	165	162	0	87	412	0
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	70.2	64.0		67.6	62.7		45.1	34.0		37.0	29.9	
Effective Green, g (s)	70.2	65.0		67.6	63.7		45.1	35.0		37.0	30.9	
Actuated g/C Ratio	0.54	0.50		0.52	0.49		0.35	0.27		0.28	0.24	
Clearance Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lane Grp Cap (vph)	221	886		191	911		211	478		368	423	
v/s Ratio Prot	c0.02	c0.42		0.01	0.38		c0.07	0.09		0.01	c0.23	
v/s Ratio Perm	0.20			0.19			0.20			0.05		
v/c Ratio	0.41	0.84		0.39	0.78		0.78	0.34		0.24	0.97	
Uniform Delay, d1	21.3	28.0		22.5	27.3		34.3	38.2		35.0	49.2	
Progression Factor	0.79	0.90		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	8.0		0.5	6.4		15.8	0.2		0.1	36.7	
Delay (s)	17.3	33.1		23.0	33.7		50.1	38.3		35.1	85.8	
Level of Service	B	C		C	C		D	D		D	F	
Approach Delay (s)		31.4			32.7			44.0			77.3	
Approach LOS		C			C			D			E	

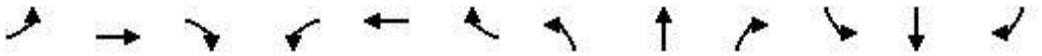
Intersection Summary			
HCM 2000 Control Delay	43.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	91.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	536	191	72	635	52	160	110	62	84	243	176
Future Volume (veh/h)	87	536	191	72	635	52	160	110	62	84	243	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	90	553	177	74	655	49	165	113	58	87	251	162
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	1	1	1	1	1	1	0	0	0
Cap, veh/h	264	682	218	476	867	65	205	319	164	375	257	166
Arrive On Green	0.08	1.00	1.00	0.03	0.50	0.49	0.08	0.27	0.26	0.05	0.24	0.23
Sat Flow, veh/h	1767	1347	431	1795	1732	130	1795	1174	603	1810	1079	696
Grp Volume(v), veh/h	90	0	730	74	0	704	165	0	171	87	0	413
Grp Sat Flow(s),veh/h/ln	1767	0	1778	1795	0	1862	1795	0	1777	1810	0	1775
Q Serve(g_s), s	3.3	0.0	0.2	2.6	0.0	39.5	8.8	0.0	10.1	4.7	0.0	30.0
Cycle Q Clear(g_c), s	3.3	0.0	0.2	2.6	0.0	39.5	8.8	0.0	10.1	4.7	0.0	30.0
Prop In Lane	1.00		0.24	1.00		0.07	1.00		0.34	1.00		0.39
Lane Grp Cap(c), veh/h	264	0	901	476	0	932	205	0	483	375	0	423
V/C Ratio(X)	0.34	0.00	0.81	0.16	0.00	0.76	0.81	0.00	0.35	0.23	0.00	0.98
Avail Cap(c_a), veh/h	440	0	901	623	0	932	263	0	483	494	0	423
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.00	0.79	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.9	0.0	0.0	15.2	0.0	26.1	36.1	0.0	38.3	35.5	0.0	49.3
Incr Delay (d2), s/veh	0.2	0.0	6.3	0.1	0.0	5.7	10.3	0.0	0.2	0.1	0.0	37.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	1.6	1.1	0.0	18.6	4.5	0.0	4.5	2.1	0.0	17.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	0.0	6.3	15.3	0.0	31.8	46.5	0.0	38.4	35.6	0.0	86.5
LnGrp LOS	C	A	A	B	A	C	D	A	D	D	A	F
Approach Vol, veh/h		820			778			336			500	
Approach Delay, s/veh		7.9			30.2			42.4			77.6	
Approach LOS		A			C			D			E	

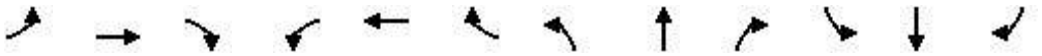
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	70.9	14.8	36.0	9.1	70.1	10.4	40.4
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	50.0	15.0	30.0	18.0	47.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	4.6	2.2	10.8	32.0	5.3	41.5	6.7	12.1
Green Ext Time (p_c), s	0.0	1.3	0.0	0.0	0.0	0.7	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	619	76	65	840	69	140	35	88	114	31	227
Future Volume (vph)	63	619	76	65	840	69	140	35	88	114	31	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1626	1712	1455	1752	1824		1752	1646		1736	1827	1553
Flt Permitted	0.16	1.00	1.00	0.33	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	278	1712	1455	615	1824		1752	1646		1736	1827	1553
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	66	645	79	68	875	72	146	36	92	119	32	236
RTOR Reduction (vph)	0	0	25	0	2	0	0	77	0	0	0	221
Lane Group Flow (vph)	66	645	54	68	945	0	146	51	0	119	32	15
Heavy Vehicles (%)	11%	11%	11%	3%	3%	3%	3%	3%	3%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								4
Actuated Green, G (s)	92.8	88.2	88.2	91.2	87.4		12.6	9.0		12.0	8.4	8.4
Effective Green, g (s)	92.8	89.2	89.2	91.2	88.4		12.6	9.0		12.0	8.4	8.4
Actuated g/C Ratio	0.71	0.69	0.69	0.70	0.68		0.10	0.07		0.09	0.06	0.06
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lane Grp Cap (vph)	246	1174	998	464	1240		169	113		160	118	100
v/s Ratio Prot	c0.01	0.38		0.00	c0.52		c0.08	0.03		c0.07	0.02	
v/s Ratio Perm	0.18		0.04	0.10								0.01
v/c Ratio	0.27	0.55	0.05	0.15	0.76		0.86	0.45		0.74	0.27	0.15
Uniform Delay, d1	13.6	10.3	6.7	7.4	13.8		57.9	58.1		57.5	57.9	57.4
Progression Factor	1.00	1.00	1.00	0.61	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	1.9	0.1	0.0	2.7		32.9	1.0		15.0	0.5	0.3
Delay (s)	13.9	12.1	6.8	4.5	16.6		90.8	59.2		72.5	58.3	57.7
Level of Service	B	B	A	A	B		F	E		E	E	E
Approach Delay (s)		11.7			15.8			76.0			62.3	
Approach LOS		B			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	619	76	65	840	69	140	35	88	114	31	227
Future Volume (veh/h)	63	619	76	65	840	69	140	35	88	114	31	227
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1856	1856	1856	1856	1856	1856	1841	1841	1841
Adj Flow Rate, veh/h	66	645	63	68	875	65	146	36	73	119	32	189
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	11	11	11	3	3	3	3	3	3	4	4	4
Cap, veh/h	220	1074	910	387	1042	77	170	44	90	263	248	210
Arrive On Green	0.03	0.62	0.62	0.03	0.61	0.60	0.10	0.08	0.08	0.15	0.13	0.13
Sat Flow, veh/h	1654	1737	1472	1767	1706	127	1767	547	1109	1753	1841	1560
Grp Volume(v), veh/h	66	645	63	68	0	940	146	0	109	119	32	189
Grp Sat Flow(s),veh/h/ln	1654	1737	1472	1767	0	1833	1767	0	1656	1753	1841	1560
Q Serve(g_s), s	2.0	29.3	2.2	1.9	0.0	53.3	10.6	0.0	8.4	8.0	2.0	15.5
Cycle Q Clear(g_c), s	2.0	29.3	2.2	1.9	0.0	53.3	10.6	0.0	8.4	8.0	2.0	15.5
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.67	1.00		1.00
Lane Grp Cap(c), veh/h	220	1074	910	387	0	1120	170	0	134	263	248	210
V/C Ratio(X)	0.30	0.60	0.07	0.18	0.00	0.84	0.86	0.00	0.81	0.45	0.13	0.90
Avail Cap(c_a), veh/h	290	1074	910	474	0	1120	177	0	242	263	269	228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.54	0.00	0.54	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.3	15.1	9.9	12.6	0.0	20.2	57.9	0.0	58.8	50.4	49.5	55.4
Incr Delay (d2), s/veh	0.3	2.5	0.1	0.0	0.0	4.3	29.7	0.0	4.5	0.4	0.1	31.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	11.9	0.8	0.7	0.0	22.9	6.1	0.0	3.7	3.6	0.9	7.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	17.6	10.0	12.7	0.0	24.5	87.6	0.0	63.3	50.8	49.6	86.4
LnGrp LOS	C	B	B	B	A	C	F	A	E	D	D	F
Approach Vol, veh/h		774			1008			255			340	
Approach Delay, s/veh		17.3			23.7			77.2			70.5	
Approach LOS		B			C			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	84.4	16.5	21.5	8.5	83.4	23.5	14.5
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	10.0	71.0	13.0	19.0	10.0	71.0	13.0	19.0
Max Q Clear Time (g_c+I1), s	3.9	31.3	12.6	17.5	4.0	55.3	10.0	10.4
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.0	1.7	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

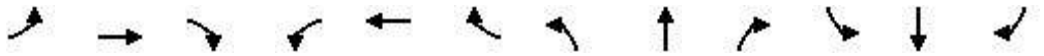
Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	45	120	66	245	337	41
Future Vol, veh/h	45	120	66	245	337	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	51	136	75	278	383	47

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	835	407	430	0	-	0
Stage 1	407	-	-	-	-	-
Stage 2	428	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	338	644	1129	-	-	-
Stage 1	672	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	311	644	1129	-	-	-
Mov Cap-2 Maneuver	311	-	-	-	-	-
Stage 1	619	-	-	-	-	-
Stage 2	657	-	-	-	-	-

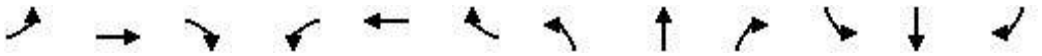
Approach	EB	NB	SB
HCM Control Delay, s	16.5	1.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1129	-	498	-	-
HCM Lane V/C Ratio	0.066	-	0.377	-	-
HCM Control Delay (s)	8.4	0	16.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.7	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	1999	339	268	1576	75	293	152	361	183	176	159
Future Volume (vph)	67	1999	339	268	1576	75	293	152	361	183	176	159
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	4975		3400	3505	1568	3467	1881	1599	3467	1881	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	4975		3400	3505	1568	3467	1881	1599	3467	1881	1599
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	71	2127	361	285	1677	80	312	162	384	195	187	169
RTOR Reduction (vph)	0	16	0	0	0	37	0	0	0	0	0	81
Lane Group Flow (vph)	71	2472	0	285	1677	43	312	162	384	195	187	88
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	7.0	70.3		12.0	75.3	75.3	13.0	35.3	35.3	9.0	31.3	31.3
Effective Green, g (s)	7.0	70.4		12.0	76.3	76.3	13.0	36.7	36.7	9.0	32.7	32.7
Actuated g/C Ratio	0.05	0.49		0.08	0.53	0.53	0.09	0.25	0.25	0.06	0.23	0.23
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.4	5.4	4.0	5.4	5.4
Vehicle Extension (s)	2.5	4.8		2.5	4.8	4.8	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	85	2415		281	1844	825	310	476	404	215	424	360
v/s Ratio Prot	0.04	c0.50		c0.08	0.48		c0.09	0.09		0.06	0.10	
v/s Ratio Perm						0.03			c0.24			0.05
v/c Ratio	0.84	1.02		1.01	0.91	0.05	1.01	0.34	0.95	0.91	0.44	0.24
Uniform Delay, d1	68.4	37.3		66.5	31.2	16.7	66.0	44.3	53.3	67.6	48.3	46.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	46.9	24.6		57.4	8.2	0.1	52.8	0.3	32.2	36.6	0.5	0.3
Delay (s)	115.4	61.9		123.9	39.4	16.9	118.8	44.6	85.4	104.2	48.8	46.3
Level of Service	F	E		F	D	B	F	D	F	F	D	D
Approach Delay (s)		63.4			50.3			89.8			67.6	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	63.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	16.9
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	1999	339	268	1576	75	293	152	361	183	176	159
Future Volume (veh/h)	67	1999	339	268	1576	75	293	152	361	183	176	159
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	71	2127	289	285	1677	64	312	162	307	195	187	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	3	3	3	1	1	1	1	1	1
Cap, veh/h	86	2380	317	284	1984	885	312	408	346	216	356	
Arrive On Green	0.05	0.52	0.52	0.08	0.56	0.56	0.09	0.22	0.22	0.06	0.19	0.00
Sat Flow, veh/h	1781	4557	608	3428	3526	1572	3483	1885	1598	3483	1885	1598
Grp Volume(v), veh/h	71	1578	838	285	1677	64	312	162	307	195	187	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1761	1714	1763	1572	1742	1885	1598	1742	1885	1598
Q Serve(g_s), s	5.7	59.9	62.9	12.0	57.5	2.7	13.0	10.7	27.0	8.1	13.0	0.0
Cycle Q Clear(g_c), s	5.7	59.9	62.9	12.0	57.5	2.7	13.0	10.7	27.0	8.1	13.0	0.0
Prop In Lane	1.00		0.35	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	86	1777	920	284	1984	885	312	408	346	216	356	
V/C Ratio(X)	0.83	0.89	0.91	1.00	0.85	0.07	1.00	0.40	0.89	0.90	0.53	
Avail Cap(c_a), veh/h	86	1777	920	284	1984	885	312	486	412	216	434	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	68.4	30.9	31.6	66.5	26.4	14.4	66.0	48.7	55.1	67.6	53.0	0.0
Incr Delay (d2), s/veh	44.7	7.0	14.7	54.6	4.6	0.2	50.7	0.5	17.5	35.5	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	25.8	29.9	7.4	24.8	1.0	8.0	5.1	12.6	4.7	6.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	113.1	37.9	46.2	121.1	31.1	14.6	116.7	49.2	72.6	103.0	53.8	0.0
LnGrp LOS	F	D	D	F	C	B	F	D	E	F	D	
Approach Vol, veh/h		2487			2026			781			382	A
Approach Delay, s/veh		42.9			43.2			85.3			79.0	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	80.6	17.0	31.4	11.0	85.6	13.0	35.4
Change Period (Y+Rc), s	4.0	5.0	4.0	* 5.4	4.0	5.0	4.0	* 5.4
Max Green Setting (Gmax), s	12.0	69.6	13.0	* 32	7.0	74.6	9.0	* 36
Max Q Clear Time (g_c+I1), s	14.0	64.9	15.0	15.0	7.7	59.5	10.1	29.0
Green Ext Time (p_c), s	0.0	4.7	0.0	0.7	0.0	13.4	0.0	1.0

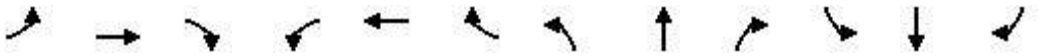
Intersection Summary	
HCM 6th Ctrl Delay	51.3
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

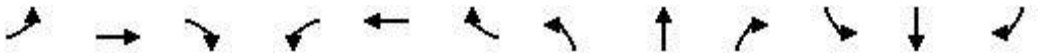
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	488	163	88	560	69	241	237	72	58	102	74
Future Volume (vph)	214	488	163	88	560	69	241	237	72	58	102	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1758		1719	1780		1719	1746		1612	1590	
Flt Permitted	0.14	1.00		0.21	1.00		0.30	1.00		0.25	1.00	
Satd. Flow (perm)	260	1758		381	1780		535	1746		427	1590	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	240	548	183	99	629	78	271	266	81	65	115	83
RTOR Reduction (vph)	0	7	0	0	3	0	0	9	0	0	21	0
Lane Group Flow (vph)	240	724	0	99	704	0	271	338	0	65	177	0
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	5%	5%	5%	12%	12%	12%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	80.0	69.4		68.6	62.0		38.0	28.0		25.5	19.5	
Effective Green, g (s)	80.0	70.4		68.6	63.0		38.0	29.0		25.5	20.5	
Actuated g/C Ratio	0.62	0.54		0.53	0.48		0.29	0.22		0.20	0.16	
Clearance Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lane Grp Cap (vph)	318	952		268	862		288	389		138	250	
v/s Ratio Prot	c0.08	0.41		0.02	c0.40		c0.10	0.19		0.02	0.11	
v/s Ratio Perm	0.38			0.18			c0.17			0.07		
v/c Ratio	0.75	0.76		0.37	0.82		0.94	0.87		0.47	0.71	
Uniform Delay, d1	21.5	23.2		19.0	28.6		41.4	48.7		44.2	51.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.7	5.7		0.3	8.4		37.1	18.1		0.9	7.3	
Delay (s)	30.2	28.9		19.3	37.0		78.5	66.8		45.2	59.2	
Level of Service	C	C		B	D		E	E		D	E	
Approach Delay (s)		29.2			34.8			71.9			55.7	
Approach LOS		C			C			E			E	

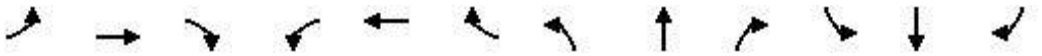
Intersection Summary			
HCM 2000 Control Delay	43.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	83.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	488	163	88	560	69	241	237	72	58	102	74
Future Volume (veh/h)	214	488	163	88	560	69	241	237	72	58	102	74
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1826	1826	1826	1826	1826	1826	1722	1722	1722
Adj Flow Rate, veh/h	240	548	164	99	629	70	271	266	72	65	115	70
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	4	4	4	5	5	5	5	5	5	12	12	12
Cap, veh/h	352	769	230	316	853	95	281	292	79	144	141	86
Arrive On Green	0.08	0.56	0.56	0.04	0.53	0.52	0.12	0.21	0.20	0.04	0.14	0.13
Sat Flow, veh/h	1753	1360	407	1739	1614	180	1739	1384	375	1640	1002	610
Grp Volume(v), veh/h	240	0	712	99	0	699	271	0	338	65	0	185
Grp Sat Flow(s),veh/h/ln	1753	0	1767	1739	0	1794	1739	0	1758	1640	0	1612
Q Serve(g_s), s	8.0	0.0	38.2	3.4	0.0	39.1	15.0	0.0	24.4	4.4	0.0	14.5
Cycle Q Clear(g_c), s	8.0	0.0	38.2	3.4	0.0	39.1	15.0	0.0	24.4	4.4	0.0	14.5
Prop In Lane	1.00		0.23	1.00		0.10	1.00		0.21	1.00		0.38
Lane Grp Cap(c), veh/h	352	0	999	316	0	948	281	0	371	144	0	226
V/C Ratio(X)	0.68	0.00	0.71	0.31	0.00	0.74	0.96	0.00	0.91	0.45	0.00	0.82
Avail Cap(c_a), veh/h	419	0	999	406	0	948	281	0	379	260	0	347
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.00	0.79	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.9	0.0	20.7	18.2	0.0	23.7	45.1	0.0	50.2	46.8	0.0	54.4
Incr Delay (d2), s/veh	1.8	0.0	3.4	0.2	0.0	5.1	43.7	0.0	24.5	0.8	0.0	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	16.3	1.4	0.0	17.6	5.2	0.0	13.3	1.8	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.7	0.0	24.1	18.5	0.0	28.8	88.7	0.0	74.7	47.6	0.0	59.1
LnGrp LOS	C	A	C	B	A	C	F	A	E	D	A	E
Approach Vol, veh/h		952			798			609			250	
Approach Delay, s/veh		23.8			27.5			81.0			56.1	
Approach LOS		C			C			F			E	

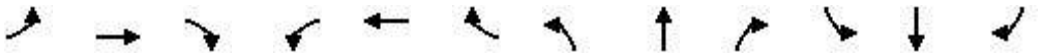
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	78.4	19.0	23.3	14.0	73.7	9.8	32.5
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	12.0	56.0	15.0	27.0	15.0	53.0	15.0	27.0
Max Q Clear Time (g_c+I1), s	5.4	40.2	17.0	16.5	10.0	41.1	6.4	26.4
Green Ext Time (p_c), s	0.0	1.2	0.0	0.2	0.0	1.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	710	137	71	560	158	104	40	44	38	24	3
Future Volume (vph)	213	710	137	71	560	158	104	40	44	38	24	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1553	1719	1750		1517	1471		1444	1520	1292
Flt Permitted	0.23	1.00	1.00	0.28	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	429	1827	1553	509	1750		1517	1471		1444	1520	1292
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	224	747	144	75	589	166	109	42	46	40	25	3
RTOR Reduction (vph)	0	0	47	0	8	0	0	38	0	0	0	3
Lane Group Flow (vph)	224	747	97	75	747	0	109	50	0	40	25	0
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	19%	19%	19%	25%	25%	25%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								4
Actuated Green, G (s)	79.9	72.9	72.9	73.3	69.6		10.8	9.7		6.7	5.6	5.6
Effective Green, g (s)	79.9	73.9	73.9	73.3	70.6		10.8	9.7		6.7	5.6	5.6
Actuated g/C Ratio	0.73	0.67	0.67	0.67	0.64		0.10	0.09		0.06	0.05	0.05
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lane Grp Cap (vph)	394	1227	1043	379	1123		148	129		87	77	65
v/s Ratio Prot	c0.04	0.41		0.01	c0.43		c0.07	0.03		c0.03	0.02	
v/s Ratio Perm	0.38		0.06	0.12								0.00
v/c Ratio	0.57	0.61	0.09	0.20	0.67		0.74	0.39		0.46	0.32	0.00
Uniform Delay, d1	9.9	10.0	6.3	8.1	12.3		48.2	47.3		49.9	50.4	49.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.1	2.3	0.2	0.1	3.1		15.1	0.7		1.4	0.9	0.0
Delay (s)	11.0	12.3	6.5	8.2	15.4		63.3	48.0		51.3	51.3	49.6
Level of Service	B	B	A	A	B		E	D		D	D	D
Approach Delay (s)		11.3			14.8			56.5			51.2	
Approach LOS		B			B			E			D	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	710	137	71	560	158	104	40	44	38	24	3
Future Volume (veh/h)	213	710	137	71	560	158	104	40	44	38	24	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1826	1826	1826	1618	1618	1618	1530	1530	1530
Adj Flow Rate, veh/h	224	747	115	75	589	148	109	42	41	40	25	3
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	5	5	5	19	19	19	25	25	25
Cap, veh/h	478	1308	1108	430	964	242	126	55	54	62	52	44
Arrive On Green	0.05	0.71	0.71	0.03	0.68	0.68	0.08	0.07	0.07	0.04	0.03	0.03
Sat Flow, veh/h	1753	1841	1560	1739	1408	354	1541	752	734	1457	1530	1296
Grp Volume(v), veh/h	224	747	115	75	0	737	109	0	83	40	25	3
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1739	0	1762	1541	0	1486	1457	1530	1296
Q Serve(g_s), s	4.2	21.8	2.5	1.5	0.0	25.1	7.7	0.0	6.0	3.0	1.8	0.2
Cycle Q Clear(g_c), s	4.2	21.8	2.5	1.5	0.0	25.1	7.7	0.0	6.0	3.0	1.8	0.2
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.49	1.00		1.00
Lane Grp Cap(c), veh/h	478	1308	1108	430	0	1206	126	0	109	62	52	44
V/C Ratio(X)	0.47	0.57	0.10	0.17	0.00	0.61	0.86	0.00	0.76	0.65	0.48	0.07
Avail Cap(c_a), veh/h	478	1308	1108	476	0	1206	126	0	203	146	236	200
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.43	0.00	0.43	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	8.8	7.8	5.0	6.9	0.0	9.5	49.9	0.0	50.0	51.9	52.2	51.4
Incr Delay (d2), s/veh	0.3	1.8	0.2	0.0	0.0	1.0	40.9	0.0	4.1	4.2	2.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	8.2	0.8	0.5	0.0	9.0	4.4	0.0	2.4	1.2	0.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.1	9.6	5.2	6.9	0.0	10.5	90.8	0.0	54.1	56.0	54.7	51.7
LnGrp LOS	A	A	A	A	A	B	F	A	D	E	D	D
Approach Vol, veh/h		1086			812			192			68	
Approach Delay, s/veh		9.0			10.2			74.9			55.3	
Approach LOS		A			B			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	82.1	13.0	7.7	10.0	79.3	8.7	12.1
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	61.0	9.0	17.0	6.0	61.0	11.0	15.0
Max Q Clear Time (g_c+I1), s	3.5	23.8	9.7	3.8	6.2	27.1	5.0	8.0
Green Ext Time (p_c), s	0.0	1.2	0.0	0.0	0.0	1.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

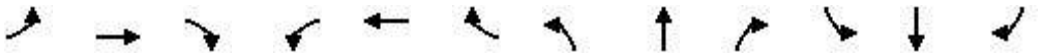
Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	54	126	302	163	23
Future Vol, veh/h	23	54	126	302	163	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	1	1	3	3
Mvmt Flow	27	63	147	351	190	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	849	204	217	0	-	0
Stage 1	204	-	-	-	-	-
Stage 2	645	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.11	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.209	-	-	-
Pot Cap-1 Maneuver	327	829	1359	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	283	829	1359	-	-	-
Mov Cap-2 Maneuver	283	-	-	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	517	-	-	-	-	-

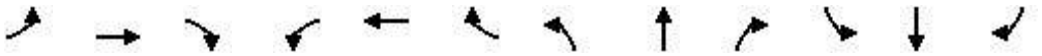
Approach	EB	NB	SB
HCM Control Delay, s	13.2	2.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1359	-	526	-	-
HCM Lane V/C Ratio	0.108	-	0.17	-	-
HCM Control Delay (s)	8	0	13.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.6	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	1886	184	135	1343	244	189	102	119	68	76	90
Future Volume (vph)	214	1886	184	135	1343	244	189	102	119	68	76	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.1		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	4921		3400	3505	1568	3433	1863	1583	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1736	4921		3400	3505	1568	3433	1863	1583	3433	1863	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	243	2143	209	153	1526	277	215	116	135	77	86	102
RTOR Reduction (vph)	0	6	0	0	0	79	0	0	0	0	0	89
Lane Group Flow (vph)	243	2346	0	153	1526	198	215	116	135	77	86	13
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	19.0	85.4		7.0	73.4	73.4	9.0	19.2	19.2	5.0	15.2	15.2
Effective Green, g (s)	19.0	85.3		7.0	74.4	74.4	9.0	20.6	20.6	5.0	16.6	16.6
Actuated g/C Ratio	0.14	0.63		0.05	0.55	0.55	0.07	0.15	0.15	0.04	0.12	0.12
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.4	5.4	4.0	5.4	5.4
Vehicle Extension (s)	2.5	4.8		2.5	4.8	4.8	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	244	3109		176	1931	864	228	284	241	127	229	194
v/s Ratio Prot	c0.14	0.48		0.05	c0.44		c0.06	0.06		0.02	0.05	
v/s Ratio Perm						0.13			c0.09			0.01
v/c Ratio	1.00	0.75		0.87	0.79	0.23	0.94	0.41	0.56	0.61	0.38	0.06
Uniform Delay, d1	58.0	17.5		63.5	24.1	15.6	62.7	51.7	53.0	64.0	54.4	52.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	56.1	1.8		33.3	3.4	0.6	43.7	0.7	2.4	6.7	0.8	0.1
Delay (s)	114.1	19.2		96.9	27.5	16.2	106.4	52.4	55.4	70.8	55.2	52.4
Level of Service	F	B		F	C	B	F	D	E	E	E	D
Approach Delay (s)		28.1			31.3			78.2			58.7	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	1886	184	135	1343	244	189	102	119	68	76	90
Future Volume (veh/h)	214	1886	184	135	1343	244	189	102	119	68	76	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	243	2143	187	153	1526	221	215	116	108	77	86	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	3	3	3	2	2	2	2	2	2
Cap, veh/h	247	3216	278	178	2122	946	230	195	165	120	135	
Arrive On Green	0.14	0.68	0.68	0.05	0.60	0.60	0.07	0.10	0.10	0.03	0.07	0.00
Sat Flow, veh/h	1753	4711	407	3428	3526	1572	3456	1870	1585	3456	1870	1585
Grp Volume(v), veh/h	243	1518	812	153	1526	221	215	116	108	77	86	0
Grp Sat Flow(s),veh/h/ln	1753	1675	1767	1714	1763	1572	1728	1870	1585	1728	1870	1585
Q Serve(g_s), s	18.7	35.5	36.4	6.0	41.0	8.8	8.4	8.0	8.8	3.0	6.0	0.0
Cycle Q Clear(g_c), s	18.7	35.5	36.4	6.0	41.0	8.8	8.4	8.0	8.8	3.0	6.0	0.0
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	247	2287	1207	178	2122	946	230	195	165	120	135	
V/C Ratio(X)	0.98	0.66	0.67	0.86	0.72	0.23	0.93	0.60	0.65	0.64	0.64	
Avail Cap(c_a), veh/h	247	2287	1207	178	2122	946	230	518	439	128	463	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.9	12.4	12.6	63.5	18.9	12.4	62.7	57.8	58.1	64.3	60.9	0.0
Incr Delay (d2), s/veh	52.8	1.5	3.0	31.8	2.1	0.6	41.0	2.2	3.2	8.4	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	13.0	14.6	3.4	16.8	3.2	5.0	3.9	3.7	1.5	3.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.7	14.0	15.6	95.3	21.0	13.0	103.7	59.9	61.4	72.7	64.6	0.0
LnGrp LOS	F	B	B	F	C	B	F	E	E	E	E	
Approach Vol, veh/h		2573			1900			439			163	A
Approach Delay, s/veh		23.6			26.1			81.7			68.4	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	97.3	13.0	13.7	23.0	85.3	8.7	18.1
Change Period (Y+Rc), s	4.0	5.0	4.0	* 5.4	4.0	5.0	4.0	* 5.4
Max Green Setting (Gmax), s	7.0	68.6	9.0	* 32	19.0	56.6	5.0	* 36
Max Q Clear Time (g_c+I1), s	8.0	38.4	10.4	8.0	20.7	43.0	5.0	10.8
Green Ext Time (p_c), s	0.0	28.0	0.0	0.3	0.0	11.9	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	311	503	0
Future Vol, veh/h	0	0	0	311	503	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	0	0	0	334	541	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	875	541	541	0	-	0
Stage 1	541	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	321	543	1033	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	728	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	321	543	1033	-	-	-
Mov Cap-2 Maneuver	321	-	-	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	728	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1033	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

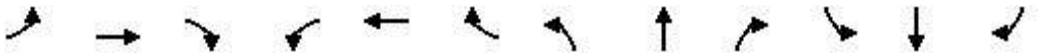
Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	311	503	0
Future Vol, veh/h	0	0	0	311	503	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	4	4	1	1	1	1
Mvmt Flow	0	0	0	334	541	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	875	541	541	0	-	0
Stage 1	541	-	-	-	-	-
Stage 2	334	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.11	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.209	-	-	-
Pot Cap-1 Maneuver	317	537	1033	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	721	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	317	537	1033	-	-	-
Mov Cap-2 Maneuver	317	-	-	-	-	-
Stage 1	579	-	-	-	-	-
Stage 2	721	-	-	-	-	-

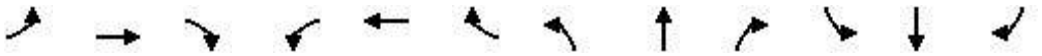
Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1033	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	592	208	83	681	59	176	121	70	92	258	189
Future Volume (vph)	103	592	208	83	681	59	176	121	70	92	258	189
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	0.95		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1773		1787	1859		1787	1778		1805	1779	
Flt Permitted	0.10	1.00		0.07	1.00		0.12	1.00		0.59	1.00	
Satd. Flow (perm)	181	1773		123	1859		221	1778		1115	1779	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	106	610	214	86	702	61	181	125	72	95	266	195
RTOR Reduction (vph)	0	8	0	0	2	0	0	15	0	0	21	0
Lane Group Flow (vph)	106	816	0	86	761	0	181	182	0	95	440	0
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	69.0	62.0		67.2	61.1		45.9	34.4		37.5	30.0	
Effective Green, g (s)	69.0	63.0		67.2	62.1		45.9	35.4		37.5	31.0	
Actuated g/C Ratio	0.53	0.48		0.52	0.48		0.35	0.27		0.29	0.24	
Clearance Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lane Grp Cap (vph)	180	859		141	888		221	484		361	424	
v/s Ratio Prot	c0.03	c0.46		0.03	0.41		c0.07	0.10		0.02	c0.25	
v/s Ratio Perm	0.28			0.28			0.21			0.06		
v/c Ratio	0.59	0.95		0.61	0.86		0.82	0.38		0.26	1.04	
Uniform Delay, d1	24.8	32.0		27.1	30.0		34.1	38.3		34.8	49.5	
Progression Factor	1.30	0.83		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.5	17.6		5.0	10.4		19.6	0.2		0.1	54.1	
Delay (s)	34.8	44.1		32.2	40.5		53.7	38.5		34.9	103.6	
Level of Service	C	D		C	D		D	D		C	F	
Approach Delay (s)		43.0			39.6			45.8			91.9	
Approach LOS		D			D			D			F	

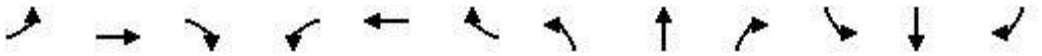
Intersection Summary			
HCM 2000 Control Delay	52.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	98.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	592	208	83	681	59	176	121	70	92	258	189
Future Volume (veh/h)	103	592	208	83	681	59	176	121	70	92	258	189
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	106	610	192	86	702	55	181	125	65	95	266	175
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	1	1	1	1	1	1	0	0	0
Cap, veh/h	226	670	211	417	842	66	217	321	167	370	255	168
Arrive On Green	0.09	0.99	0.98	0.04	0.49	0.48	0.09	0.27	0.27	0.05	0.24	0.23
Sat Flow, veh/h	1767	1353	426	1795	1726	135	1795	1168	608	1810	1070	704
Grp Volume(v), veh/h	106	0	802	86	0	757	181	0	190	95	0	441
Grp Sat Flow(s),veh/h/ln	1767	0	1779	1795	0	1861	1795	0	1776	1810	0	1773
Q Serve(g_s), s	4.0	0.0	7.5	3.2	0.0	45.7	9.7	0.0	11.3	5.2	0.0	31.0
Cycle Q Clear(g_c), s	4.0	0.0	7.5	3.2	0.0	45.7	9.7	0.0	11.3	5.2	0.0	31.0
Prop In Lane	1.00		0.24	1.00		0.07	1.00		0.34	1.00		0.40
Lane Grp Cap(c), veh/h	226	0	881	417	0	908	217	0	488	370	0	423
V/C Ratio(X)	0.47	0.00	0.91	0.21	0.00	0.83	0.84	0.00	0.39	0.26	0.00	1.04
Avail Cap(c_a), veh/h	391	0	881	556	0	908	263	0	488	483	0	423
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.00	0.73	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	0.5	16.0	0.0	28.8	35.8	0.0	38.4	35.3	0.0	49.7
Incr Delay (d2), s/veh	0.4	0.0	11.7	0.1	0.0	8.9	15.0	0.0	0.2	0.1	0.0	55.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	3.2	1.3	0.0	22.2	5.1	0.0	5.0	2.3	0.0	20.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	0.0	12.2	16.1	0.0	37.7	50.8	0.0	38.6	35.5	0.0	105.1
LnGrp LOS	C	A	B	B	A	D	D	A	D	D	A	F
Approach Vol, veh/h		908			843			371			536	
Approach Delay, s/veh		13.6			35.5			44.6			92.7	
Approach LOS		B			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	69.4	15.7	36.0	9.9	68.4	10.9	40.7
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	50.0	15.0	30.0	18.0	47.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	5.2	9.5	11.7	33.0	6.0	47.7	7.2	13.3
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	40.8
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	673	90	77	891	78	155	42	98	120	37	237
Future Volume (vph)	75	673	90	77	891	78	155	42	98	120	37	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1626	1712	1455	1752	1822		1752	1651		1736	1827	1553
Flt Permitted	0.12	1.00	1.00	0.29	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	197	1712	1455	531	1822		1752	1651		1736	1827	1553
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	78	701	94	80	928	81	161	44	102	125	39	247
RTOR Reduction (vph)	0	0	32	0	2	0	0	69	0	0	0	207
Lane Group Flow (vph)	78	701	62	80	1007	0	161	77	0	125	39	40
Heavy Vehicles (%)	11%	11%	11%	3%	3%	3%	3%	3%	3%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								4
Actuated Green, G (s)	90.4	85.3	85.3	89.8	85.0		13.2	10.1		12.8	9.7	9.7
Effective Green, g (s)	90.4	86.3	86.3	89.8	86.0		13.2	10.1		12.8	9.7	9.7
Actuated g/C Ratio	0.70	0.66	0.66	0.69	0.66		0.10	0.08		0.10	0.07	0.07
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lane Grp Cap (vph)	193	1136	965	411	1205		177	128		170	136	115
v/s Ratio Prot	c0.02	0.41		0.01	c0.55		c0.09	0.05		c0.07	0.02	
v/s Ratio Perm	0.27		0.04	0.13								0.03
v/c Ratio	0.40	0.62	0.06	0.19	0.84		0.91	0.60		0.74	0.29	0.35
Uniform Delay, d1	18.8	12.4	7.7	8.9	16.7		57.8	58.0		57.0	56.9	57.1
Progression Factor	1.00	1.00	1.00	0.57	1.01		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	2.5	0.1	0.0	3.6		41.5	5.3		13.2	0.4	0.7
Delay (s)	19.3	15.0	7.8	5.1	20.4		99.3	63.3		70.2	57.3	57.8
Level of Service	B	B	A	A	C		F	E		E	E	E
Approach Delay (s)		14.6			19.3			82.2			61.5	
Approach LOS		B			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	31.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	673	90	77	891	78	155	42	98	120	37	237
Future Volume (veh/h)	75	673	90	77	891	78	155	42	98	120	37	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1856	1856	1856	1856	1856	1856	1841	1841	1841
Adj Flow Rate, veh/h	78	701	75	80	928	73	161	44	92	125	39	200
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	11	11	11	3	3	3	3	3	3	4	4	4
Cap, veh/h	172	1049	889	337	1017	80	177	52	109	254	261	221
Arrive On Green	0.04	0.60	0.60	0.03	0.60	0.59	0.10	0.10	0.10	0.14	0.14	0.14
Sat Flow, veh/h	1654	1737	1472	1767	1698	134	1767	535	1119	1753	1841	1560
Grp Volume(v), veh/h	78	701	75	80	0	1001	161	0	136	125	39	200
Grp Sat Flow(s),veh/h/ln	1654	1737	1472	1767	0	1831	1767	0	1654	1753	1841	1560
Q Serve(g_s), s	2.4	34.9	2.8	2.3	0.0	62.8	11.7	0.0	10.5	8.5	2.4	16.4
Cycle Q Clear(g_c), s	2.4	34.9	2.8	2.3	0.0	62.8	11.7	0.0	10.5	8.5	2.4	16.4
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	172	1049	889	337	0	1097	177	0	161	254	261	221
V/C Ratio(X)	0.45	0.67	0.08	0.24	0.00	0.91	0.91	0.00	0.85	0.49	0.15	0.90
Avail Cap(c_a), veh/h	239	1049	889	417	0	1097	177	0	242	254	269	228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.42	0.00	0.42	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.3	17.1	10.8	14.8	0.0	23.1	57.9	0.0	57.7	51.2	48.9	54.9
Incr Delay (d2), s/veh	0.7	3.4	0.2	0.1	0.0	6.2	42.4	0.0	10.5	0.6	0.1	33.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	14.4	0.9	0.9	0.0	27.5	7.3	0.0	4.9	3.8	1.1	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.0	20.5	10.9	14.8	0.0	29.3	100.3	0.0	68.3	51.8	49.0	88.5
LnGrp LOS	C	C	B	B	A	C	F	A	E	D	D	F
Approach Vol, veh/h		854			1081			297			364	
Approach Delay, s/veh		20.3			28.2			85.6			71.7	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	82.5	17.0	22.4	8.7	81.9	22.8	16.6
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	10.0	71.0	13.0	19.0	10.0	71.0	13.0	19.0
Max Q Clear Time (g_c+I1), s	4.3	36.9	13.7	18.4	4.4	64.8	10.5	12.5
Green Ext Time (p_c), s	0.0	1.1	0.0	0.0	0.0	1.3	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	38.3
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

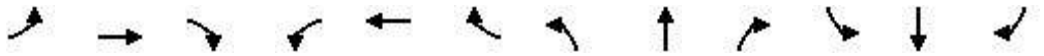
Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	120	73	258	351	47
Future Vol, veh/h	47	120	73	258	351	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	53	136	83	293	399	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	885	426	452	0	-	0
Stage 1	426	-	-	-	-	-
Stage 2	459	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	315	628	1109	-	-	-
Stage 1	659	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	287	628	1109	-	-	-
Mov Cap-2 Maneuver	287	-	-	-	-	-
Stage 1	600	-	-	-	-	-
Stage 2	636	-	-	-	-	-

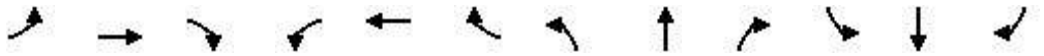
Approach	EB	NB	SB
HCM Control Delay, s	17.7	1.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1109	-	471	-	-
HCM Lane V/C Ratio	0.075	-	0.403	-	-
HCM Control Delay (s)	8.5	0	17.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.9	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	2006	355	284	1592	85	301	160	371	187	180	162
Future Volume (vph)	72	2006	355	284	1592	85	301	160	371	187	180	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	4971		3400	3505	1568	3467	1881	1599	3467	1881	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	4971		3400	3505	1568	3467	1881	1599	3467	1881	1599
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	77	2134	378	302	1694	90	320	170	395	199	191	172
RTOR Reduction (vph)	0	17	0	0	0	44	0	0	0	0	0	107
Lane Group Flow (vph)	77	2495	0	302	1694	46	320	170	395	199	191	65
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	7.9	68.4		13.0	73.5	73.5	16.7	37.2	37.2	8.0	28.5	28.5
Effective Green, g (s)	7.9	68.5		13.0	74.5	74.5	16.7	38.6	38.6	8.0	29.9	29.9
Actuated g/C Ratio	0.05	0.47		0.09	0.51	0.51	0.12	0.27	0.27	0.06	0.21	0.21
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.4	5.4	4.0	5.4	5.4
Vehicle Extension (s)	2.5	4.8		2.5	4.8	4.8	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	96	2348		304	1800	805	399	500	425	191	387	329
v/s Ratio Prot	0.04	c0.50		c0.09	0.48		c0.09	0.09		c0.06	0.10	
v/s Ratio Perm						0.03			c0.25			0.04
v/c Ratio	0.80	1.06		0.99	0.94	0.06	0.80	0.34	0.93	1.04	0.49	0.20
Uniform Delay, d1	67.8	38.2		66.0	33.2	17.7	62.5	42.9	51.9	68.5	50.9	47.6
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	35.8	37.9		49.6	11.2	0.1	10.8	0.3	26.5	76.6	0.7	0.2
Delay (s)	103.6	76.1		115.5	44.4	17.8	73.3	43.2	78.4	145.1	51.6	47.8
Level of Service	F	E		F	D	B	E	D	E	F	D	D
Approach Delay (s)		76.9			53.6			69.8			83.5	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	68.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	16.9
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	2006	355	284	1592	85	301	160	371	187	180	162
Future Volume (veh/h)	72	2006	355	284	1592	85	301	160	371	187	180	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	77	2134	340	302	1694	72	320	170	316	199	191	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	3	3	3	1	1	1	1	1	1
Cap, veh/h	96	2298	357	307	1966	877	369	420	356	192	324	
Arrive On Green	0.05	0.52	0.51	0.09	0.56	0.56	0.11	0.22	0.22	0.06	0.17	0.00
Sat Flow, veh/h	1781	4457	693	3428	3526	1572	3483	1885	1598	3483	1885	1598
Grp Volume(v), veh/h	77	1617	857	302	1694	72	320	170	316	199	191	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1746	1714	1763	1572	1742	1885	1598	1742	1885	1598
Q Serve(g_s), s	6.2	63.6	67.7	12.8	59.3	3.1	13.1	11.2	27.8	8.0	13.5	0.0
Cycle Q Clear(g_c), s	6.2	63.6	67.7	12.8	59.3	3.1	13.1	11.2	27.8	8.0	13.5	0.0
Prop In Lane	1.00		0.40	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	1755	900	307	1966	877	369	420	356	192	324	
V/C Ratio(X)	0.80	0.92	0.95	0.98	0.86	0.08	0.87	0.40	0.89	1.04	0.59	
Avail Cap(c_a), veh/h	98	1755	900	307	1966	877	432	520	441	192	390	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	67.8	32.4	33.4	65.9	27.3	14.9	63.8	48.1	54.6	68.5	55.3	0.0
Incr Delay (d2), s/veh	34.5	9.5	20.4	46.4	5.3	0.2	14.4	0.5	15.9	74.5	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	27.9	33.1	7.6	25.8	1.2	6.6	5.4	12.8	5.6	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.4	41.9	53.8	112.2	32.6	15.1	78.2	48.6	70.4	143.0	56.6	0.0
LnGrp LOS	F	D	D	F	C	B	E	D	E	F	E	
Approach Vol, veh/h		2551			2068			806			390	A
Approach Delay, s/veh		47.7			43.6			68.9			100.7	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	79.7	19.4	29.0	11.8	84.8	12.0	36.3
Change Period (Y+Rc), s	4.0	5.0	4.0	* 5.4	4.0	5.0	4.0	* 5.4
Max Green Setting (Gmax), s	13.0	67.0	18.0	* 29	8.0	72.0	8.0	* 39
Max Q Clear Time (g_c+I1), s	14.8	69.7	15.1	15.5	8.2	61.3	10.0	29.8
Green Ext Time (p_c), s	0.0	0.0	0.3	0.6	0.0	9.7	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	52.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	4	34	429	233	34
Future Vol, veh/h	5	4	34	429	233	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	6	5	39	493	268	39

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	859	288	307	0	-	0
Stage 1	288	-	-	-	-	-
Stage 2	571	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.15	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.245	-	-	-
Pot Cap-1 Maneuver	323	744	1237	-	-	-
Stage 1	754	-	-	-	-	-
Stage 2	559	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	309	744	1237	-	-	-
Mov Cap-2 Maneuver	309	-	-	-	-	-
Stage 1	722	-	-	-	-	-
Stage 2	559	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.9	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1237	-	417	-	-
HCM Lane V/C Ratio	0.032	-	0.025	-	-
HCM Control Delay (s)	8	0	13.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

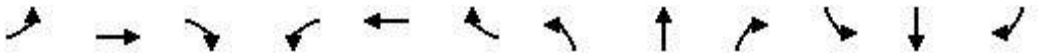
Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	5	31	429	233	31
Future Vol, veh/h	4	5	31	429	233	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	87	87	87	87
Heavy Vehicles, %	4	4	5	5	3	3
Mvmt Flow	5	6	36	493	268	36

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	851	286	304	0	-	0
Stage 1	286	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.15	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.245	-	-	-
Pot Cap-1 Maneuver	328	748	1240	-	-	-
Stage 1	758	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	315	748	1240	-	-	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	728	-	-	-	-	-
Stage 2	565	-	-	-	-	-

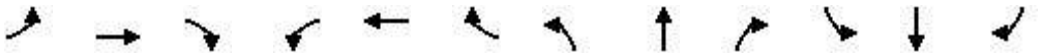
Approach	EB	NB	SB
HCM Control Delay, s	12.9	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1240	-	464	-	-
HCM Lane V/C Ratio	0.029	-	0.022	-	-
HCM Control Delay (s)	8	0	12.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	249	488	163	88	560	90	241	246	72	61	103	79
Future Volume (vph)	249	488	163	88	560	90	241	246	72	61	103	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.97		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1736	1758		1719	1772		1719	1748		1612	1586	
Flt Permitted	0.11	1.00		0.25	1.00		0.31	1.00		0.24	1.00	
Satd. Flow (perm)	208	1758		448	1772		564	1748		413	1586	
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	280	548	183	99	629	101	271	276	81	69	116	89
RTOR Reduction (vph)	0	8	0	0	4	0	0	8	0	0	22	0
Lane Group Flow (vph)	280	723	0	99	726	0	271	349	0	69	183	0
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	5%	5%	5%	12%	12%	12%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	81.6	72.4		65.8	60.6		36.4	29.2		24.6	21.4	
Effective Green, g (s)	81.6	73.4		65.8	61.6		36.4	30.2		24.6	22.4	
Actuated g/C Ratio	0.63	0.56		0.51	0.47		0.28	0.23		0.19	0.17	
Clearance Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lane Grp Cap (vph)	330	992		277	839		255	406		107	273	
v/s Ratio Prot	c0.11	0.41		0.01	0.41		c0.09	0.20		0.02	0.12	
v/s Ratio Perm	c0.42			0.17			c0.21			0.11		
v/c Ratio	0.85	0.73		0.36	0.87		1.06	0.86		0.64	0.67	
Uniform Delay, d1	30.9	20.9		19.0	30.5		44.7	47.9		48.7	50.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	17.3	4.7		0.3	11.6		73.9	15.7		9.6	4.8	
Delay (s)	48.2	25.6		19.3	42.0		118.6	63.6		58.3	55.1	
Level of Service	D	C		B	D		F	E		E	E	
Approach Delay (s)		31.9			39.3			87.3			55.9	
Approach LOS		C			D			F			E	

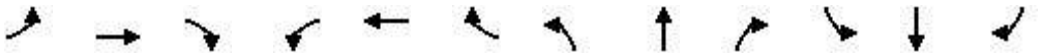
Intersection Summary			
HCM 2000 Control Delay	49.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	249	488	163	88	560	90	241	246	72	61	103	79
Future Volume (veh/h)	249	488	163	88	560	90	241	246	72	61	103	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1826	1826	1826	1826	1826	1826	1722	1722	1722
Adj Flow Rate, veh/h	280	548	164	99	629	91	271	276	72	69	116	80
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	4	4	4	5	5	5	5	5	5	12	12	12
Cap, veh/h	350	777	233	324	818	118	249	305	80	123	156	108
Arrive On Green	0.09	0.57	0.56	0.04	0.52	0.52	0.08	0.22	0.21	0.03	0.16	0.16
Sat Flow, veh/h	1753	1360	407	1739	1560	226	1739	1396	364	1640	949	655
Grp Volume(v), veh/h	280	0	712	99	0	720	271	0	348	69	0	196
Grp Sat Flow(s),veh/h/ln	1753	0	1767	1739	0	1785	1739	0	1760	1640	0	1604
Q Serve(g_s), s	9.4	0.0	37.7	3.5	0.0	41.8	11.0	0.0	25.0	4.0	0.0	15.1
Cycle Q Clear(g_c), s	9.4	0.0	37.7	3.5	0.0	41.8	11.0	0.0	25.0	4.0	0.0	15.1
Prop In Lane	1.00		0.23	1.00		0.13	1.00		0.21	1.00		0.41
Lane Grp Cap(c), veh/h	350	0	1010	324	0	936	249	0	384	123	0	264
V/C Ratio(X)	0.80	0.00	0.70	0.31	0.00	0.77	1.09	0.00	0.91	0.56	0.00	0.74
Avail Cap(c_a), veh/h	439	0	1010	333	0	936	249	0	474	123	0	346
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.00	0.76	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.2	0.0	20.1	17.9	0.0	24.7	48.1	0.0	49.6	48.3	0.0	51.9
Incr Delay (d2), s/veh	4.9	0.0	3.2	0.2	0.0	6.0	82.1	0.0	16.5	3.5	0.0	3.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	16.0	1.4	0.0	18.8	8.7	0.0	12.8	0.6	0.0	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.1	0.0	23.2	18.1	0.0	30.7	130.1	0.0	66.1	51.9	0.0	55.8
LnGrp LOS	C	A	C	B	A	C	F	A	E	D	A	E
Approach Vol, veh/h		992			819			619			265	
Approach Delay, s/veh		24.6			29.2			94.1			54.8	
Approach LOS		C			C			F			D	

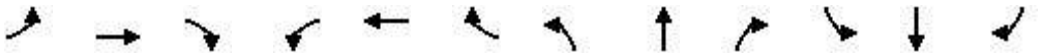
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.3	79.3	15.0	26.4	15.4	73.2	8.0	33.4
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	6.0	66.0	11.0	27.0	18.0	54.0	4.0	34.0
Max Q Clear Time (g_c+I1), s	5.5	39.7	13.0	17.1	11.4	43.8	6.0	27.0
Green Ext Time (p_c), s	0.0	1.2	0.0	0.2	0.0	1.0	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	44.9
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	734	137	72	563	159	104	40	50	43	24	3
Future Volume (vph)	213	734	137	72	563	159	104	40	50	43	24	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1736	1827	1553	1719	1750		1517	1463		1444	1520	1292
Flt Permitted	0.23	1.00	1.00	0.26	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	418	1827	1553	474	1750		1517	1463		1444	1520	1292
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	224	773	144	76	593	167	109	42	53	45	25	3
RTOR Reduction (vph)	0	0	48	0	8	0	0	44	0	0	0	3
Lane Group Flow (vph)	224	773	96	76	752	0	109	51	0	45	25	0
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	19%	19%	19%	25%	25%	25%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								4
Actuated Green, G (s)	79.2	72.2	72.2	72.8	69.0		11.5	8.6		8.4	5.5	5.5
Effective Green, g (s)	79.2	73.2	73.2	72.8	70.0		11.5	8.6		8.4	5.5	5.5
Actuated g/C Ratio	0.72	0.67	0.67	0.66	0.64		0.10	0.08		0.08	0.05	0.05
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lane Grp Cap (vph)	384	1215	1033	356	1113		158	114		110	76	64
v/s Ratio Prot	c0.04	0.42		0.01	c0.43		c0.07	0.03		c0.03	0.02	
v/s Ratio Perm	0.38		0.06	0.13								0.00
v/c Ratio	0.58	0.64	0.09	0.21	0.68		0.69	0.45		0.41	0.33	0.00
Uniform Delay, d1	10.4	10.7	6.6	8.7	12.8		47.5	48.4		48.4	50.5	49.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	1.5	2.6	0.2	0.1	3.3		9.6	1.0		0.9	0.9	0.0
Delay (s)	11.9	13.2	6.7	8.8	16.1		57.1	49.4		49.3	51.4	49.6
Level of Service	B	B	A	A	B		E	D		D	D	D
Approach Delay (s)		12.1			15.4			53.5			50.1	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	18.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	213	734	137	72	563	159	104	40	50	43	24	3
Future Volume (veh/h)	213	734	137	72	563	159	104	40	50	43	24	3
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1826	1826	1826	1618	1618	1618	1530	1530	1530
Adj Flow Rate, veh/h	224	773	115	76	593	150	109	42	48	45	25	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	4	4	4	5	5	5	19	19	19	25	25	25
Cap, veh/h	474	1307	1108	415	962	243	126	54	62	55	52	44
Arrive On Green	0.05	0.71	0.71	0.03	0.68	0.67	0.08	0.08	0.08	0.04	0.03	0.03
Sat Flow, veh/h	1753	1841	1560	1739	1406	356	1541	689	788	1457	1530	1296
Grp Volume(v), veh/h	224	773	115	76	0	743	109	0	90	45	25	2
Grp Sat Flow(s),veh/h/ln	1753	1841	1560	1739	0	1762	1541	0	1477	1457	1530	1296
Q Serve(g_s), s	4.2	23.1	2.5	1.5	0.0	25.4	7.7	0.0	6.6	3.4	1.8	0.2
Cycle Q Clear(g_c), s	4.2	23.1	2.5	1.5	0.0	25.4	7.7	0.0	6.6	3.4	1.8	0.2
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	474	1307	1108	415	0	1205	126	0	116	55	52	44
V/C Ratio(X)	0.47	0.59	0.10	0.18	0.00	0.62	0.86	0.00	0.78	0.82	0.48	0.05
Avail Cap(c_a), veh/h	474	1307	1108	460	0	1205	126	0	201	146	236	200
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.30	0.00	0.30	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	8.0	5.0	7.2	0.0	9.6	49.9	0.0	49.7	52.6	52.2	51.4
Incr Delay (d2), s/veh	0.3	2.0	0.2	0.0	0.0	0.7	40.9	0.0	4.2	10.8	2.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	8.7	0.8	0.5	0.0	9.0	4.4	0.0	2.6	1.4	0.7	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.2	9.9	5.2	7.2	0.0	10.3	90.8	0.0	53.9	63.4	54.7	51.5
LnGrp LOS	A	A	A	A	A	B	F	A	D	E	D	D
Approach Vol, veh/h		1112			819			199			72	
Approach Delay, s/veh		9.3			10.0			74.1			60.0	
Approach LOS		A			A			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.2	82.1	13.0	7.8	10.0	79.2	8.1	12.6
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	61.0	9.0	17.0	6.0	61.0	11.0	15.0
Max Q Clear Time (g_c+I1), s	3.5	25.1	9.7	3.8	6.2	27.4	5.4	8.6
Green Ext Time (p_c), s	0.0	1.3	0.0	0.0	0.0	1.3	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

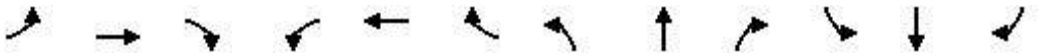
Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	73	129	308	209	23
Future Vol, veh/h	23	73	129	308	209	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	5	5	1	1	3	3
Mvmt Flow	27	85	150	358	243	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	915	257	270	0	-	0
Stage 1	257	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Critical Hdwy	6.45	6.25	4.11	-	-	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	2.209	-	-	-
Pot Cap-1 Maneuver	299	774	1299	-	-	-
Stage 1	779	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	256	774	1299	-	-	-
Mov Cap-2 Maneuver	256	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	510	-	-	-	-	-

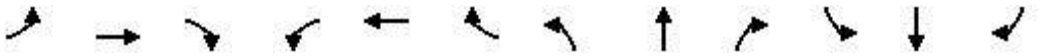
Approach	EB	NB	SB
HCM Control Delay, s	13.8	2.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1299	-	521	-	-
HCM Lane V/C Ratio	0.115	-	0.214	-	-
HCM Control Delay (s)	8.1	0	13.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.8	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	214	1886	192	163	1343	244	190	103	122	68	81	90
Future Volume (vph)	214	1886	192	163	1343	244	190	103	122	68	81	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.1		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1736	4918		3400	3505	1568	3433	1863	1583	3433	1863	1583
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1736	4918		3400	3505	1568	3433	1863	1583	3433	1863	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	243	2143	218	185	1526	277	216	117	139	77	92	102
RTOR Reduction (vph)	0	7	0	0	0	79	0	0	0	0	0	89
Lane Group Flow (vph)	243	2354	0	185	1526	198	216	117	139	77	92	13
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	19.0	84.1		8.0	73.1	73.1	9.0	19.5	19.5	5.0	15.5	15.5
Effective Green, g (s)	19.0	84.0		8.0	74.1	74.1	9.0	20.9	20.9	5.0	16.9	16.9
Actuated g/C Ratio	0.14	0.62		0.06	0.55	0.55	0.07	0.15	0.15	0.04	0.13	0.13
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.4	5.4	4.0	5.4	5.4
Vehicle Extension (s)	2.5	4.8		2.5	4.8	4.8	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	244	3060		201	1923	860	228	288	245	127	233	198
v/s Ratio Prot	c0.14	0.48		0.05	c0.44		c0.06	0.06		0.02	0.05	
v/s Ratio Perm						0.13			c0.09			0.01
v/c Ratio	1.00	0.77		0.92	0.79	0.23	0.95	0.41	0.57	0.61	0.39	0.06
Uniform Delay, d1	58.0	18.5		63.2	24.3	15.7	62.8	51.5	52.9	64.0	54.3	52.1
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	56.1	1.9		41.7	3.5	0.6	44.6	0.7	2.4	6.7	0.8	0.1
Delay (s)	114.1	20.4		104.9	27.8	16.3	107.3	52.1	55.3	70.8	55.1	52.2
Level of Service	F	C		F	C	B	F	D	E	E	E	D
Approach Delay (s)		29.1			33.4			78.3			58.5	
Approach LOS		C			C			E			E	

Intersection Summary			
HCM 2000 Control Delay	36.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	17.1
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	1886	192	163	1343	244	190	103	122	68	81	90
Future Volume (veh/h)	214	1886	192	163	1343	244	190	103	122	68	81	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1856	1856	1856	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	243	2143	196	185	1526	221	216	117	111	77	92	0
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh, %	4	4	4	3	3	3	2	2	2	2	2	2
Cap, veh/h	247	3151	285	203	2110	941	230	201	170	120	141	
Arrive On Green	0.14	0.67	0.67	0.06	0.60	0.60	0.07	0.11	0.11	0.03	0.08	0.00
Sat Flow, veh/h	1753	4690	424	3428	3526	1572	3456	1870	1585	3456	1870	1585
Grp Volume(v), veh/h	243	1524	815	185	1526	221	216	117	111	77	92	0
Grp Sat Flow(s),veh/h/ln	1753	1675	1764	1714	1763	1572	1728	1870	1585	1728	1870	1585
Q Serve(g_s), s	18.7	37.0	38.0	7.2	41.4	8.9	8.4	8.0	9.1	3.0	6.5	0.0
Cycle Q Clear(g_c), s	18.7	37.0	38.0	7.2	41.4	8.9	8.4	8.0	9.1	3.0	6.5	0.0
Prop In Lane	1.00		0.24	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	247	2251	1185	203	2110	941	230	201	170	120	141	
V/C Ratio(X)	0.98	0.68	0.69	0.91	0.72	0.23	0.94	0.58	0.65	0.64	0.65	
Avail Cap(c_a), veh/h	247	2251	1185	203	2110	941	230	518	439	128	463	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.9	13.3	13.5	63.1	19.2	12.7	62.7	57.4	57.8	64.3	60.7	0.0
Incr Delay (d2), s/veh	52.8	1.7	3.3	39.0	2.2	0.6	42.1	2.0	3.1	8.4	3.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	13.7	15.3	4.3	17.0	3.3	5.0	3.9	3.8	1.5	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	110.7	15.0	16.8	102.1	21.4	13.2	104.8	59.4	60.9	72.7	64.4	0.0
LnGrp LOS	F	B	B	F	C	B	F	E	E	E	E	
Approach Vol, veh/h		2582			1932			444			169	A
Approach Delay, s/veh		24.6			28.2			81.9			68.2	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	95.8	13.0	14.2	23.0	84.8	8.7	18.5
Change Period (Y+Rc), s	4.0	5.0	4.0	* 5.4	4.0	5.0	4.0	* 5.4
Max Green Setting (Gmax), s	8.0	67.6	9.0	* 32	19.0	56.6	5.0	* 36
Max Q Clear Time (g_c+I1), s	9.2	40.0	10.4	8.5	20.7	43.4	5.0	11.1
Green Ext Time (p_c), s	0.0	25.8	0.0	0.3	0.0	11.6	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	32.3
HCM 6th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	16	14	3	333	539	3
Future Vol, veh/h	16	14	3	333	539	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	17	15	3	358	580	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	946	582	583	0	-	0
Stage 1	582	-	-	-	-	-
Stage 2	364	-	-	-	-	-
Critical Hdwy	6.41	6.21	4.11	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	2.209	-	-	-
Pot Cap-1 Maneuver	291	515	996	-	-	-
Stage 1	561	-	-	-	-	-
Stage 2	705	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	290	515	996	-	-	-
Mov Cap-2 Maneuver	290	-	-	-	-	-
Stage 1	559	-	-	-	-	-
Stage 2	705	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.9	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	996	-	364	-	-
HCM Lane V/C Ratio	0.003	-	0.089	-	-
HCM Control Delay (s)	8.6	0	15.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

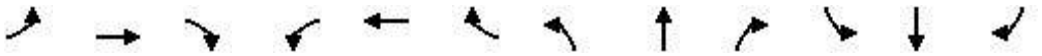
Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	14	16	2	333	539	2
Future Vol, veh/h	14	16	2	333	539	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	4	4	1	1	1	1
Mvmt Flow	15	17	2	358	580	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	943	581	582	0	-	0
Stage 1	581	-	-	-	-	-
Stage 2	362	-	-	-	-	-
Critical Hdwy	6.44	6.24	4.11	-	-	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.336	2.209	-	-	-
Pot Cap-1 Maneuver	289	510	997	-	-	-
Stage 1	555	-	-	-	-	-
Stage 2	700	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	288	510	997	-	-	-
Mov Cap-2 Maneuver	288	-	-	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	700	-	-	-	-	-

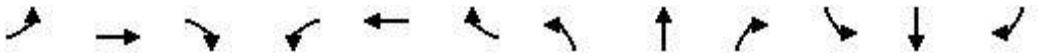
Approach	EB	NB	SB
HCM Control Delay, s	15.5	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	997	-	375	-	-
HCM Lane V/C Ratio	0.002	-	0.086	-	-
HCM Control Delay (s)	8.6	0	15.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	592	208	83	681	60	176	122	70	102	262	205
Future Volume (vph)	106	592	208	83	681	60	176	122	70	102	262	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		4.0	5.0		4.0	5.0		4.0	5.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.99		1.00	0.95		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1752	1773		1787	1858		1787	1779		1805	1775	
Flt Permitted	0.10	1.00		0.07	1.00		0.12	1.00		0.57	1.00	
Satd. Flow (perm)	177	1773		123	1858		222	1779		1089	1775	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	109	610	214	86	702	62	181	126	72	105	270	211
RTOR Reduction (vph)	0	8	0	0	2	0	0	15	0	0	21	0
Lane Group Flow (vph)	109	816	0	86	762	0	181	183	0	105	460	0
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	0%	0%	0%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	69.1	62.0		67.1	61.0		45.8	33.9		38.0	30.0	
Effective Green, g (s)	69.1	63.0		67.1	62.0		45.8	34.9		38.0	31.0	
Actuated g/C Ratio	0.53	0.48		0.52	0.48		0.35	0.27		0.29	0.24	
Clearance Time (s)	4.0	6.0		4.0	6.0		4.0	6.0		4.0	6.0	
Vehicle Extension (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lane Grp Cap (vph)	180	859		141	886		221	477		362	423	
v/s Ratio Prot	c0.03	c0.46		0.03	0.41		c0.07	0.10		0.02	c0.26	
v/s Ratio Perm	0.29			0.28			0.21			0.07		
v/c Ratio	0.61	0.95		0.61	0.86		0.82	0.38		0.29	1.09	
Uniform Delay, d1	24.9	32.0		27.2	30.1		34.1	38.8		34.6	49.5	
Progression Factor	1.34	0.82		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.1	17.6		5.0	10.7		19.6	0.2		0.2	69.1	
Delay (s)	36.4	44.0		32.2	40.8		53.7	39.0		34.8	118.6	
Level of Service	D	D		C	D		D	D		C	F	
Approach Delay (s)		43.1			39.9			46.0			103.6	
Approach LOS		D			D			D			F	

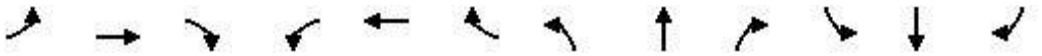
Intersection Summary			
HCM 2000 Control Delay	55.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	99.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	592	208	83	681	60	176	122	70	102	262	205
Future Volume (veh/h)	106	592	208	83	681	60	176	122	70	102	262	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1856	1856	1885	1885	1885	1885	1885	1885	1900	1900	1900
Adj Flow Rate, veh/h	109	610	192	86	702	56	181	126	65	105	270	191
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	1	1	1	1	1	1	0	0	0
Cap, veh/h	226	670	211	417	839	67	217	317	163	372	247	175
Arrive On Green	0.09	0.99	0.98	0.04	0.49	0.48	0.09	0.27	0.26	0.06	0.24	0.23
Sat Flow, veh/h	1767	1353	426	1795	1723	137	1795	1172	605	1810	1036	733
Grp Volume(v), veh/h	109	0	802	86	0	758	181	0	191	105	0	461
Grp Sat Flow(s),veh/h/ln	1767	0	1779	1795	0	1860	1795	0	1776	1810	0	1768
Q Serve(g_s), s	4.1	0.0	7.6	3.2	0.0	45.9	9.7	0.0	11.5	5.7	0.0	31.0
Cycle Q Clear(g_c), s	4.1	0.0	7.6	3.2	0.0	45.9	9.7	0.0	11.5	5.7	0.0	31.0
Prop In Lane	1.00		0.24	1.00		0.07	1.00		0.34	1.00		0.41
Lane Grp Cap(c), veh/h	226	0	881	417	0	906	217	0	480	372	0	422
V/C Ratio(X)	0.48	0.00	0.91	0.21	0.00	0.84	0.84	0.00	0.40	0.28	0.00	1.09
Avail Cap(c_a), veh/h	389	0	881	556	0	906	263	0	480	476	0	422
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.73	0.00	0.73	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	0.5	16.1	0.0	28.9	35.8	0.0	38.9	35.1	0.0	49.7
Incr Delay (d2), s/veh	0.4	0.0	11.7	0.1	0.0	9.1	15.0	0.0	0.2	0.2	0.0	71.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	3.2	1.3	0.0	22.3	5.1	0.0	5.1	2.6	0.0	22.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.3	0.0	12.2	16.2	0.0	38.0	50.8	0.0	39.1	35.3	0.0	121.1
LnGrp LOS	C	A	B	B	A	D	D	A	D	D	A	F
Approach Vol, veh/h		911			844			372			566	
Approach Delay, s/veh		13.7			35.8			44.8			105.2	
Approach LOS		B			D			D			F	

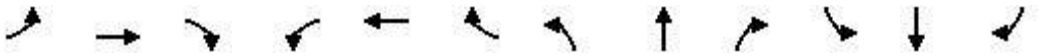
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.9	69.4	15.7	36.0	10.0	68.3	11.5	40.1
Change Period (Y+Rc), s	4.0	6.0	4.0	6.0	4.0	6.0	4.0	6.0
Max Green Setting (Gmax), s	15.0	50.0	15.0	30.0	18.0	47.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	5.2	9.6	11.7	33.0	6.1	47.9	7.7	13.5
Green Ext Time (p_c), s	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	44.1
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	675	90	80	902	80	155	42	99	120	37	237
Future Volume (vph)	75	675	90	80	902	80	155	42	99	120	37	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.89		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1626	1712	1455	1752	1822		1752	1651		1736	1827	1553
Flt Permitted	0.11	1.00	1.00	0.29	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	190	1712	1455	532	1822		1752	1651		1736	1827	1553
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	78	703	94	83	940	83	161	44	103	125	39	247
RTOR Reduction (vph)	0	0	31	0	2	0	0	70	0	0	0	205
Lane Group Flow (vph)	78	703	63	83	1021	0	161	77	0	125	39	42
Heavy Vehicles (%)	11%	11%	11%	3%	3%	3%	3%	3%	3%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Prot	NA		Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6								4
Actuated Green, G (s)	90.8	85.7	85.7	90.4	85.5		12.7	10.1		12.3	9.7	9.7
Effective Green, g (s)	90.8	86.7	86.7	90.4	86.5		12.7	10.1		12.3	9.7	9.7
Actuated g/C Ratio	0.70	0.67	0.67	0.70	0.67		0.10	0.08		0.09	0.07	0.07
Clearance Time (s)	4.0	5.0	5.0	4.0	5.0		4.0	4.0		4.0	4.0	4.0
Vehicle Extension (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lane Grp Cap (vph)	189	1141	970	415	1212		171	128		164	136	115
v/s Ratio Prot	c0.02	0.41		0.01	c0.56		c0.09	0.05		c0.07	0.02	
v/s Ratio Perm	0.27		0.04	0.13								0.03
v/c Ratio	0.41	0.62	0.06	0.20	0.84		0.94	0.60		0.76	0.29	0.37
Uniform Delay, d1	19.2	12.2	7.5	8.7	16.6		58.3	58.0		57.4	56.9	57.2
Progression Factor	1.00	1.00	1.00	0.57	1.03		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.5	2.5	0.1	0.0	3.6		51.3	5.3		17.0	0.4	0.7
Delay (s)	19.8	14.7	7.7	5.0	20.6		109.6	63.3		74.4	57.3	58.0
Level of Service	B	B	A	A	C		F	E		E	E	E
Approach Delay (s)		14.4			19.5			87.5			62.9	
Approach LOS		B			B			F			E	

Intersection Summary			
HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	675	90	80	902	80	155	42	99	120	37	237
Future Volume (veh/h)	75	675	90	80	902	80	155	42	99	120	37	237
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1737	1737	1737	1856	1856	1856	1856	1856	1856	1841	1841	1841
Adj Flow Rate, veh/h	78	703	75	83	940	75	161	44	93	125	39	200
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	11	11	11	3	3	3	3	3	3	4	4	4
Cap, veh/h	163	1047	888	336	1016	81	177	52	110	252	261	221
Arrive On Green	0.04	0.60	0.60	0.03	0.60	0.59	0.10	0.10	0.10	0.14	0.14	0.14
Sat Flow, veh/h	1654	1737	1472	1767	1696	135	1767	531	1122	1753	1841	1560
Grp Volume(v), veh/h	78	703	75	83	0	1015	161	0	137	125	39	200
Grp Sat Flow(s),veh/h/ln	1654	1737	1472	1767	0	1831	1767	0	1653	1753	1841	1560
Q Serve(g_s), s	2.4	35.1	2.8	2.4	0.0	64.8	11.7	0.0	10.6	8.5	2.4	16.4
Cycle Q Clear(g_c), s	2.4	35.1	2.8	2.4	0.0	64.8	11.7	0.0	10.6	8.5	2.4	16.4
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	163	1047	888	336	0	1097	177	0	161	252	261	221
V/C Ratio(X)	0.48	0.67	0.08	0.25	0.00	0.93	0.91	0.00	0.85	0.50	0.15	0.90
Avail Cap(c_a), veh/h	230	1047	888	415	0	1097	177	0	242	252	269	228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.41	0.00	0.41	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.5	17.2	10.8	14.9	0.0	23.5	57.9	0.0	57.7	51.3	48.9	54.9
Incr Delay (d2), s/veh	0.8	3.4	0.2	0.1	0.0	6.9	42.4	0.0	10.9	0.6	0.1	33.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	14.5	1.0	0.9	0.0	28.6	7.3	0.0	4.9	3.8	1.1	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.3	20.6	11.0	14.9	0.0	30.4	100.3	0.0	68.6	51.8	49.0	88.5
LnGrp LOS	C	C	B	B	A	C	F	A	E	D	D	F
Approach Vol, veh/h		856			1098			298			364	
Approach Delay, s/veh		20.6			29.2			85.7			71.7	
Approach LOS		C			C			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	82.4	17.0	22.4	8.7	81.9	22.7	16.7
Change Period (Y+Rc), s	4.0	5.0	4.0	4.0	4.0	5.0	4.0	4.0
Max Green Setting (Gmax), s	10.0	71.0	13.0	19.0	10.0	71.0	13.0	19.0
Max Q Clear Time (g_c+I1), s	4.4	37.1	13.7	18.4	4.4	66.8	10.5	12.6
Green Ext Time (p_c), s	0.0	1.1	0.0	0.0	0.0	1.1	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	38.7
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

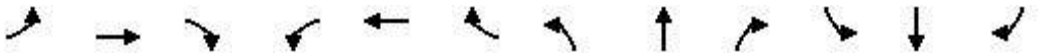
Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	47	123	81	280	355	47
Future Vol, veh/h	47	123	81	280	355	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	2	2	2	2	1	1
Mvmt Flow	53	140	92	318	403	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	932	430	456	0	-	0
Stage 1	430	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	296	625	1105	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	266	625	1105	-	-	-
Mov Cap-2 Maneuver	266	-	-	-	-	-
Stage 1	590	-	-	-	-	-
Stage 2	608	-	-	-	-	-

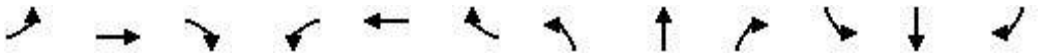
Approach	EB	NB	SB
HCM Control Delay, s	18.6	1.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1105	-	455	-	-
HCM Lane V/C Ratio	0.083	-	0.425	-	-
HCM Control Delay (s)	8.6	0	18.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.3	-	2.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	2006	356	286	1592	85	305	162	384	187	180	162
Future Volume (vph)	72	2006	356	286	1592	85	305	162	384	187	180	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.9		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.91		0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	4970		3400	3505	1568	3467	1881	1599	3467	1881	1599
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	4970		3400	3505	1568	3467	1881	1599	3467	1881	1599
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	77	2134	379	304	1694	90	324	172	409	199	191	172
RTOR Reduction (vph)	0	17	0	0	0	44	0	0	0	0	0	107
Lane Group Flow (vph)	77	2496	0	304	1694	46	324	172	409	199	191	65
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	1%	1%	1%	1%	1%	1%
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	7.9	67.9		13.0	73.0	73.0	16.8	37.7	37.7	8.0	28.9	28.9
Effective Green, g (s)	7.9	68.0		13.0	74.0	74.0	16.8	39.1	39.1	8.0	30.3	30.3
Actuated g/C Ratio	0.05	0.47		0.09	0.51	0.51	0.12	0.27	0.27	0.06	0.21	0.21
Clearance Time (s)	4.0	5.0		4.0	5.0	5.0	4.0	5.4	5.4	4.0	5.4	5.4
Vehicle Extension (s)	2.5	4.8		2.5	4.8	4.8	2.5	2.5	2.5	2.5	2.5	2.5
Lane Grp Cap (vph)	96	2330		304	1788	800	401	507	431	191	393	334
v/s Ratio Prot	0.04	c0.50		c0.09	0.48		0.09	0.09		c0.06	0.10	
v/s Ratio Perm						0.03			c0.26			0.04
v/c Ratio	0.80	1.07		1.00	0.95	0.06	0.81	0.34	0.95	1.04	0.49	0.20
Uniform Delay, d1	67.8	38.5		66.0	33.7	17.9	62.5	42.6	52.0	68.5	50.5	47.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	35.8	41.1		51.6	12.0	0.1	11.1	0.3	30.3	76.6	0.7	0.2
Delay (s)	103.6	79.6		117.6	45.7	18.0	73.6	42.9	82.2	145.1	51.2	47.5
Level of Service	F	E		F	D	B	E	D	F	F	D	D
Approach Delay (s)		80.3			55.0			71.7			83.3	
Approach LOS		F			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	70.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	145.0	Sum of lost time (s)	16.9
Intersection Capacity Utilization	87.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	2006	356	286	1592	85	305	162	384	187	180	162
Future Volume (veh/h)	72	2006	356	286	1592	85	305	162	384	187	180	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	77	2134	341	304	1694	72	324	172	328	199	191	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	3	3	3	1	1	1	1	1	1
Cap, veh/h	96	2266	353	307	1941	866	373	434	367	192	336	
Arrive On Green	0.05	0.51	0.51	0.09	0.55	0.55	0.11	0.23	0.23	0.06	0.18	0.00
Sat Flow, veh/h	1781	4455	694	3428	3526	1572	3483	1885	1598	3483	1885	1598
Grp Volume(v), veh/h	77	1618	857	304	1694	72	324	172	328	199	191	0
Grp Sat Flow(s),veh/h/ln	1781	1702	1745	1714	1763	1572	1742	1885	1598	1742	1885	1598
Q Serve(g_s), s	6.2	64.5	68.8	12.8	60.3	3.1	13.3	11.2	28.8	8.0	13.4	0.0
Cycle Q Clear(g_c), s	6.2	64.5	68.8	12.8	60.3	3.1	13.3	11.2	28.8	8.0	13.4	0.0
Prop In Lane	1.00		0.40	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	1731	888	307	1941	866	373	434	367	192	336	
V/C Ratio(X)	0.80	0.93	0.97	0.99	0.87	0.08	0.87	0.40	0.89	1.04	0.57	
Avail Cap(c_a), veh/h	98	1731	888	307	1941	866	432	520	441	192	390	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	67.8	33.4	34.4	65.9	28.2	15.4	63.7	47.3	54.1	68.5	54.5	0.0
Incr Delay (d2), s/veh	34.5	10.8	22.9	48.2	5.8	0.2	14.7	0.4	17.1	74.5	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	28.7	34.1	7.7	26.4	1.2	6.7	5.4	13.4	5.6	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.4	44.2	57.4	114.1	34.0	15.5	78.5	47.7	71.2	143.0	55.6	0.0
LnGrp LOS	F	D	E	F	C	B	E	D	E	F	E	
Approach Vol, veh/h		2552			2070			824			390	A
Approach Delay, s/veh		50.4			45.1			69.2			100.2	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	78.6	19.5	29.8	11.8	83.8	12.0	37.4
Change Period (Y+Rc), s	4.0	5.0	4.0	* 5.4	4.0	5.0	4.0	* 5.4
Max Green Setting (Gmax), s	13.0	67.0	18.0	* 29	8.0	72.0	8.0	* 39
Max Q Clear Time (g_c+I1), s	14.8	70.8	15.3	15.4	8.2	62.3	10.0	30.8
Green Ext Time (p_c), s	0.0	0.0	0.3	0.6	0.0	8.9	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	54.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Intersection: 1: Turner Road SE & Driveway #1

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	120	12	1402
Average Queue (ft)	35	0	382
95th Queue (ft)	96	6	1286
Link Distance (ft)	162	608	2527
Upstream Blk Time (%)	2		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Turner Road SE & Driveway #2

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	237	6	621
Average Queue (ft)	77	0	318
95th Queue (ft)	222	6	803
Link Distance (ft)	327	1723	608
Upstream Blk Time (%)	3		23
Queuing Penalty (veh)	0		127
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Turner Road SE & Kuebler Boulevard

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	300	1203	300	748	251	354	330	1737
Average Queue (ft)	122	601	115	375	122	139	211	1409
95th Queue (ft)	308	1233	298	652	212	261	445	2181
Link Distance (ft)		2214		1164		718		1723
Upstream Blk Time (%)								31
Queuing Penalty (veh)								171
Storage Bay Dist (ft)	200		200		160		230	
Storage Blk Time (%)	0	33		26	8	7		86
Queuing Penalty (veh)	2	35		22	15	12		88

Intersection: 4: 36th Avenue SE & Kuebler Boulevard

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	T	R
Maximum Queue (ft)	289	602	282	299	1543	199	243	212	352	230
Average Queue (ft)	82	327	52	117	1042	113	102	101	101	139
95th Queue (ft)	223	566	278	321	1927	184	196	181	269	225
Link Distance (ft)		609	609		2214		664		359	
Upstream Blk Time (%)		2	1		0				0	
Queuing Penalty (veh)		0	0		1				0	
Storage Bay Dist (ft)	190			200		120		130		130
Storage Blk Time (%)	0	21			41	12	8	3	3	16
Queuing Penalty (veh)	0	15			33	16	12	9	12	25

Intersection: 5: Turner Road SE & Airway Drive SE

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	140	144	4
Average Queue (ft)	52	36	0
95th Queue (ft)	98	99	3
Link Distance (ft)	562	2527	10328
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Turner Road SE/Airport Road SE & Mission Street SE (OR-22/OR-99E)

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	L	T
Maximum Queue (ft)	330	642	635	627	270	320	1129	1119	1104	200	250	839
Average Queue (ft)	155	570	533	498	262	319	1073	1024	562	171	208	372
95th Queue (ft)	358	698	696	717	289	322	1246	1383	1456	237	295	894
Link Distance (ft)		603	603	603			1075	1075	1075			10328
Upstream Blk Time (%)		19	13	18			88	43	15			
Queuing Penalty (veh)		0	0	0			0	0	0			
Storage Bay Dist (ft)	230				220	220				150	150	
Storage Blk Time (%)	1	44			64	99	13			37	53	4
Queuing Penalty (veh)	5	32			512	788	38			202	290	30

Intersection: 6: Turner Road SE/Airport Road SE & Mission Street SE (OR-22/OR-99E)

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	804	226	266	457	223
Average Queue (ft)	498	164	198	178	26
95th Queue (ft)	907	257	284	379	156
Link Distance (ft)				711	
Upstream Blk Time (%)				0	
Queuing Penalty (veh)				0	
Storage Bay Dist (ft)	1000	182	182		205
Storage Blk Time (%)	0	13	34	4	0
Queuing Penalty (veh)	2	45	116	14	1

Network Summary

Network wide Queuing Penalty: 2669

Intersection: 1: Turner Road SE & Driveway #1

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	34	84
Average Queue (ft)	9	10
95th Queue (ft)	32	45
Link Distance (ft)	162	608
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Turner Road SE & Driveway #2

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	75
Average Queue (ft)	8	9
95th Queue (ft)	29	42
Link Distance (ft)	327	1723
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Turner Road SE & Kuebler Boulevard

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	299	618	300	572	260	773	175	302
Average Queue (ft)	161	235	73	281	248	677	57	153
95th Queue (ft)	293	461	214	489	312	908	128	265
Link Distance (ft)		2214		1164		718		1723
Upstream Blk Time (%)						61		
Queuing Penalty (veh)						0		
Storage Bay Dist (ft)	200		200		160		230	
Storage Blk Time (%)	6	11		18	59	60		3
Queuing Penalty (veh)	44	27		16	190	145		2

Intersection: 4: 36th Avenue SE & Kuebler Boulevard

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	T	R
Maximum Queue (ft)	289	609	73	300	492	203	219	136	82	34
Average Queue (ft)	111	206	25	68	259	86	69	43	24	4
95th Queue (ft)	232	425	55	214	438	166	157	102	65	22
Link Distance (ft)		609	609		2214		664		359	
Upstream Blk Time (%)		0								
Queuing Penalty (veh)		0								
Storage Bay Dist (ft)	190			200		120		130		130
Storage Blk Time (%)	1	8			16	4	3	1		
Queuing Penalty (veh)	6	17			11	4	3	0		

Intersection: 5: Turner Road SE & Airway Drive SE

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	78	111	9
Average Queue (ft)	37	29	0
95th Queue (ft)	61	80	6
Link Distance (ft)	562	2527	10328
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Turner Road SE/Airport Road SE & Mission Street SE (OR-22/OR-99E)

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	L	T
Maximum Queue (ft)	330	640	620	544	270	320	1052	1036	907	159	168	176
Average Queue (ft)	295	503	431	269	234	288	751	709	277	75	91	77
95th Queue (ft)	403	749	704	530	317	383	1344	1303	1002	131	148	150
Link Distance (ft)		603	603	603			1075	1075	1075			10328
Upstream Blk Time (%)		29	2	2			26	13	6			
Queuing Penalty (veh)		0	0	0			0	0	0			
Storage Bay Dist (ft)	230				220	220				150	150	
Storage Blk Time (%)	60	9			54	73	15			1	1	2
Queuing Penalty (veh)	376	20			366	491	24			2	3	6

Intersection: 6: Turner Road SE/Airport Road SE & Mission Street SE (OR-22/OR-99E)

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	114	54	120	132	25
Average Queue (ft)	12	9	58	68	1
95th Queue (ft)	88	46	114	121	18
Link Distance (ft)				711	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	1000	182	182		205
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 1751

Intersection: 1: Turner Road SE & Driveway #1

Movement	SB
Directions Served	TR
Maximum Queue (ft)	405
Average Queue (ft)	113
95th Queue (ft)	560
Link Distance (ft)	2527
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 2: Turner Road SE & Driveway #2

Movement	SB
Directions Served	TR
Maximum Queue (ft)	384
Average Queue (ft)	134
95th Queue (ft)	538
Link Distance (ft)	608
Upstream Blk Time (%)	9
Queuing Penalty (veh)	43
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 3: Turner Road SE & Kuebler Boulevard

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	300	1144	299	837	233	247	330	1717
Average Queue (ft)	122	503	89	404	121	132	206	1218
95th Queue (ft)	305	1042	247	738	213	227	444	2002
Link Distance (ft)		2214		1164		718		1723
Upstream Blk Time (%)				0				14
Queuing Penalty (veh)				0				67
Storage Bay Dist (ft)	200		200		160		230	
Storage Blk Time (%)	0	29		29	8	6		84
Queuing Penalty (veh)	0	30		24	15	11		78

Intersection: 4: 36th Avenue SE & Kuebler Boulevard

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	T	R
Maximum Queue (ft)	290	644	517	299	1830	215	262	204	333	230
Average Queue (ft)	91	327	57	93	1111	120	109	97	101	140
95th Queue (ft)	233	597	293	272	1946	199	223	178	271	230
Link Distance (ft)		609	609		2214		664		359	
Upstream Blk Time (%)		3	0		0				0	
Queuing Penalty (veh)		0	0		1				0	
Storage Bay Dist (ft)	190			200		120		130		130
Storage Blk Time (%)	1	20			42	14	8	4	4	16
Queuing Penalty (veh)	4	15			32	20	12	11	13	25

Intersection: 5: Turner Road SE & Airway Drive SE

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	98	111	4
Average Queue (ft)	45	22	0
95th Queue (ft)	74	73	3
Link Distance (ft)	562	2527	10328
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Turner Road SE/Airport Road SE & Mission Street SE (OR-22/OR-99E)

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	L	T
Maximum Queue (ft)	330	644	637	640	270	320	1130	1110	1100	200	250	1191
Average Queue (ft)	122	595	564	546	259	318	1072	1043	507	167	207	575
95th Queue (ft)	312	690	710	733	294	326	1220	1307	1392	244	301	1390
Link Distance (ft)		603	603	603			1075	1075	1075			10328
Upstream Blk Time (%)		23	17	22			88	41	13			
Queuing Penalty (veh)		0	0	0			0	0	0			
Storage Bay Dist (ft)	230				220	220				150	150	
Storage Blk Time (%)		47			64	99	9			40	57	5
Queuing Penalty (veh)		34			511	790	26			214	305	36

Intersection: 6: Turner Road SE/Airport Road SE & Mission Street SE (OR-22/OR-99E)

Movement	NB	SB	SB	SB	SB
Directions Served	R	L	L	T	R
Maximum Queue (ft)	946	228	263	330	156
Average Queue (ft)	513	138	173	143	11
95th Queue (ft)	984	228	250	249	88
Link Distance (ft)				711	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	1000	182	182		205
Storage Blk Time (%)	6	3	15	5	
Queuing Penalty (veh)	27	12	52	16	

Network Summary

Network wide Queuing Penalty: 2421

Intersection: 3: Turner Road SE & Kuebler Boulevard

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	300	845	299	642	260	765	156	311
Average Queue (ft)	165	298	71	316	230	512	49	152
95th Queue (ft)	325	643	210	572	321	878	110	273
Link Distance (ft)		2214		1164		718		1723
Upstream Blk Time (%)						20		
Queuing Penalty (veh)						0		
Storage Bay Dist (ft)	200		200		160		230	
Storage Blk Time (%)	7	14		20	47	46		4
Queuing Penalty (veh)	43	31		18	144	112		2

Intersection: 4: 36th Avenue SE & Kuebler Boulevard

Movement	EB	EB	EB	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	TR	L	T	R
Maximum Queue (ft)	290	559	171	299	583	167	158	110	97	44
Average Queue (ft)	116	211	25	60	273	76	56	42	30	3
95th Queue (ft)	251	431	109	188	496	137	123	90	75	21
Link Distance (ft)		609	609		2214		664		359	
Upstream Blk Time (%)		1	0							
Queuing Penalty (veh)		0	0							
Storage Bay Dist (ft)	190			200		120		130		130
Storage Blk Time (%)	0	8			16	3	1	0	0	
Queuing Penalty (veh)	2	17			11	2	1	0	0	

Intersection: 5: Turner Road SE & Airway Drive SE

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	75	121	9
Average Queue (ft)	34	22	0
95th Queue (ft)	63	78	5
Link Distance (ft)	562	2527	10328
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Turner Road SE/Airport Road SE & Mission Street SE (OR-22/OR-99E)

Movement	EB	EB	EB	EB	WB	WB	WB	WB	WB	NB	NB	NB
Directions Served	L	T	T	TR	L	L	T	T	R	L	L	T
Maximum Queue (ft)	330	648	599	548	270	320	852	808	428	160	174	184
Average Queue (ft)	290	468	403	270	212	264	533	495	70	72	89	80
95th Queue (ft)	407	720	645	510	322	383	1004	954	338	138	149	153
Link Distance (ft)		603	603	603			1075	1075	1075			10328
Upstream Blk Time (%)		17	1	1			2	1	0			
Queuing Penalty (veh)		0	0	0			0	0	0			
Storage Bay Dist (ft)	230				220	220				150	150	
Storage Blk Time (%)	52	13			32	56	18			0	2	1
Queuing Penalty (veh)	333	27			211	376	25			1	4	4

Intersection: 6: Turner Road SE/Airport Road SE & Mission Street SE (OR-22/OR-99E)

Movement	NB	SB	SB	SB
Directions Served	R	L	L	T
Maximum Queue (ft)	175	107	149	150
Average Queue (ft)	10	14	69	66
95th Queue (ft)	84	57	126	126
Link Distance (ft)				711
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	1000	182	182	
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Zone Summary

Zone wide Queuing Penalty: 1366