

January 5, 2026 - 6:00 PM
Glenpool City Hall, City Council Chambers
12205 S. Yukon Ave. 3rd Floor
Glenpool, Oklahoma

NOTE: Members of the public are invited to attend the in-person meeting, or join a live broadcast at this link:

Join Zoom Meeting

<https://us02web.zoom.us/j/89753555435?pwd=QzdFVjA1b0lKa1lSUFIKbUNrUUxtdz09>

Meeting ID: 897 5355 5435

Passcode: 974088

One tap mobile

+13462487799, US (Houston)

+14086380968, US (San Jose)

Dial by your location

+1 253 215 8782 US (Tacoma)

+1 346 248 7799 US (Houston)

Meeting ID: 897 5355 5435

Passcode: 974088

Find your local number: <https://us02web.zoom.us/j/89753555435?pwd=QzdFVjA1b0lKa1lSUFIKbUNrUUxtdz09>

The City Council welcomes comments from citizens of Glenpool who wish to address any item on the agenda.

- Speakers attending via ZOOM are required to complete the Request to Speak form located on our website: <https://www.glenpoolonline.com/DocumentCenter/View/2551/request-to-speak-at-open-meeting-forms-2025?bidId> = and email it to the City Clerk: lasmith@cityofglenpool.com PRIOR TO 6:00 PM CALL TO ORDER.

AGENDA

- A) **Call to Order - Joyce G. Calvert, Mayor**
- B) **Roll Call, Declaration of a Quorum - Lea Ann Reed, Chief Administrative Officer; Joyce G. Calvert, Mayor**
- C) **Invocation - Associate Pastor Nick Baker of Woodlake Family Church in Glenpool**
- D) **Pledge of Allegiance - Joyce G. Calvert, Mayor**
- E) **Management Report**
- F) **Mayor Report - Joyce G. Calvert, Mayor**
- G) **Council Comments**
- H) **Public Comments**
- I) **Consideration and appropriate action relating to a request for approval of the Consent Agenda.**

(All matters listed under "Consent" are considered by the City Council to be routine and will be enacted by one motion. Any Councilor may, however, remove an item from the Consent Agenda by request. A motion to adopt the Consent Agenda is non-debatable.)

J) **Consideration and appropriate action relating to items removed from the Consent Agenda**

K) **Scheduled Business**

- 1) Discussion, consideration and possible action to approve or deny cancellation of the February 17, 2026, regularly scheduled Council meeting.
(David Tillotson, City Manager)
- 2) Discussion on the Oklahoma Department of Transportation's intersection control evaluation for W. 151st Street South, from Yukon Avenue to Broadway Street, Glenpool.
(David Agbetunsin, City Engineer)

L) **Adjournment**

This notice and agenda was posted at Glenpool City Hall, 12205 S Yukon Ave., Oklahoma, on 12/31/25 at 5:00 pm.

Signed: Lea Ann Reed
Chief Administrative Officer

To: Mayor and Council

From: David Tillotson, City Manager

Meeting Date: January 5, 2026

Department/Office: Administration

Item Name: Discussion, consideration and possible action to approve or deny cancellation of the February 17, 2026, regularly scheduled Council meeting.

Summary:

The City Council has previously approved Mayor Calvert's and Councilor Brobst's attendance at the ICSC@RedRiver conference this coming February. Attending that conference will necessitate both Council members' absence at the February 17th meeting. While a quorum would still be possible without Mayor Calvert and Councilor Brobst, there was a suggestion during the discussion of the conference agenda item that the Council may want to discuss the status of the February 17th meeting. This item has been placed on the agenda to facilitate this discussion and to determine whether the meeting should be canceled or held.

Recommended Action:

Staff has no recommendation.

Budget:

Attachments:

None

To:

From: David Agbetunsin, City Engineer

Meeting Date: January 5, 2026

Department/Office: Engineering Department

Item Name:

Summary:

Background and Purpose

The Oklahoma Department of Transportation (ODOT) commissioned an Intersection Control Evaluation (ICE) for W. 151st Street S. between Yukon Avenue and Broadway Street. This corridor includes the US-75 interchange and serves as a major east–west arterial supporting regional traffic, local access, and anticipated commercial development.

The purpose of the study was to identify intersection control strategies that can safely and efficiently accommodate projected traffic volumes through the 2030 design year, while considering future development and access needs.

Study Area

The ICE evaluated four intersections along the corridor:

1. W. 151st Street S. & Yukon Avenue
2. W. 151st Street S. & US-75 Southbound Ramps
3. W. 151st Street S. & US-75 Northbound Ramps
4. W. 151st Street S. & Broadway Street

W. 151st Street S. is classified as an Urban Arterial. Yukon Avenue and Broadway Street function as lower-order local/collector roadways.

Traffic and Safety Overview

- Traffic analysis incorporated:
 - 2022–2025 traffic counts
 - 2030 projected background growth (3% annually)
 - Full build-out traffic from the Glenpool Crossing commercial development
- Collision data from 2013–2022, along with supplemental data from June 2024 through September 2025, were reviewed.
- The majority of reported crashes were rear-end and angle/turning collisions, which are consistent with congestion and unsignalized intersection operations.
- Under a “no-build” scenario, increased crash frequency and operational failures are anticipated as traffic volumes grow.

Alternatives Evaluated

In accordance with the ODOT ICE Guide (2024), four corridor-wide intersection control

strategies were evaluated as listed below:

1. Signalization at all intersections
2. Roundabouts at all intersections
3. Signalized US-75 ramp intersections with roundabouts at Yukon Avenue and Broadway Street
4. Roundabouts at the US-75 ramp intersections with signalized Yukon Avenue and Broadway Street

Key Findings

- The no-build condition results in unacceptable levels of service (LOS F) at multiple approaches, particularly at Yukon Avenue and the US-75 ramp intersections.
- Roundabouts generally improve safety by reducing conflict points and severe crash types; however, geometric constraints and high ramp volumes limit their feasibility at all locations.
- Traffic signals at the US-75 ramp intersections provide the best operational performance under future traffic volumes and reduce excessive queuing on ramp approaches.
- Yukon Avenue and Broadway Street benefit from enhanced intersection control (either signalization or roundabouts), especially as additional access points and development traffic are introduced.
- Closely spaced intersections near Broadway Street present potential queue spillback issues that will require coordinated intersection control.

Conclusion

The ICE evaluated various combinations of signalized intersections and roundabouts along the corridor. The study recommends signalizing the US-75 interchange ramp intersections with minor geometric improvements, and constructing roundabouts at Yukon Avenue and Broadway Street.

Recommended Action:

Staff has no recommendation at this time, and no action is required. This item is presented for discussion purposes only.

Budget:

N/A

Attachments:

1. JP 35120(04) ICE Report -151st from Yukon to Broadway

INTERSECTION CONTROL EVALUATION

W. 151st St. S. from Yukon Ave. to Broadway St.

Glenpool, OK

Prepared for:



OKLAHOMA
Transportation

Oklahoma Department of Transportation

November 2025

Prepared by:

Traffic Engineering Consultants, Inc.



Michael S. Hofener, P.E., PTOE

Oklahoma P.E. # 23310

11 / 18 / 2025

Date

TABLE OF CONTENTS

1.0	PROJECT DESCRIPTION.....	1
1.1	PURPOSE AND NEED.....	1
1.2	INTERSECTION DESCRIPTION.....	1
2.0	TRAFFIC DATA SUMMARY.....	4
2.1	DESIGN TRAFFIC DATA.....	4
2.2	COLLISION DATA.....	4
3.0	ALTERNATIVE SCREENING (ODOT ICE Guide, Feb. 2024)	7
4.0	ANALYSIS	8
4.1	METHODOLOGY.....	8
4.2	YUKON AVENUE.....	9
4.2.1	Yukon Avenue No Build.....	9
4.2.2	Yukon Avenue Roundabout.....	11
4.2.3	Yukon Avenue Signalization	12
4.3	US 75 SOUTHBOUND RAMPS	14
4.3.1	SB Ramps No Build	14
4.3.2	SB Ramps Roundabout.....	16
4.3.3	SB Ramps Signalization.....	18
4.4	US 75 NORTHBOUND RAMPS.....	20
4.4.1	NB Ramps No Build	20
4.4.2	NB Ramps Roundabout	22
4.4.3	NB Ramps Signalization.....	23
4.5	BROADWAY STREET	25
4.5.1	Broadway Street No Build	25
4.5.2	Broadway Street Roundabout.....	27



4.5.3	Broadway Street Signalization	28
5.0	SUMMARY.....	30
5.1	COMPARISON	30
5.2	DISCUSSION	30
5.3	RECOMMENDATION	33
	REFERENCES.....	35

1.0 PROJECT DESCRIPTION

1.1 PURPOSE AND NEED

This document has been prepared to present the results of the Intersection Control Evaluation (ICE) analysis as detailed in the ODOT Intersection Control Evaluation (ICE) Guide, 2024 performed by Traffic Engineering Consultants, Inc. for ODOT at the intersections along State Highway 67 (W. 151st Street S.) from Yukon Avenue to Broadway Street in Glenpool, Oklahoma.

The W. 151st Street S. corridor is located in Tulsa County, Oklahoma along US 75. The goal of this study is to determine the best intersection designs to maintain efficient operations through the design year while maintaining high levels of safety. The corridor can be seen in **Figure 1**.



Figure 1. Existing Conditions – W. 151st St. S. – Yukon Ave. to Broadway St.

1.2 INTERSECTION DESCRIPTION

The intersection of W. 151st Street S. and Yukon Avenue is a three-legged, unsignalized intersection with north/south stop control. The southbound approach is a single lane approach with a shared left/right turn lane. The eastbound approach has an exclusive left turn lane with 260 feet of storage and two through lanes. The westbound approach has an exclusive left turn lane with 185 feet of storage for a future connection to the south, an exclusive through lane, and a shared through/right turn lane.

The intersection of W. 151st Street S. and US 75 Southbound Ramps is a four-legged, unsignalized intersection with southbound stop control. The southbound approach has a shared through/left turn lane and an exclusive, channelized right turn lane that is yield controlled. The eastbound approach has an exclusive through lane and a shared through/right turn lane. The westbound approach has two exclusive through lanes and an exclusive left turn lane with 275 feet of storage and does not extend outside the interchange.

The intersection of W. 151st Street S. and US 75 Northbound Ramps is four-legged, unsignalized intersection with northbound stop control. The northbound approach has a shared through/left turn lane and an exclusive, channelized right turn lane that is yield controlled. The westbound approach has an exclusive through lane and a shared through/right turn lane. The eastbound approach has two exclusive through lanes and an exclusive left turn lane with 275 feet of storage and does not extend outside of the interchange.

The intersection of W. 151st Street S. and Broadway Street is a four-legged, unsignalized intersection with northbound and southbound stop control. The eastbound approach has an exclusive left turn lane with 425 feet of storage, two exclusive through lanes, and an exclusive right turn lane with 300 feet of storage. The westbound approach has an exclusive left turn lane with 420 feet of storage, an exclusive through lane, and a shared through/right turn lane. The northbound approach has an exclusive left turn lane with 235 feet of storage, an exclusive through lane, and an exclusive right turn lane with 235 feet of storage. The southbound approach has an exclusive left turn lane with 90 feet of storage, an exclusive through lane with 90 feet of storage, and an exclusive right turn lane with 90 feet of storage. There is an intersection located 100 feet north of the subject intersection.

Speed limits along W. 151st Street S. approaching the intersections in both the eastbound and westbound directions are currently posted at 45 miles per hour (mph). Speed limits along Yukon Avenue approaching the intersection in the southbound direction are 25 mph. Speeds along Broadway Street were assumed to be 30 mph in both the northbound and southbound directions.

In the Indian Nations Council of Government (INCOG) Major Street and Highway Plan, W. 151st Street S. is classified as an Urban Arterial. Yukon Avenue is unclassified but was assumed to be residential. Broadway Street is classified as a residential collector.

Land-use directly abutting this portion of the study corridor, and in the near vicinity is currently a mixture of commercial, residential, and agricultural with some industrial and a Planned Unit Development (PUD – Glenpool Crossing) in the southwest quadrant of the interchange.

West 151st Street S. provides connectivity to Kiefer to the west and intersects with US 75 Alternate which provides access to Sapulpa and Mounds. To the east it intersects with US 64 which provides direct access to the City of Tulsa via a bridge over the Arkansas River. This portion of W. 151st Street S. is heavily travelled and provides good access to the interchange with US 75 which provides good access to Okmulgee and points further south as well as the City of Tulsa to the north.

This corridor could potentially see an increase in pedestrian or bicycle use so accommodations for these modes of travel should be considered in future designs. A large retail development (where the aforementioned PUD is located) is anticipated to be constructed in the near future in the southwest quadrant of the interchange. The development is currently under study and the anticipated traffic generated by the development has been added to the design traffic for this ICE. Additional developments are also anticipated along the frontage of both sides of US 75 south of W. 151st Street S. The traffic as a result of these additional developments is accommodated in the development of the design traffic for this report as discussed in Section 2.0.

Access management along this portion of the corridor is good. There is currently only one driveway that connects to W. 151st St. S. within the study limits. The driveway is a right-in/right-out driveway for a gas station located in the southeast quadrant of the Broadway Street intersection and is located 250 feet east of the intersection. Any future driveway connections should be limited to those that meet industry recommended driveway spacing thresholds.

There is an additional capacity/safety challenge offset of the study corridor. The intersection of South Casper Street W./E. 150th Place S. and Broadway Street is only located 100 feet north of the W. 151st Street S. and Broadway Street intersection. The intersection is unsignalized with stop control in the eastbound, southbound, and westbound directions. This close spacing could result in spill back of queues from the W. 151st Street S. intersection as traffic increases in the area.

2.0 TRAFFIC DATA SUMMARY

2.1 DESIGN TRAFFIC DATA

Traffic data was originally collected along the study corridor in April 2022 as part of a larger ongoing Oklahoma Department of Transportation (ODOT) study of the US 75 corridor from W. 121st Street N. to W. 151st Street S. There is an additional ongoing study (Glenpool Crossing Study) for the large commercial PUD development located in the southwest quadrant of the W. 151st Street S. and US 75 interchange. For this supplemental analysis, the traffic data for the future development was provided. This included traffic counts that were collected at the Yukon Avenue and US 75 Ramp intersections in April 2025 as well as the traffic that is anticipated to be generated by the commercial PUD development. A summary of the raw 2025 traffic data can be seen in **Figure 2**.

The collected data was processed and design traffic data for 2025 was developed in cooperation with the traffic division of the Oklahoma Department of Transportation (ODOT). The 2025 design traffic data can be seen in **Figure 3**. It should be noted that no 2025 traffic data was collected at the Broadway Street intersection, so the traffic data originally reported in the US 75 study is shown in the figure after using a growth rate.

The 2025 design traffic data was then used to project the 2030 design traffic data using an average growth rate of 3% per year for five years. The projected existing traffic is considered the 2030 background traffic data (traffic data before development site trips). The site trips from the Glenpool Crossing Study were distributed along the study corridor and added to the 2030 design traffic data to determine the 2030 total design traffic data. The 2030 design traffic, full build site trips, and 2030 total design traffic can be seen in **Figures 4, 5 and 6**, respectively.

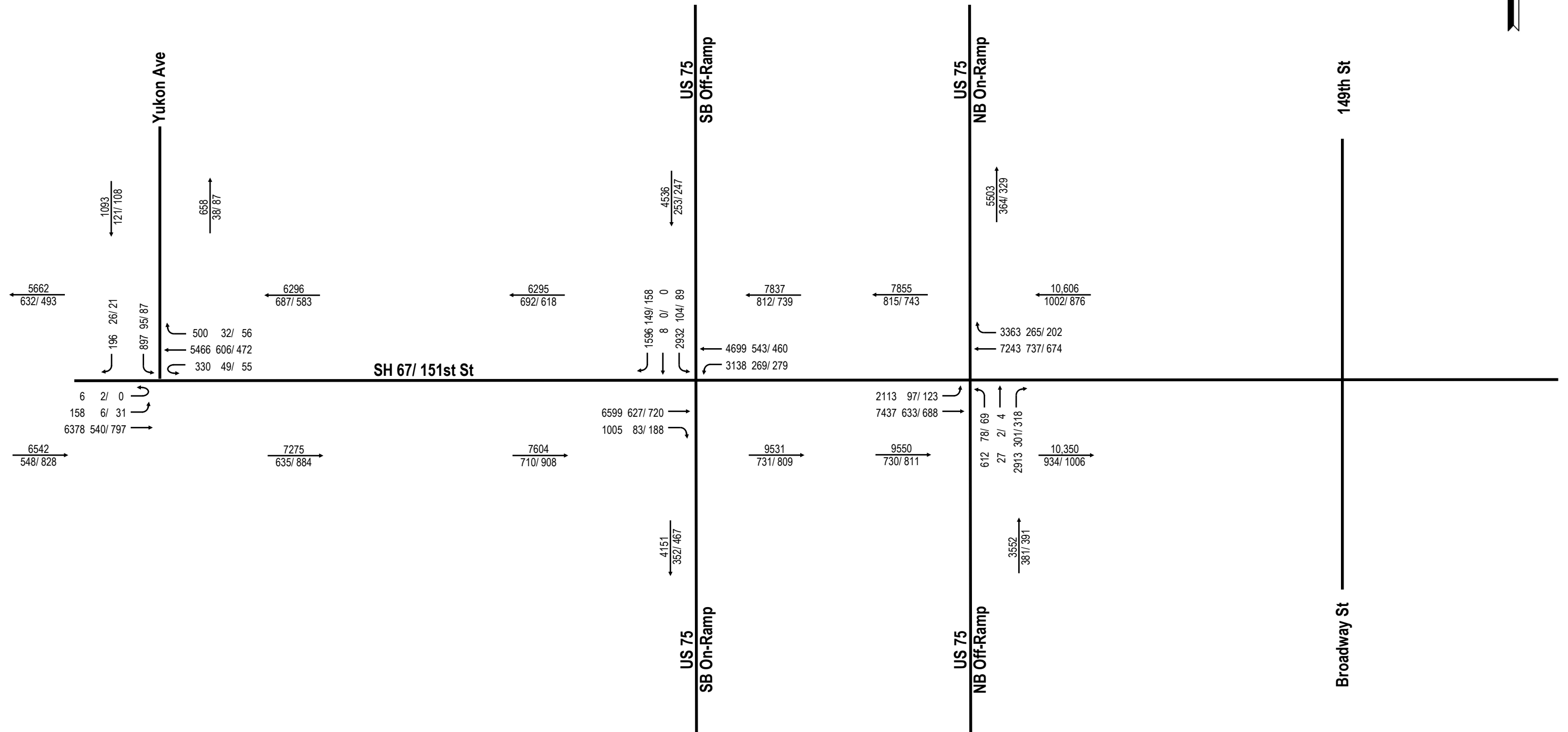
2.2 COLLISION DATA

Collision Data from 2013 to 2022 along W. 151st Street S. from Yukon Avenue to Broadway Street was requested from and provided by ODOT. The total collision data provided can be seen in **Table 1**. It should be noted that the 2022 collision data is incomplete. The intersection related collision data can be seen in **Table 2**. The collision data broken out by intersection can be seen in **Table 3**. Note: there were no collisions reported at the Yukon Avenue intersection during this time period.

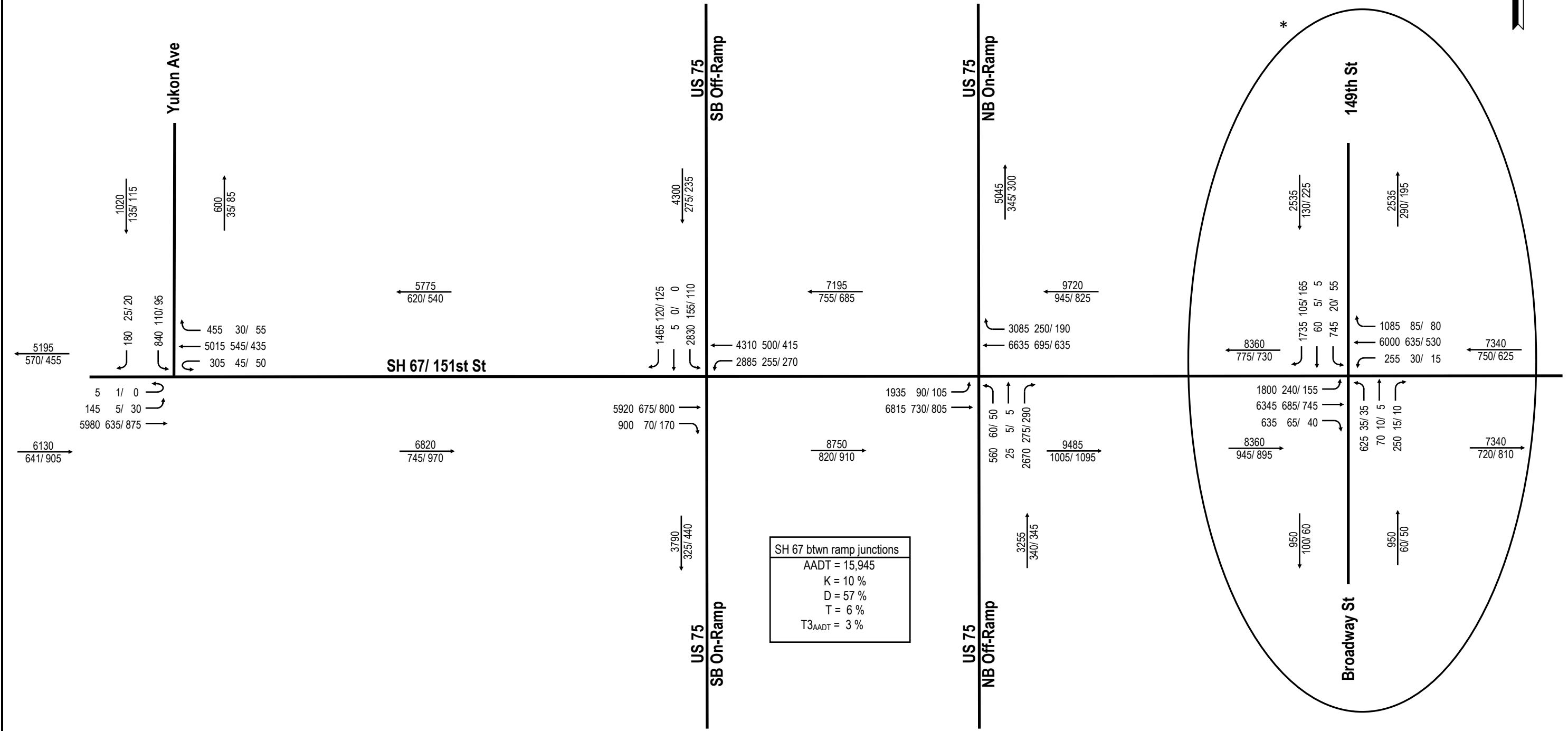
LEGEND	
XXXX	XXX/XXX
	PM Peak Hour
	AM Peak Hour
	24 Hour Volume

NOTE: Raw traffic data from Glenpool Crossing Study, Seratran, LLC
Data collected Thursday, April 24, 2025.

FIGURE 2. US 75 and SH 67/151st St
2025 Raw Traffic Data
Existing Conditions



* 2022 Design Traffic Data from
US 75 Corridor Study.



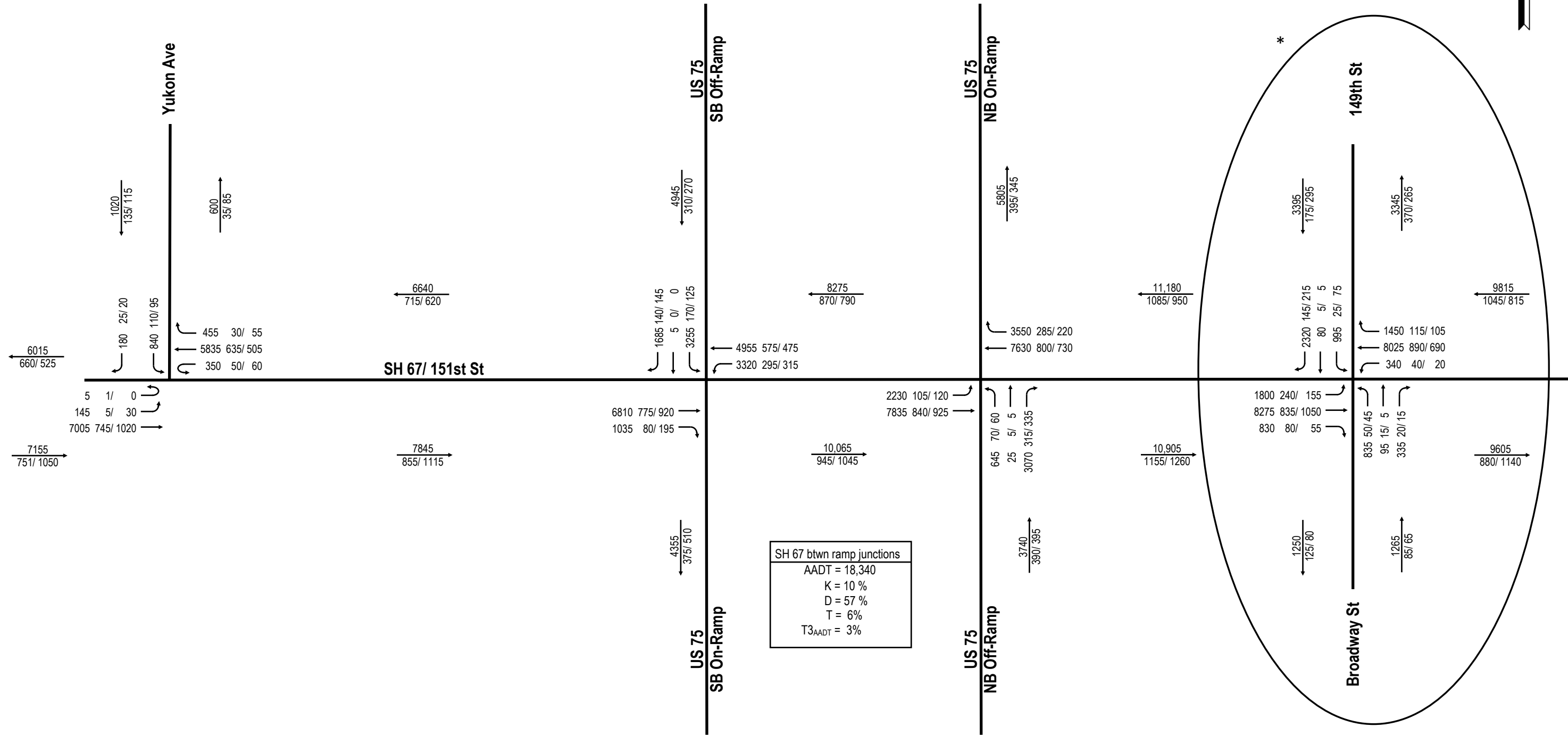
LEGEND	
XXXX	XXX/XXX
	PM Peak Hour
	AM Peak Hour
	24 Hour Volume

NOTE: Raw traffic data from Glenpool Crossing Study,
Seratran, LLC (Draft) September, 2025
Balanced and adjusted per Factor Code 7b

FIGURE 3. US 75 and SH 67/151st St
2025 Design Traffic Data
Existing Conditions



* Background Data determined by adjusting 2022 Design Traffic Data from US 75 Corridor Study.



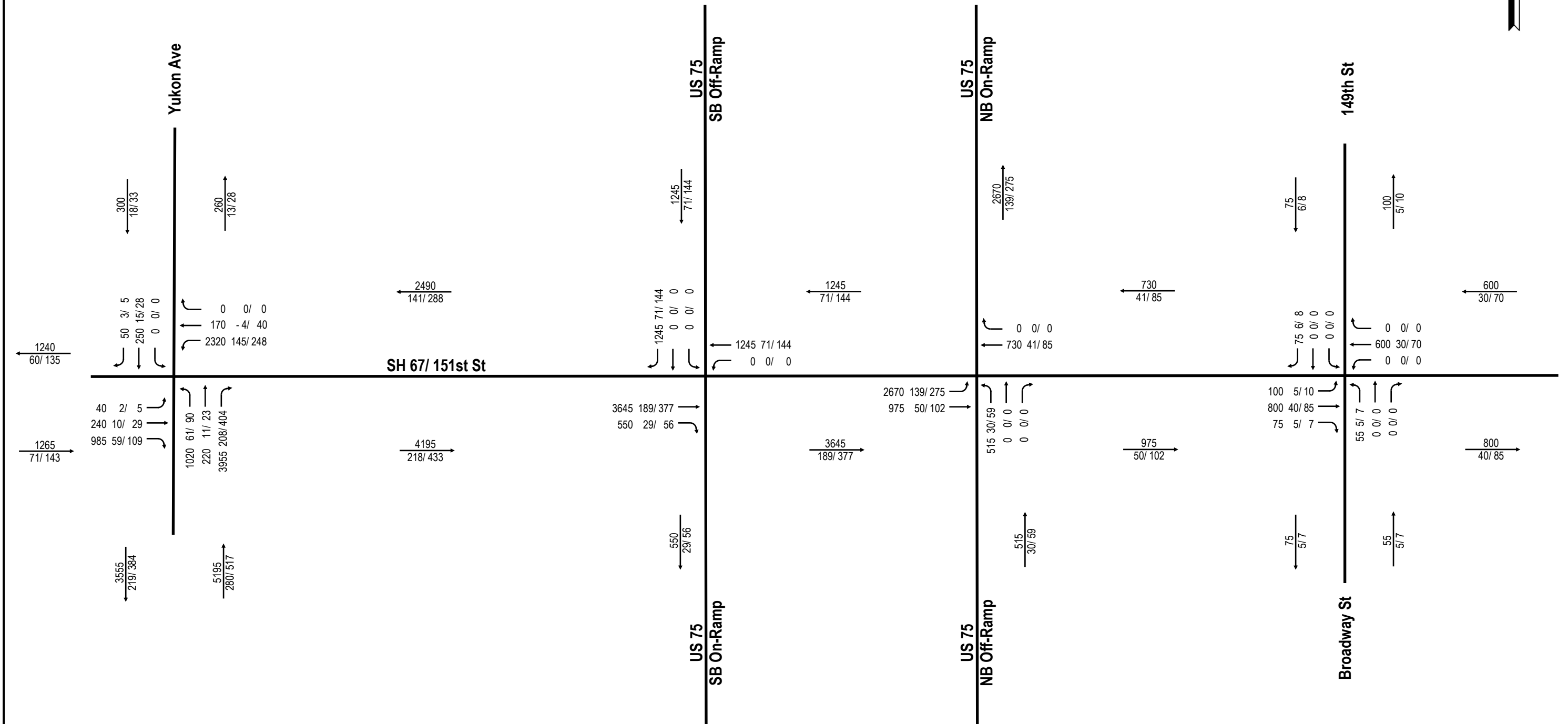
LEGEND	
XXXX	XXX/XXX
	PM Peak Hour
	AM Peak Hour
	24 Hour Volume

NOTE: Applied 3% A.G.R. from Glenpool Crossing Study, Seratran, LLC (Draft) September, 2025

FIGURE 4. US 75 and SH 67/151st St
2030 Design Traffic Data
Existing Conditions



LEGEND	
XXXX	XXX/XXX
	PM Peak Hour
	AM Peak Hour
	24 Hour Volume



NOTE: From Glenpool Crossing Study, Seratran, LLC (Draft) September, 2025

**FIGURE 5. US 75 and SH 67/151st St
2030 Full Build Site Traffic (CM 3)**

LEGEND	
XXXX	XXX/XXX
	PM Peak Hour
	AM Peak Hour
	24 Hour Volume

NOTE: From Glenpool Crossing Study, Seratran, LLC (Draft)
September, 2025

FIGURE 6. US 75 and SH 67/151st St
2030 Total Design Traffic Data

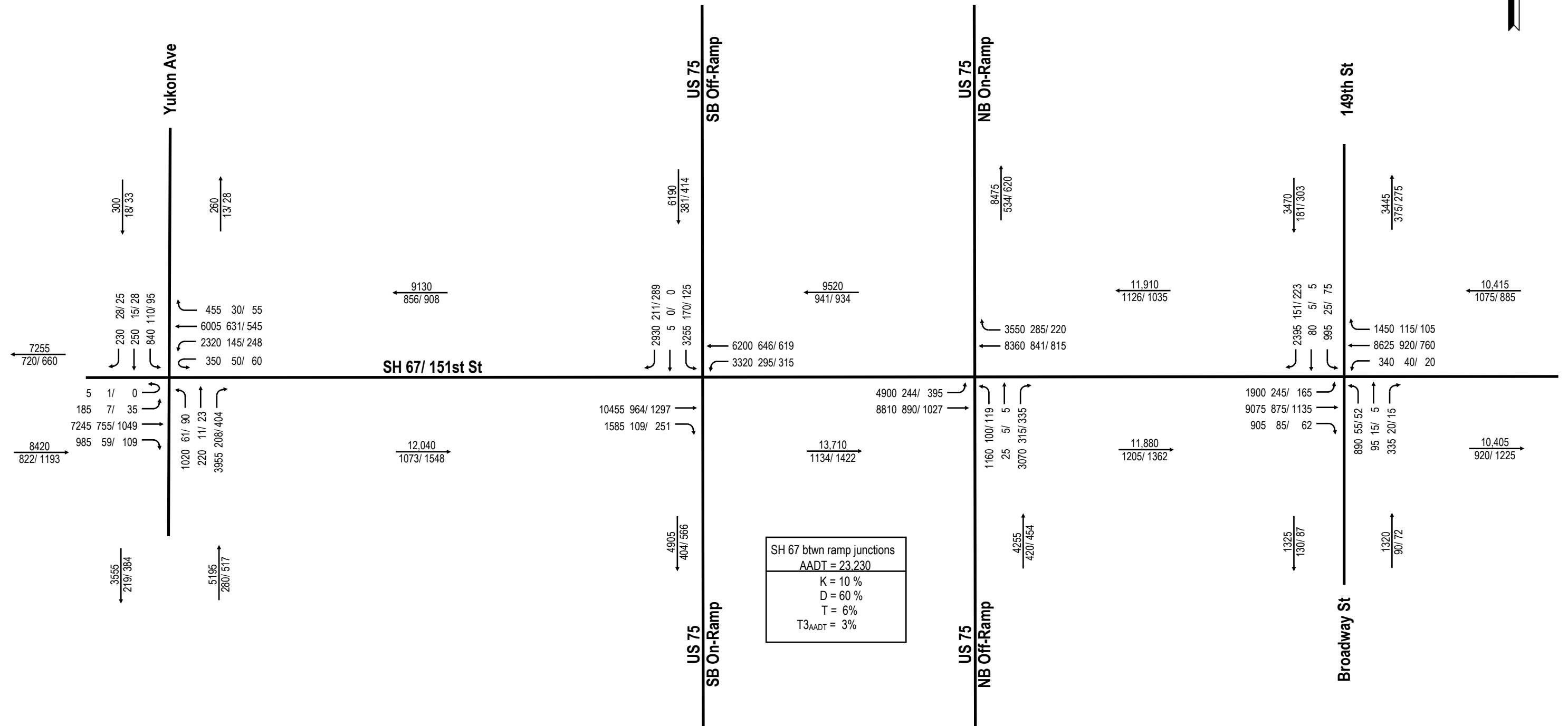


TABLE 1

Total Collision Data (2013-2022) - US 75 & 151st St. Interchange*

Collision Type	Total	Pct.	Collision Severity					
			Undefined	Property Damage (O)	Possible Injury (C)	Non-Incapacitating Injury (B)	Suspected Serious Injury (A)	Fatal (K)
Right Angle (front to side)	27	19%	0	14	9	4	0	0
Angle Turning	16	12%	0	11	3	2	0	0
Rear End	60	43%	3	38	12	4	2	1
Sideswipe Same Direction	12	9%	0	10	2	0	0	0
Fixed Object	11	8%	0	8	0	2	1	0
Animal	1	1%	0	1	0	0	0	0
Other	12	9%	2	8	1	1	0	0
Total	139	100%	5	90	27	13	3	1
Pct.	100%	100%	4%	65%	19%	9%	2%	1%

* - Includes crashes that occurred on the US 75 mainline from the exit to entrance ramps.

TABLE 2

Intersection Related Collision Data (2013-2022) - 151st Street: Yukon Ave. to Broadway St.

Collision Type	Total	Pct.	Collision Severity					
			Undefined	Property Damage (O)	Possible Injury (C)	Non-Incapacitating Injury (B)	Suspected Serious Injury (A)	Fatal (K)
Right Angle (front to side)	27	26%	0	14	9	4	0	0
Angle Turning	16	16%	0	11	3	2	0	0
Rear End	43	42%	1	29	9	3	1	0
Sideswipe Same Direction	2	2%	0	2	0	0	0	0
Fixed Object	5	5%	0	5	0	0	0	0
Animal	0	0%	0	0	0	0	0	0
Other	9	9%	2	6	1	0	0	0
Total	102	100%	3	67	22	9	1	0
Pct.	100%	100%	3%	66%	22%	9%	1%	0%

TABLE 3

Intersection Related Collision Data (2013-2022) - 151st St. & US 75 Ramps

Collision Type	Total	Pct.	Collision Severity					
			Undefined	Property Damage (O)	Possible Injury (C)	Non-Incapacitating Injury (B)	Suspected Serious Injury (A)	Fatal (K)
US 75 Interchange								
Right Angle (front to side)	26	27%	0	14	9	3	0	0
Angle Turning	16	16%	0	11	3	2	0	0
Rear End	42	43%	1	28	9	3	1	0
Sideswipe Same Direction	2	2%	0	2	0	0	0	0
Fixed Object	4	4%	0	4	0	0	0	0
Other	8	8%	2	5	1	0	0	0
Total	98	100%	3	64	22	8	1	0
Pct.	100%	100%	3%	65%	22%	8%	1%	0%
Broadway Street								
Right Angle (front to side)	1	25%	0	0	0	1	0	0
Rear End	1	25%	0	1	0	0	0	0
Fixed Object	1	25%	0	1	0	0	0	0
Other	1	25%	0	1	0	0	0	0
Total	4	100%	0	3	0	1	0	0
Pct.	100%	100%	0%	75%	0%	25%	0%	0%

Additional data was provided by ODOT that includes the data that was available from the time period from June 2024 to September 2025. This data was also summarized. The total collisions during this time period can be seen in **Table 4** and the collisions broken out by intersection can be seen in **Table 5**.

TABLE 4*

Total Collision Data (June 2024-September 2025)

Collision Type	Total	Pct.	Collision Severity					
			Undefined	Property Damage (O)	Possible Injury (C)	Non-Incapacitating Injury (B)	Suspected Serious Injury (A)	Fatal (K)
Angle Turning	16	48%	0	10	2	2	2	0
Rear End	14	42%	0	8	1	5	0	0
Sideswipe Same Direction	2	6%	0	2	0	0	0	0
Fixed Object	1	3%	0	1	0	0	0	0
Total	33	100%	0	21	3	7	2	0
Pct.	100%	100%	0%	64%	9%	21%	6%	0%

* - Includes non intersection related crashes.

Table 5

Intersection Related Collision Data (June 2024-September 2025)

Collision Type	Total	Pct.	Collision Severity					
			Undefined	Property Damage (O)	Possible Injury (C)	Non-Incapacitating Injury (B)	Suspected Serious Injury (A)	Fatal (K)
Yukon Avenue Intersection								
Angle Turning	2	100%	0	2	0	0	0	0
Total	2	100%	0	2	0	0	0	0
Pct.	100%	100%	0%	100%	0%	0%	0%	0%
US 75 SB Ramp Intersection								
Angle Turning	7	58%	0	3	2	1	1	0
Rear End	4	33%	0	3	0	1	0	0
Sideswipe Same Direction	1	8%	0	1	0	0	0	0
Total	12	100%	0	7	2	2	1	0
Pct.	100%	100%	0%	58%	17%	17%	8%	0%
US 75 NB Ramp Intersection								
Angle Turning	3	25%	0	3	0	0	0	0
Rear End	9	75%	0	5	1	3	0	0
Total	12	100%	0	8	1	3	0	0
Pct.	100%	100%	0%	67%	8%	25%	0%	0%
Broadway Street Intersection								
Angle Turning	4	100%	0	2	0	1	1	0
Total	4	100%	0	2	0	1	1	0
Pct.	100%	100%	0%	50%	0%	25%	25%	0%

3.0 ALTERNATIVE SCREENING (ODOT ICE Guide, Feb. 2024)

The ODOT ICE Guide details fourteen intersections that could be screened using the FHWA's CAP-X tool. In the case of this corridor, extensive discussions were had with both ODOT and the City of Glenpool to determine intersection designs that are feasible, increase safety for all modes of travel, and increase capacity. Due to the already high traffic demand on this portion of W. 151st Street S. it was determined that traffic signals and/or roundabouts would be best along this corridor. The analysis will include the following:

- 1.) All four intersections signalized.
- 2.) All four intersections with roundabouts.
- 3.) US 75 interchange signalized and Yukon Avenue and Broadway Street with roundabouts.
- 4.) US 75 interchange with roundabouts and Yukon Avenue and Broadway Street signalized.

4.0 ANALYSIS

4.1 METHODOLOGY

The capacity analyses were conducted using a combination of *Synchro 12*, which is a software package for modeling and optimizing traffic signal timings at signalized intersections and analyzing unsignalized intersections in accordance with the methodology of the latest edition of the *Highway Capacity Manual* as well as the Highway Capacity Software (HCS). The level-of-service criteria are summarized in **Table 6**. The Highway Capacity Manual considers an overall intersection level-of-service “D” or better and a critical approach (approach with the lowest level-of-service) level-of-service “E” or better to be acceptable levels-of-service.

TABLE 6
Level-of-Service Criteria

Level-of-Service	Average Delay (seconds/vehicle)		Traffic Condition
	Unsignalized	Signalized	
A	≤ 10	≤ 10	Free Flow
B	> 10 - 15	> 10 - 20	Stable Flow (slight delays)
C	> 15 - 25	> 20 - 35	Stable Flow (acceptable delays)
D	> 25 - 35	> 35 - 55	Approaching Unstable Flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	> 35 - 50	> 55 - 80	Unstable Flow (intolerable delay)
F	> 50	> 80	Forced Flow (congested and queues fail to clear)

Since there are four intersections included in this analysis, each intersection will be reported on individually for comparison purposes. Each intersection was analyzed based on existing geometrics and traffic control, as a roundabout, as a signalized intersection based on existing geometrics, and as a signalized intersection modified with improvements if any are necessary. Both the 2025 Existing and 2030 Total traffic conditions were analyzed for each of the following:

- 1.) All intersections as roundabouts.
- 2.) All intersections signalized with improvements where there are excessive queues or delay.
- 3.) Yukon Avenue and Broadway Street as roundabouts and the US 75 ramp intersections signalized.
- 4.) Yukon Avenue and Broadway Street signalized and the US 75 ramp intersections as roundabouts.

For reference purposes, a figure showing the lane configurations analyzed for each intersection is provided in the appendix.

4.2 YUKON AVENUE

The results of the capacity analyses conducted are summarized in **Table 7** and the data sheets have been included in the appendix.

A fourth leg is anticipated to be added to this intersection when the Glenpool Crossing development is constructed. Under the no build and roundabout scenarios, no fourth leg was assumed at the intersection under 2025 conditions but was assumed under 2030 Total conditions.

4.2.1 Yukon Avenue No Build

Operations (Yukon Avenue No Build)

The 2025 Existing capacity analysis indicates the intersection has good operations in the eastbound and westbound directions, but the southbound approach operates at a level of service “F” during both peak hours. Under the 2030 Total conditions, delay are so high and queues are so long on the southbound leg the model reported errors.

Safety (Yukon Avenue No Build)

The baseline condition is unsignalized with southbound stop control. There are not expected to be any modifications of the current safety at the intersection under the no build scenario.

The unsignalized intersection has 9 total conflict points with 3 of those being crossing points. When a fourth leg is added to the intersection the total conflict points will increase to 32 with 16 of those being crossing points. Two collisions were reported at the intersection from June 2024 to September 2025. Crashes are anticipated to increase as both traffic volumes increase and a fourth leg is constructed.

Vulnerable Road Users (Yukon Avenue No Build)

The intersection is currently unsignalized and does not include any pedestrian or bicycle facilities.

Right-of-Way (Yukon Avenue No Build)

No additional right-of-way will be necessary under this scenario.

Environmental (Yukon Avenue No Build)

No environmental impacts or studies required for this scenario.

TABLE 7

Operational Analysis - Existing / Roundabout / Signal Existing / Signal Modified
W. 151st Street S. & Yukon Avenue

Peak	Approach	2025					2030 Total				
		LOS	Delay (sec/veh)	Delay (veh-hr)	Queue (veh)	Queue (ft)	LOS	Delay (sec/veh)	Delay (veh-hr)	Queue (veh)	Queue (ft)
Existing One-Way NB/SB Stop											
AM	EB	A	0.2	0.0	0.1	2.5	A	0.1	0.0	0.0	0.0
	WB	A	1.3	0.2	1.4	35.0	A	4.5	1.1	2.4	60.0
	NB	-	0.0	0.0	0.0	0.0	A	426.7	33.2	10.8	270.0
	SB	F	95.0	3.6	6.5	162.5	F	*	*	18.9	472.5
	Overall	-	10.5	4.1	-	-	-	283.1	166.0	-	-
PM	EB	A	0.5	0.1	0.2	5.0	A	0.3	0.1	0.1	2.5
	WB	A	1.7	0.3	0.6	15.0	C	5.7	1.4	1.1	27.5
	NB	-	0.0	0.0	0.5	12.5	F	*	*	**	**
	SB	F	83.1	2.7	5.5	137.5	F	*	*	**	**
	Overall	-	8.1	3.5	-	-	-	1046.2	803.8	-	-
Roundabout											
AM	EB	A	5.9	1.0	1.4	35.0	A	8.9	2.0	2.6	65.0
	WB	A	4.8	0.8	1.1	27.5	A	6.4	1.5	1.9	47.5
	NB	-	0.0	0.0	0.0	0.0	B	14.6	1.1	2.6	65.0
	SB	A	6.5	0.2	0.7	17.5	A	9.7	0.4	1.1	27.5
	Overall	A	5.5	2.1	-	-	A	8.7	5.1	-	-
PM	EB	A	6.9	1.7	2.2	55.0	C	16.5	5.5	7.1	177.5
	WB	A	4.5	0.7	0.9	22.5	A	7.2	1.8	2.3	57.5
	NB	-	0.0	0.0	0.0	0.0	F	126.7	18.2	19.0	475.0
	SB	A	5.4	0.2	0.5	12.5	B	10.0	0.4	1.1	27.5
	Overall	A	6.0	2.6	-	-	D	33.7	25.9	-	-
Signalized Existing											
AM	EB	B	11.9	2.1	10.2	256.0	C	20.7	4.7	24.9	623.0
	WB	B	10.2	1.8	1.8	44.0	C	27.1	6.4	17.0	426.0
	NB	A	0.0	0.0	0.0	0.0	D	45.8	3.6	3.2	80.0
	SB	C	23.7	0.9	0.6	16.0	F	112.7	4.8	11.7	292.0
	Overall	B	12.5	4.8	-	-	C	34.3	20.1	-	-
PM	EB	B	14.3	3.6	15.6	391.0	D	53.5	17.7	39.2	981.0
	WB	B	11.2	1.7	2.7	67.0	B	16.8	4.2	27.6	690.0
	NB	A	0.0	0.0	0.0	0.0	E	75.0	10.8	4.3	107.0
	SB	C	23.0	0.7	0.2	5.0	F	**	*	14.1	353.0
	Overall	B	14.0	6.1	-	-	F	95.4	73.3	-	-
Signalized Modified											
AM	EB	B	13.4	2.4	10.2	255.0	C	28.5	6.5	11.9	298.0
	WB	A	4.9	0.8	2.1	53.0	B	13.3	3.2	10.4	261.0
	NB	A	0.0	0.0	0.0	0.0	B	17.6	1.4	3.6	91.0
	SB	B	18.4	0.7	0.2	6.0	C	30.6	1.3	5.9	148.0
	Overall	B	10.4	4.0	-	-	C	21.0	12.3	-	-
PM	EB	B	15.8	4.0	13.2	331.0	D	42.2	14.0	19.5	487.0
	WB	C	26.8	4.0	2.7	67.0	C	25.7	6.5	7.4	184.0
	NB	A	0.0	0.0	0.0	0.0	C	24.5	3.5	10.1	252.0
	SB	B	18.0	0.6	0.8	20.0	D	39.7	1.6	6.6	164.0
	Overall	B	19.5	8.5	-	-	C	33.2	25.5	-	-

* - Delay exceeds 300 seconds/veh. Excessive delay created an error in the analysis.

** - Excessive queue. No value presented on the report.

4.2.2 Yukon Avenue Roundabout

Operations (Yukon Avenue Roundabout)

The roundabout was initially analyzed as a multi-lane roundabout with two continuous lanes in both the eastbound and westbound directions and a single lane in both the northbound and southbound directions and no bypass lanes. This resulted in the northbound right turn operating at a level of service “F” during the 2030 total p.m. peak hour. As a result, a northbound right turn bypass lane placed on yield was analyzed. The bypass lane improves the approach level of service to “D” but the right turn movement is still an “F.” The addition of the bypass lane shortens the queue by 200 feet to 475 feet and lowers delay from 164.8 seconds per vehicle to 126.7 seconds per vehicle.

After conversion to a multi lane roundabout with a northbound right turn bypass lane on yield, the intersection is anticipated to operate at overall levels-of-service “A” during both peak hours under 2025 existing traffic conditions. Under 2030 total traffic conditions, it is predicted to operate at overall levels-of-service “A” during the a.m. peak hour and “D” during the p.m. peak hour.

Safety (Yukon Avenue Roundabout)

The baseline condition at the intersection is unsignalized. The CMF reported in the HSM for converting an unsignalized intersection into a single or multi-lane roundabout is 0.56 with an adjusted standard error of 0.05 (all severities). For injury collisions, the CMF is 0.18 with a standard error of 0.04.

The number of conflict points associated with roundabouts are significantly less than traditional intersection designs. The multilane roundabout configuration recommended in this alternative would have a total of up to 24 conflict points (merge, diverge, and crossing). This is less than the number of conflict points present in the unsignalized alternative (with the fourth leg), thereby decreasing the number of collisions expected.

Collisions at the existing unsignalized intersection are anticipated to predominantly be attributed to turning vehicles. Based on the projected CMF’s for this intersection these collisions are expected to be reduced both in number and severity if the intersection is converted to a multi-lane roundabout.

Vulnerable Road Users (Yukon Avenue Roundabout)

The intersection is currently unsignalized and does not include any pedestrian or bicycle facilities. With the roundabout alternative, it is recommended that pedestrian facilities be installed. That includes marked crosswalks and signage across all approaches. Since the design of roundabouts lowers the speed of entering vehicles to between 20 and 25 mph which continues until they exit the roundabout, a collision involving a vulnerable road user would involve an impact with a much slower vehicle than would be experienced at a signalized intersection and is less likely to result in a fatality. Additionally, pedestrians have the right-of-way at roundabouts when they enter a marked crosswalk, unlike at signalized intersections where pedestrians do not have the right-of-way until they are allowed to legally cross via the pedestrian signal head indication. It is also unlikely that this intersection would experience a large volume of bicyclist activity; and no bicycle facilities are recommended.

Right-of-Way and Cost (Yukon Avenue Roundabout)

Additional right-of-way may be required for the size roundabout that will be necessary to accommodate the multiple lanes and truck traffic through the intersection. There is some residential on the north side of W. 151st Street S. and some drainage on both sides that will need to be considered in the design. It is likely this design may require additional right of way.

The cost of a multilane roundabout will be high, and very dependent on the drainage and need for additional right of way. The recurring maintenance cost is minimal.

Environmental (Yukon Avenue Roundabout)

There are no known environmental impacts or studies required for this project.

4.2.3 Yukon Avenue Signalization

Operations (Yukon Avenue Signalization)

Traffic signal warrants were analyzed for the intersection. The print-outs can be found the appendix. The intersection passed Warrant 2 under 2025 existing conditions and passed Warrants 1 and 2 under 2030 total conditions.

The modified intersection was analyzed with an exclusive left turn lane and two through lanes with a shared right turn lane in the eastbound direction, dual left-turn lanes and two through lanes with a shared

right turn lane in the westbound direction, exclusive left turn, through, and right turn lane with overlap signal phasing in the northbound direction, and a shared left/through/right turn lane in the southbound direction for both the 2025 existing and 2030 total conditions.

The intersection is expected to operate at an overall level of service “B” during both peak hours under 2025 existing conditions. Under 2030 total conditions the intersection is expected to operate at level of service “C” during both peak hours, with the improvements.

Under the modified condition, the improvements made were the addition of westbound dual left turn lanes and an exclusive northbound right turn lane operating an overlap signal phasing. The reported results reflect these modifications.

Safety (Yukon Avenue Signalization)

The baseline condition is unsignalized. The CMF reported in the HSM for converting a stop-controlled intersection to signal control is 0.56 with a standard error of 0.03 for all collision types, 0.23 for right-angle collisions with a standard error of 0.02, 0.40 for left turn collisions with a standard error of 0.06, and 1.58 for rear-end collisions with a standard error of 0.2.

The signalized intersection has 32 total conflict points. Collisions at the existing unsignalized intersection are assumed to predominantly be attributed to turning vehicles. Based on the projected CMF’s for this intersection these collisions are expected be reduced when the intersection is signalized.

Vulnerable Road Users (Yukon Avenue Signalization)

With the signalized alternative, it is recommended that pedestrian facilities be installed at this location. That includes marked crosswalks across all approaches as well as pedestrian pushbuttons and signal heads. Although it is unlikely that this intersection will experience a large volume of pedestrian or bicyclist activity considering the posted roadway speeds and land uses in this area, these additions would improve safety for pedestrians and bicyclists. However, it should be noted that if geometric improvements at the intersection are made (such as additional lanes) it would increase the pedestrian crossing distance at the approaches which would negatively impact safety of vulnerable road users. Based on the posted speed, no bicycle facilities are recommended.

Right-of-Way and Cost (Yukon Avenue Signalization)

Some additional right-of-way may be required but it is expected to be minimal. If additional right turn lanes are determined to be constructed on the eastbound and westbound approaches the right of way impacts would be more significant. There is residential on the north side of W. 151st Street S. and drainage on both sides that will need to be considered.

The cost of signalization of the intersection with modifications would be comparable to the construction of a roundabout. The recommended geometric improvements could require additional right-of-way. The recurring maintenance cost would be moderate compared to the low recurring maintenance cost of a roundabout.

Environmental (Yukon Avenue Signalization)

There are no known environmental impacts or studies required for this project.

4.3 US 75 SOUTHBOUND RAMPS

The results of the capacity analyses conducted are summarized in **Table 8** and the data sheets have been included in the appendix.

4.3.1 SB Ramps No Build

Operations (SB Ramps No Build)

The 2025 existing capacity analysis indicates the intersection has good operations in the eastbound and westbound directions, but the southbound approach operates at a level of service “F” during both peak hours. Under the 2030 Total conditions, delay and queues on the southbound leg increase and delay on the southbound approach exceed 300 seconds per vehicle.

Safety (SB Ramps No Build)

The baseline condition is unsignalized with southbound stop control. There are not expected to be any modifications of the current safety at the intersection under the no build scenario.

TABLE 8
Operational Analysis - Existing / Roundabout / Signal Existing / Signal Modified
W. 151st Street S. & SB Ramps

Peak	Approach	2025					2030 Total				
		LOS	Delay (sec/veh)	Delay (veh-hr)	Queue (veh)	Queue (ft)	LOS	Delay (sec/veh)	Delay (veh-hr)	Queue (veh)	Queue (ft)
Existing One-Way NB/SB Stop											
AM	EB	A	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0
	WB	A	4.5	0.9	2.0	50.0	A	5.4	1.4	2.9	72.5
	NB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	SB	F	*	*	44.0	1100.0	F	*	*	44.9	1122.5
	Overall	-	319.8	157.7	-	-	-	369.8	246.0	-	-
PM	EB	A	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0
	WB	A	6.9	1.3	3.0	75.0	B	17.1	4.4	8.3	207.5
	NB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	SB	F	*	*	32.5	812.5	F	*	*	54.6	1365.0
	Overall		167.8	88.1	-	-		1214.5	977.0	-	-
Roundabout											
AM	EB	A	8.6	1.8	2.3	57.5	B	13.6	4.1	5.2	130.0
	WB	A	5.2	1.1	1.4	35.0	A	6.0	1.6	1.9	47.5
	NB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	SB	B	13.2	1.0	2.6	65.0	D	30.8	3.3	7.2	180.0
	Overall	A	7.9	3.9	-	-	B	13.4	8.9	-	-
PM	EB	A	8.8	2.4	2.8	70.0	C	20.3	8.7	10.3	257.5
	WB	A	5.0	1.0	1.2	30.0	A	6.0	1.6	1.9	47.5
	NB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	SB	A	9.9	0.6	1.7	42.5	D	32.6	3.7	8.0	200.0
	Overall	A	7.5	3.9	-	-	C	17.4	14.0	-	-
Signalized Existing											
AM	EB	E	61.7	12.8	8.5	213.0	C	20.8	6.2	4.1	103.0
	WB	A	2.7	0.6	0.1	3.0	A	0.8	0.2	0.1	2.0
	NB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	SB	C	26.2	2.0	4.3	107.0	F	80.6	8.5	16.0	400.0
	Overall	C	31.1	15.3	-	-	C	22.5	15.0	-	-
PM	EB	F	84.7	22.8	18.0	450.0	F	91.9	39.5	7.0	176.0
	WB	A	3.3	0.6	0.1	2.0	A	2.8	0.7	0.1	2.0
	NB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	SB	C	25.2	1.6	3.1	78.0	F	112.7	13.0	20.2	506.0
	Overall	D	47.8	25.1	-	-	E	66.1	53.2	-	-
Signalized Modified											
AM	EB	D	38.0	7.9	5.9	147.0	B	16.8	5.0	2.9	72.0
	WB	A	4.3	0.9	0.0	0.0	A	4.5	1.2	0.0	0.0
	NB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	SB	C	20.6	1.6	4.9	123.0	C	25.7	2.7	6.2	156.0
	Overall	C	21.0	10.4	-	-	B	13.4	8.9	-	-
PM	EB	C	34.7	9.3	9.0	226.0	C	34.4	14.8	14.5	363.0
	WB	A	2.9	0.6	8.8	220.0	A	2.8	0.7	0.0	0.0
	NB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	SB	C	21.4	1.4	3.6	91.0	C	27.0	3.1	4.7	117.0
	Overall	C	21.6	11.3	-	-	C	23.2	18.7	-	-

* - Delay exceeds 300 seconds/veh. Excessive delay created an error in the analysis.

** - Excessive queue. No value presented on the report.

The unsignalized intersection has 24 total conflict points with 12 of those crossing points. There were 98 intersection related collisions at the interchange from 2013 to 2022 at the overall interchange which is an average crash rate of 9.8 crashes per year. Crashes are expected to increase as traffic in the area increases.

Vulnerable Road Users (SB Ramps No Build)

The intersection is currently unsignalized and does not include any pedestrian or bicycle facilities.

Right-of-Way (SB Ramps No Build)

No additional right-of-way will be necessary under this scenario.

Environmental (SB Ramps No Build)

No environmental impacts or studies required for this scenario.

4.3.2 SB Ramps Roundabout

Operations (SB Ramps Roundabout)

The roundabout was initially analyzed as a multi-lane roundabout with two continuous lanes in both the eastbound and westbound directions, a single lane in the southbound direction and no bypass lanes. This resulted in the eastbound right turn operating at a level of service “F” during the 2030 total p.m. peak hour. As a result, an eastbound right turn bypass lane placed on yield was analyzed and those results were reported.

After conversion to a multi lane roundabout with an eastbound right turn bypass lane on yield, the intersection is anticipated to operate at overall levels-of-service “A” during both peak hours under 2025 existing traffic conditions. Under 2030 total traffic conditions, it is predicted to operate at overall levels-of-service “B” during the a.m. peak hour and “C” during the p.m. peak hour.

Safety (SB Ramps Roundabout)

The baseline condition at the intersection is unsignalized. The CMF reported in the HSM for converting an unsignalized intersection into a single or multi-lane roundabout is 0.56 with an adjusted standard error of 0.05 (all severities). For injury collisions, the CMF is 0.18 with a standard error of 0.04.

The number of conflict points associated with roundabouts are significantly less than traditional intersection designs. The multilane roundabout configuration recommended in this alternative would have a total of up to 12 conflict points (merge, diverge, and crossing). This is less than the number of conflict points present in the unsignalized alternative, thereby decreasing the number of collisions expected.

Collisions at the existing unsignalized intersection are predominantly rear-end and turning vehicles. Based on the projected CMF's for this intersection these collisions are expected to be reduced both in number and severity if the intersection is converted to a multi-lane roundabout.

Vulnerable Road Users (SB Ramps Roundabout)

The intersection is currently unsignalized and does not include any pedestrian or bicycle facilities. With the roundabout alternative, it is recommended that pedestrian facilities be installed. That includes marked crosswalks and signage across all approaches. Since the design of roundabouts lowers the speed of entering vehicles to between 20 and 25 mph which continues until they exit the roundabout, a collision involving a vulnerable road user would involve an impact with a much slower vehicle than would be experienced at a signalized intersection and is less likely to result in a fatality. Additionally, pedestrians have the right-of-way at roundabouts when they enter a marked crosswalk, unlike at signalized intersections where pedestrians do not have the right-of-way until they are allowed to legally cross via the pedestrian signal head indication. It is also unlikely that this intersection would experience a large volume of bicyclist activity; and no bicycle facilities are recommended.

Right-of-Way and Cost (SB Ramps Roundabout)

Additional right-of-way may be required for the size roundabout that will be necessary to accommodate the multiple lanes and truck traffic through the intersection. There are visible utilities on the north side of W. 151st Street S. and a pond in the southwest quadrant which will both need to be considered in the design. It is likely this design may require additional right of way.

The cost of a multilane roundabout will be high, and very dependent on the drainage and need for additional right of way. The recurring maintenance cost is minimal.

Environmental (Roundabout)

There are no known environmental impacts or studies required for this project.

4.3.3 SB Ramps Signalization

Operations (SB Ramps Signalization)

Traffic signal warrants were analyzed for the intersection. The print-outs can be found in the appendix. The intersection passed Warrants 1 and 2 under 2025 existing conditions.

The intersection was initially analyzed based on existing configuration (Signalized Existing). The results of the analysis indicated the intersection would operate at levels of service “C” and “D” during the a.m. and p.m. peak hours under 2025 existing conditions, respectively. Under 2030 total conditions, the intersection is expected to operate at overall levels of service “C” and “E” during the a.m. and p.m. peak hours, respectively.

The analysis results indicate a slight improvement in the amount of overall delay when comparing the a.m. peak hour between the 2025 and 2030 traffic conditions even with the increase in traffic. This is as a result of the traffic progression along the corridor. The optimized corridor cycle length was 80 seconds in 2025 and 90 seconds in 2030. This increase resulted in better overall corridor progression. In particular, in the eastbound direction, improving the delay on the eastbound approach and overall intersection delay.

To improve operations, some modifications were made to the intersection which include the extension of an eastbound storage lane for the eastbound left turn at the northbound ramp intersection (additional pavement), an eastbound right-turn lane, adding a southbound left turn lane, and removing the channelization of the southbound right turn. The results are under the “Signalized Modified” portion of the table.

Under the 2025 signalized modified conditions the signalized intersection was shown to operate at overall levels of service “C” during both peak hours. Under the 2030 total conditions the intersection was shown to operate at overall levels of service “B” and “C” during the a.m. and p.m. peak hours, respectively.

Safety (SB Ramps Signalization)

The baseline condition is unsignalized. The CMF reported in the HSM for converting a stop-controlled intersection to signal control is 0.56 with a standard error of 0.03 for all collision types, 0.23 for right-angle collisions with a standard error of 0.02, 0.40 for left turn collisions with a standard error of 0.06, and 1.58 for rear-end collisions with a standard error of 0.2.

The signalized intersection has 32 total conflict points. Collisions at the existing unsignalized intersection are predominantly attributed to rear-end and turning vehicles. Based on the projected CMF's for this intersection the overall collisions are expected to be reduced when the intersection is signalized.

Vulnerable Road Users (SB Ramps Signalization)

With the signalized alternative, it is recommended that pedestrian facilities be installed at this location. That includes marked crosswalks across all approaches as well as pedestrian pushbuttons and signal heads. Although it is unlikely that this intersection will experience a large volume of pedestrian or bicyclist activity considering the posted roadway speeds and land uses in this area, these additions would improve safety for pedestrians and bicyclists. However, it should be noted that the geometric improvements at the intersection would also increase the pedestrian crossing distance at the approaches which would negatively impact safety of vulnerable road users. Based on the posted speed, no bicycle facilities are recommended.

Right-of-Way and Cost (SB Ramps Signalization)

Some additional right-of-way may be required but it is expected to be minimal. Widening for the eastbound right turn lane may be problematic with the pond located in the southwest quadrant of the intersection.

The cost of signalization of the intersection would be relatively low compared to a roundabout, without the cost of acquiring additional right-of-way or the additional cost of constructing turn-lanes. The additional lanes and construction necessary for the modified signal would make the cost of this intersection moderate comparable to a roundabout. The recurring costs would be moderate when compared to the low recurring costs of a roundabout.

Environmental (SB Ramps Signalization)

There are no known environmental impacts or studies required for this project.

4.4 US 75 NORTHBOUND RAMPS

The results of the capacity analyses conducted are summarized in **Table 9** and the data sheets have been included in the appendix.

4.4.1 NB Ramps No Build

Operations (NB Ramps No Build)

The 2025 existing capacity analysis indicates the intersection has good operations in the eastbound and westbound directions, but the northbound approach operates at a level of service “E” during the a.m. peak hour. Under the 2030 Total conditions, delay and queues on the northbound leg increase exceed 300 seconds per vehicle.

Safety (NB Ramps No Build)

The baseline condition is unsignalized with northbound stop control. There are not expected to be any modifications of the current safety at the intersection under the no build scenario.

The unsignalized intersection has 24 total conflict points with 12 of those crossing points. There were 98 collisions reported from 2013 to 2022 at the overall interchange which is an average crash rate of 9.8 crashes per year. Crashes are expected to increase as traffic in the area increases.

Vulnerable Road Users (NB Ramps No Build)

The intersection is currently unsignalized and does not include any pedestrian or bicycle facilities.

Right-of-Way (NB Ramps No Build)

No additional right-of-way will be necessary under this scenario.

Environmental (NB Ramps No Build)

No environmental impacts or studies required for this scenario.

TABLE 9

Operational Analysis - Existing / Roundabout / Signal Existing / Signal Modified
W. 151st Street S. & NB Ramps

Peak	Approach	2025					2030 Total				
		LOS	Delay (sec/veh)	Delay (veh-hr)	Queue (veh)	Queue (ft)	LOS	Delay (sec/veh)	Delay (veh-hr)	Queue (veh)	Queue (ft)
Existing One-Way NB/SB Stop											
AM	EB	A	1.6	0.4	0.7	17.5	A	2.9	0.9	1.7	42.5
	WB	A	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0
	NB	E	48.9	4.6	10.0	250.0	F	*	*	41.0	1025.0
	SB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	Overall	-	9.2	5.4	-	-	-	154.2	114.8	-	-
PM	EB	A	1.1	0.3	0.4	10.0	A	4.3	1.7	3.4	85.0
	WB	A	0.0	0.0	0.0	0.0	A	0.0	0.0	0.0	0.0
	NB	C	24.9	2.4	5.9	147.5	F	*	*	56.8	1420.0
	SB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	Overall	-	5.0	2.9	-	-	-	586.9	475.4	-	-
Roundabout											
AM	EB	A	5.6	1.3	1.6	40.0	A	7.3	2.3	2.8	70.0
	WB	A	7.9	2.1	2.6	65.0	B	14.5	4.5	5.9	147.5
	NB	B	13.9	1.3	3.0	75.0	C	24.0	2.8	5.6	140.0
	SB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	Overall	A	8.0	4.7	-	-	B	12.9	9.6	-	-
PM	EB	A	5.8	1.5	1.8	45.0	A	8.7	3.4	4.1	102.5
	WB	A	7.0	1.6	2.0	50.0	C	18.0	5.2	6.8	170.0
	NB	C	15.8	1.5	3.5	87.5	E	36.5	4.7	8.2	205.0
	SB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	Overall	A	7.9	4.6	-	-	C	16.4	13.3	-	-
Signalized Existing											
AM	EB	A	4.1	0.9	0.3	8.0	A	1.8	0.6	0.3	8.0
	WB	C	27.8	7.3	13.0	326.0	D	51.7	16.2	20.7	518.0
	NB	C	27.7	2.6	7.3	182.0	F	86.8	10.1	26.8	671.0
	SB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	Overall	B	18.6	10.9	-	-	D	36.1	26.9	-	-
PM	EB	A	3.4	0.9	0.3	8.0	A	0.9	0.4	0.2	5.0
	WB	E	62.8	14.4	13.0	326.0	F	105.5	30.3	24.3	607.0
	NB	C	28.2	2.7	7.3	182.0	F	190.0	24.2	26.0	649.0
	SB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	Overall	C	31.1	18.0	-	-	E	67.8	54.9	-	-
Signalized Modified											
AM	EB	A	3.9	0.9	9.2	231.0	A	3.5	1.1	0.0	0.0
	WB	C	22.4	5.9	3.6	90.0	B	19.2	6.0	5.9	147.0
	NB	C	21.3	2.0	6.1	152.0	C	28.0	3.3	10.4	260.0
	SB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	Overall	B	15.0	8.8	-	-	B	14.0	10.4	-	-
PM	EB	A	3.2	0.8	10.0	250.0	A	2.7	1.1	0.0	0.0
	WB	B	19.4	4.4	3.5	88.0	D	54.6	15.7	10.8	269.0
	NB	C	23.3	2.2	5.3	133.0	C	32.2	4.1	9.2	231.0
	SB	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0
	Overall	B	13.0	7.5	-	-	C	25.8	20.9	-	-

* - Delay exceeds 300 seconds/veh. Excessive delay created an error in the analysis.

4.4.2 NB Ramps Roundabout

Operations (NB Ramps Roundabout)

The roundabout was initially analyzed as a multi-lane roundabout with two continuous lanes in both the eastbound and westbound directions, a single lane in the northbound direction and no bypass lanes. This resulted in the northbound right turn operating at a level of service “F” during the 2030 total p.m. peak hour. As a result, a northbound right turn bypass lane placed on yield was analyzed and those results were reported.

After conversion to a multi lane roundabout with northbound right turn bypass lane on yield, the intersection is anticipated to operate at overall levels-of-service “A” during both peak hours under 2025 existing traffic conditions. Under 2030 total traffic conditions, it is predicted to operate at overall levels-of-service “B” during the a.m. peak hour and “C” during the p.m. peak hour. The northbound right turn movement is still shown to operate at a level of service “E” however the volume to capacity ratio (v/c) is reported to be 0.84 which is reasonable.

Safety (NB Ramps Roundabout)

The baseline condition at the intersection is unsignalized. The CMF reported in the HSM for converting an unsignalized intersection into a single or multi-lane roundabout is 0.56 with an adjusted standard error of 0.05 (all severities). For injury collisions, the CMF is 0.18 with a standard error of 0.04.

The number of conflict points associated with roundabouts are significantly less than traditional intersection designs. The multilane roundabout configuration recommended in this alternative would have a total of up to 12 conflict points (merge, diverge, and crossing). This is less than the number of conflict points present in the unsignalized alternative, thereby decreasing the number of collisions expected.

Collisions at the existing unsignalized intersection are predominantly rear-end and turning vehicles. Based on the projected CMF’s for this intersection these collisions are expected to be reduced both in number and severity if the intersection is converted to a multi-lane roundabout.

Vulnerable Road Users (NB Ramps Roundabout)

The intersection is currently unsignalized and does not include any pedestrian or bicycle facilities. With the roundabout alternative, it is recommended that pedestrian facilities be installed. That includes marked crosswalks and signage across all approaches. Since the design of roundabouts lowers the speed of entering vehicles to between 20 and 25 mph which continues until they exit the roundabout, a collision involving a vulnerable road user would involve an impact with a much slower vehicle than would be experienced at a signalized intersection and is less likely to result in a fatality. Additionally, pedestrians have the right-of-way at roundabouts when they enter a marked crosswalk, unlike at signalized intersections where pedestrians do not have the right-of-way until they are allowed to legally cross via the pedestrian signal head indication. It is also unlikely that this intersection would experience a large volume of bicyclist activity; and no bicycle facilities are recommended.

Right-of-Way and Cost (NB Ramps Roundabout)

Additional right-of-way may be required for the size roundabout that will be necessary to accommodate the multiple lanes and truck traffic through the intersection. There are visible utilities on the north side of W. 151st Street S. and some drainage structures in the southeast quadrant which will both need to be considered in the design. It is likely this design may require additional right of way.

The cost of a multilane roundabout will be high, and very dependent on the drainage and need for additional right of way. The recurring maintenance cost is minimal.

Environmental (Roundabout)

There are no known environmental impacts or studies required for this project.

4.4.3 NB Ramps Signalization

Operations (NB Ramps Signalization)

Traffic signal warrants were analyzed for the intersection. The print-outs can be found in the appendix. The intersection passed Warrants 1, 2, and 3 under 2025 existing conditions.

The intersection was initially analyzed based on existing configuration (Signalized Existing). The results of the analysis indicated the intersection would operate at levels of service “B” and “C” during the a.m. and p.m. peak hours under 2025 existing conditions, respectively. Under 2030 total conditions, the

intersection is expected to operate at overall levels of service “D” and “E” during the a.m. and p.m. peak hours, respectively.

To improve operations, some modifications were made to the intersection which include the extension of a westbound storage lane (additional pavement) for the westbound left turn at the southbound ramp intersection, a westbound right-turn lane, addition of a northbound left turn lane and removing the channelization of the northbound right turn. The results are under the “Signalized Modified” portion of the table.

Under the 2025 signalized modified conditions the intersection was shown to operate at overall levels of service “B” during both peak hours. Under the 2030 total conditions the intersection was shown to operate at overall levels of service “B” and “C” during the a.m. and p.m. peak hours, respectively.

Safety (NB Ramps Signalization)

The baseline condition is unsignalized. The CMF reported in the HSM for converting a stop-controlled intersection to signal control is 0.56 with a standard error of 0.03 for all collision types, 0.23 for right-angle collisions with a standard error of 0.02, 0.40 for left turn collisions with a standard error of 0.06, and 1.58 for rear-end collisions with a standard error of 0.2.

The signalized intersection has 32 total conflict points. Collisions at the existing unsignalized intersection are predominantly attributed to rear-end and turning vehicles. Based on the projected CMF’s for this intersection the overall collisions are expected to be reduced when the intersection is signalized.

Vulnerable Road Users (NB Ramps Signalization)

With the signalized alternative, it is recommended that pedestrian facilities be installed at this location. That includes marked crosswalks across all approaches as well as pedestrian pushbuttons and signal heads. Although it is unlikely that this intersection will experience a large volume of pedestrian or bicyclist activity considering the posted roadway speeds and land uses in this area, these additions would improve safety for pedestrians and bicyclists. However, it should be noted that the geometric improvements at the intersection would also increase the pedestrian crossing distance at the approaches which would negatively impact safety of vulnerable road users. Based on the posted speed, no bicycle facilities are recommended.

Right-of-Way and Cost (NB Ramps Signalization)

Some additional right-of-way may be required but it is expected to be minimal. Widening for the westbound right turn lane may require some additional right of way.

The cost of signalization of the intersection would be relatively low compared to a roundabout, without the cost of acquiring additional right-of-way or the additional cost of constructing turn-lanes. The additional lanes and construction necessary for the modified signal would make the cost of this intersection moderate comparable to a roundabout. The recurring costs would be moderate when compared to the low recurring costs of a roundabout.

Environmental (NB Ramps Signalization)

There are no known environmental impacts or studies required for this project.

4.5 BROADWAY STREET

The results of the capacity analyses conducted are summarized in **Table 10** and the data sheets have been included in the appendix.

4.5.1 Broadway Street No Build

Operations (Broadway Street No Build)

The 2025 existing capacity analysis indicates the intersection has good operations in the eastbound and westbound directions, but the northbound and southbound approaches operate at levels of service “F” for at least one peak hour of the day. Under the 2030 Total conditions, delay and queues on the northbound leg exceed 300 seconds per vehicle.

Safety (Broadway Street No Build)

The baseline condition is unsignalized with northbound and southbound stop control. There are not expected to be any modifications of the current safety at the intersection under the no build scenario.

The unsignalized intersection has 32 total conflict points with 16 of those crossing points. There were 4 collisions reported from 2013 to 2022 which is an average crash rate of 0.4 crashes per year. Crashes are expected to increase as traffic in the area increases.

TABLE 10

Operational Analysis - Existing / Roundabout / Signal Existing / Signal Modified
W. 151st Street S. & Broadway Street

Peak	Approach	2025					2030 Total				
		LOS	Delay (sec/veh)	Delay (veh-hr)	Queue (veh)	Queue (ft)	LOS	Delay (sec/veh)	Delay (veh-hr)	Queue (veh)	Queue (ft)
Existing One-Way NB/SB Stop											
AM	EB	B	3.5	1.0	2.5	62.0	B	3.2	1.1	2.2	55.0
	WB	B	0.5	0.1	0.2	5.0	B	0.4	0.1	0.2	5.0
	NB	F	*	*	**	**	F	*	*	**	**
	SB	F	59.2	2.1	8.6	214.0	E	38.5	1.9	6.3	157.5
	Overall	-	200.7	107.6	-	-	-	233.2	165.2	-	-
PM	EB	A	1.6	0.4	0.7	17.0	B	1.4	0.5	1.0	24.0
	WB	A	0.4	0.1	0.1	3.0	B	0.3	0.1	0.1	3.0
	NB	F	64.5	0.9	2.2	56.0	F	821.9	16.4	7.5	187.0
	SB	C	21.5	1.3	1.9	48.0	E	38.1	3.2	4.1	103.0
	Overall	-	5.9	3.0	-	-	-	29.2	21.3	-	-
Roundabout											
AM	EB	A	6.9	1.9	2.3	57.5	A	8.4	2.8	3.4	85.0
	WB	A	7.6	1.6	2.1	52.5	B	11.3	3.4	4.4	110.0
	NB	A	7.8	0.1	0.4	10.0	B	10.8	0.3	0.8	20.0
	SB	A	7.3	0.3	0.7	17.5	B	12.6	0.6	1.7	42.5
	Overall	A	7.2	3.9	-	-	A	10.0	7.1	-	-
PM	EB	A	6.5	1.7	2.1	52.5	A	9.7	3.7	4.5	112.5
	WB	A	5.9	1.0	1.4	35.0	A	7.8	1.9	2.4	60.0
	NB	A	7.3	0.1	0.3	7.5	B	12.4	0.2	0.7	17.5
	SB	A	7.8	0.5	1.3	32.5	B	13.9	1.2	2.9	72.5
	Overall	A	6.5	3.3	-	-	A	9.6	7.0	-	-
Signalized Existing											
AM	EB	C	22.0	6.1	8.8	220.0	C	22.8	7.6	9.7	242.0
	WB	C	24.4	5.1	11.1	278.0	C	27.6	8.2	19.3	483.0
	NB	D	44.0	0.7	2.1	52.0	E	61.4	1.5	1.9	47.0
	SB	D	41.1	1.5	1.4	36.0	F	83.3	4.2	0.9	22.0
	Overall	C	24.9	13.3	-	-	C	30.7	21.8	-	-
PM	EB	B	18.4	4.8	6.6	165.0	C	21.2	8.0	22.0	550.0
	WB	B	19.0	3.3	8.5	213.0	C	22.8	5.6	15.8	396.0
	NB	D	46.2	0.6	2.0	51.0	E	68.8	1.4	3.8	94.0
	SB	D	43.7	2.7	2.8	71.0	F	93.0	7.8	4.8	121.0
	Overall	C	21.9	11.2	-	-	C	31.7	23.1	-	-
Signalized Modified											
AM	EB	C	22.5	6.2	9.3	233.0	C	25.4	8.5	13.0	324.0
	WB	C	26.5	5.5	12.1	303.0	C	31.8	9.5	18.1	452.0
	NB	C	25.3	0.4	1.3	32.0	C	29.9	0.7	2.1	53.0
	SB	C	31.1	1.1	0.9	22.0	D	43.7	2.2	2.2	55.0
	Overall	C	24.7	13.2	-	-	C	29.6	21.0	-	-
PM	EB	B	18.4	4.8	5.5	137.0	C	20.6	7.8	18.3	457.0
	WB	C	20.6	3.6	8.6	214.0	C	23.2	5.7	12.3	308.0
	NB	C	25.3	0.4	1.2	31.0	C	30.0	0.6	2.0	50.0
	SB	C	28.7	1.8	1.8	44.0	E	56.0	4.7	2.6	66.0
	Overall	C	20.3	10.4	-	-	C	26.0	18.9	-	-

* - Delay exceeds 300 seconds/veh. Excessive delay created an error in the analysis.

** - Excessive queue. No value presented on the report.

Vulnerable Road Users (Broadway Street No Build)

The intersection is currently unsignalized and does not include any pedestrian or bicycle facilities.

Right-of-Way (Broadway Street No Build)

No additional right-of-way will be necessary under this scenario.

Environmental (Broadway Street No Build)

No environmental impacts or studies required for this scenario.

4.5.2 Broadway Street Roundabout

Operations (Broadway Street Roundabout)

The roundabout was initially analyzed as a multi-lane roundabout with two continuous lanes in both the eastbound and westbound directions and single lanes in the northbound and southbound directions and no bypass lanes. The intersection is anticipated to operate at overall levels-of-service “A” during both peak hours under 2025 existing traffic conditions. Under 2030 total traffic conditions, it is predicted to also operate at overall levels-of-service “A” during the both peak hours.

Safety (Broadway Street Roundabout)

The baseline condition at the intersection is unsignalized. The CMF reported in the HSM for converting an unsignalized intersection into a single or multi-lane roundabout is 0.56 with an adjusted standard error of 0.05 (all severities). For injury collisions, the CMF is 0.18 with a standard error of 0.04.

The number of conflict points associated with roundabouts are significantly less than traditional intersection designs. The multilane roundabout configuration recommended in this alternative would have a total of up to 24 conflict points (merge, diverge, and crossing). This is less than the number of conflict points present in the unsignalized alternative, thereby decreasing the number of collisions expected.

Collisions at the existing unsignalized intersection are predominantly rear-end and turning vehicles. Based on the projected CMF’s for this intersection these collisions are expected to be reduced both in number and severity if the intersection is converted to a multi-lane roundabout.

Vulnerable Road Users (Broadway Street Roundabout)

With the signalized alternative, it is recommended that pedestrian facilities be installed at this location. That includes marked crosswalks across all approaches as well as pedestrian pushbuttons and signal heads. Although it is unlikely that this intersection will experience a large volume of pedestrian or bicyclist activity considering the posted roadway speeds and land uses in this area, these additions would improve safety for pedestrians and bicyclists. However, it should be noted that if geometric improvements at the intersection are made (such as additional lanes) it would increase the pedestrian crossing distance at the approaches which would negatively impact safety of vulnerable road users.

Right-of-Way and Cost (Broadway Street Roundabout)

Additional right-of-way may be required for the size roundabout that will be necessary to accommodate the multiple lanes and truck traffic through the intersection. There are visible utilities on the north side of W. 151st Street S. and some drainage structures on the south side which will both need to be considered in the design. It is likely this design may require additional right of way.

The cost of a multilane roundabout will be high, and very dependent on the drainage and need for additional right of way. The recurring maintenance cost is minimal.

Environmental (Broadway Street Roundabout)

There are no known environmental impacts or studies required for this project.

4.5.3 Broadway Street Signalization

Operations (Broadway Street Signalization)

Traffic signal warrants were analyzed for the intersection. The print-outs can be found in the appendix. The intersection passed Warrants 1 and 2 under 2025 existing conditions.

The intersection was initially analyzed based on existing configuration (Signalized Existing). The results of the analysis indicated the intersection would operate at levels of service "C" during both peak hours under 2025 existing conditions. Under 2030 total conditions, the intersection is expected to operate at overall levels of service "C" during both peak hours.

Under the modified condition, there were no geometric improvements necessary at this intersection. The improved reported results are as a result in improved traffic progression from geometric improvements made at the other intersections along the corridor.

Safety (Broadway Street Signalization)

The baseline condition is unsignalized. The CMF reported in the HSM for converting a stop-controlled intersection to signal control is 0.56 with a standard error of 0.03 for all collision types, 0.23 for right-angle collisions with a standard error of 0.02, 0.40 for left turn collisions with a standard error of 0.06, and 1.58 for rear-end collisions with a standard error of 0.2.

The signalized intersection has 32 total conflict points. Collisions at the existing unsignalized intersection are predominantly attributed to rear-end and turning vehicles. Based on the projected CMF's for this intersection these collisions are expected to be reduced when the intersection is signalized.

Vulnerable Road Users (Broadway Street Signalization)

With the signalized alternative, it is recommended that pedestrian facilities be installed at this location. That includes marked crosswalks across all approaches as well as pedestrian pushbuttons and signal heads. Although it is unlikely that this intersection will experience a large volume of pedestrian or bicyclist activity considering the posted roadway speeds and land uses in this area, these additions would improve safety for pedestrians and bicyclists. Based on the posted speed, no bicycle facilities are recommended.

Right-of-Way (Broadway Street Signalization)

No additional right-of-way is anticipated to be necessary. The cost of signalization of the intersection would be relatively low compared to a roundabout, without the cost of acquiring additional right-of-way or the additional cost of constructing turn-lanes. The recurring costs would be moderate when compared to the low recurring costs of a roundabout.

Environmental (Broadway Street Signalization)

There are no known environmental impacts or studies required for this project.

5.0 SUMMARY

5.1 COMPARISON

A summary matrices of the evaluated alternatives is provided in **Table 11**.

5.2 DISCUSSION

Each intersection was analyzed as either signalized or roundabout. Each intersection is anticipated to operate with acceptable levels of service under the roundabout condition but both interchange intersections had poor levels of service without additional geometric modifications.

Under the signalized scenario, some roadway improvements will be necessary at the Yukon Avenue intersection. Based on the projected traffic from the proposed Glenpool Crossing there will be heavy volumes on both the westbound left and northbound right turn movements. As a result, the westbound left will need to be dual lanes and the northbound right will need an exclusive lane operating on an overlap signal phase with the westbound left. The addition of these improvements bring the overall intersection from a level of service “F” under the existing configuration to a “C” under the modified configuration.

Some roadway improvements will also be necessary at the signalized interchange. The improvements include eastbound and westbound right-turn lanes, extension of the eastbound and westbound left turn lanes outside the interchange to provide storage for the left-turn queues. On each ramp, the channelized right turn lanes will need to be removed and exclusive left turn lanes will need to be added.

No additional geometric improvements were necessary for good levels of service at the Broadway Street intersection, other than signalization however, the Casper Street/E. 150th Place S./W. 149th Street S. intersection is located approximately 100 feet to the north of the W. 151st Street intersection. The intersection is currently a stop controlled intersection in the eastbound, westbound, and southbound approaches allowing traffic coming from the W. 151st Street S. intersection free movements. The location and control at the intersection is problematic from both a safety and operational standpoint. Additionally, there is a potential for queuing to spill back into the intersection from the W. 151st Street S. intersection.

Though studying this intersection is not within the scope of this analysis, additional analysis of the intersection should be conducted once an alternative for the W. 151st Street S. intersection is chosen. Potential improvements to be studied include (but are not limited to):

- Conversion of the intersection to a two-way eastbound and westbound stop control.
- Elimination of the S. Casper Street W. leg.
- Relocation of the S. Casper Street W. connection to a location further north on W. 149th Street S.

Under the roundabout scenario, each roundabout was analyzed with 2 continuous lanes in the eastbound and westbound directions and a single lane in the northbound and southbound directions. The following right turn yielding bypass lanes will be necessary:

- Yukon Avenue – NB
- SB Ramps – EB
- NB Ramps – WB

The roundabout condition at the Yukon Avenue intersection still resulted in a northbound approach operating at a level of service “F” with the northbound yielding bypass in place. If the construction budget allows, it would be recommended to add an additional lane in the eastbound direction between the Yukon Avenue and SB Ramps intersections so that the northbound right turn at Yukon Avenue is free and the lane ends as the eastbound right turn lane at the SB Ramp intersection.

Intersection spacing between the interchange and outside intersections (Yukon Avenue and Broadway Street) is approximately 900 feet. This spacing is not ideal for sequential traffic signals and progression. Both the signalization and roundabout scenarios resulted in good queue lengths that are not expected to spill back to upstream intersections.

Both interchange intersections are anticipated to operate similarly when both intersections are signalized versus both intersections are roundabouts. Both outside intersections (Yukon Avenue and Broadway Street) are anticipated to operate better as roundabouts than as signalized.

TABLE 11 - SUMMARY MATRIX

W. 151st St. S. & Yukon Avenue					
Metrics		Alternatives			
		Existing	Multi-Lane Roundabout	Signal	Signal Modified
Design Year 2030	Overall Delay (veh-h) ¹	969.8	31.0	93.4	37.8
	Critical Approach ² LOS/Delay (s/veh)	SB - F / *	NB - F / 126.7	SB - F / *	EB - D / 42.2
Collisions	Total Expected				
	Reduction (%)	0%	44%	44%	44%
	Injury Reduction (%)	N/A	82%	N/A	N/A
	Conflict Points	32	24	32	32
Pedestrian/Bicycle Accessibility Impacts		None	Improved	Improved	Improved
Right-of-Way Needs/Impacts		None	Moderate	Minor	Moderate
Cost	Initial (relative)	None	High	Low	High
	Recurring Maintenance	Low	Low	Moderate	Moderate
W. 151st St. S. & SB Ramps					
Metrics		Alternatives			
		Existing	Multi-Lane Roundabout	Signal	Signal Modified
Design Year 2030	Overall Delay (veh-h) ¹	1223.0	22.9	68.2	27.6
	Critical Approach ² LOS/Delay (s/veh)	SB - F / *	SB - D / 32.6	SB - F / 112.7	SB - C / 27.0
Collisions	Total Expected				
	Reduction (%)	0%	44%	44%	44%
	Injury Reduction (%)	N/A	82%	N/A	N/A
	Conflict Points	32	12	32	32
Pedestrian/Bicycle Accessibility Impacts		None	Improved	Improved	Improved
Right-of-Way Needs/Impacts		None	Medium	Minor	Minor
Cost	Initial (relative)	None	High	Low	Moderate
	Recurring Maintenance	Low	Low	Moderate	Moderate
W. 151st St. S. & NB Ramps					
Metrics		Alternatives			
		Existing	Multi-Lane Roundabout	Signal	Signal Modified
Design Year 2030	Overall Delay (veh-h) ¹	590.2	22.9	81.8	31.3
	Critical Approach ² LOS/Delay (s/veh)	NB - F / *	NB - E / 36.5	NB - F / 190.0	WB - D / 54.6
Collisions	Total Expected				
	Reduction (%)	0%	44%	44%	44%
	Injury Reduction (%)	N/A	82%	N/A	N/A
	Conflict Points	32	12	32	32
Pedestrian/Bicycle Accessibility Impacts		None	Improved	Improved	Improved
Right-of-Way Needs/Impacts		None	Medium	Minor	Minor
Cost	Initial (relative)	None	High	Low	Moderate
	Recurring Maintenance	Low	Low	Moderate	Moderate
W. 151st St. S. & Broadway Street					
Metrics		Alternatives			
		Existing	Multi-Lane Roundabout	Signal	Signal Modified
Design Year 2030	Overall Delay (veh-h) ¹	186.5	14.1	44.9	39.9
	Critical Approach ² LOS/Delay (s/veh)	NB - F / 821.9	SB - B / 13.9	SB - F / 93.0	SB - E / 56.0
Collisions	Total Expected				
	Reduction (%)	0%	44%	44%	44%
	Injury Reduction (%)	N/A	82%	N/A	N/A
	Conflict Points	32	24	32	32
Pedestrian/Bicycle Accessibility Impacts		None	Improved	Improved	Improved
Right-of-Way Needs/Impacts		None	Medium	Minor	Minor
Cost	Initial (relative)	None	High	Low	Moderate
	Recurring Maintenance	Low	Low	Moderate	Moderate

¹ Combined AM and PM Peak Hours.

² EBL=Eastbound Left, etc.

* - Model Error. No Delay Reported.

5.3 RECOMMENDATION

Based on the results of this evaluation, both the signalized and roundabout alternatives are feasible options for all the intersections. Due to the close spacing of the two intersections on either side of the interchange, signalization of all four intersections is not recommended. Roundabouts at both the Yukon Avenue and Broadway Street intersections are expected to operate better than signalizing the intersections.

Roundabouts at all four intersections are shown to operate with acceptable levels of service and would maintain continuous flow along the corridor. Constructing four roundabouts could be expensive, require additional right of way, and drainage improvements. Installation of traffic signals with some minor geometric improvements at the interchange would be cheaper than constructing two roundabouts at the interchange intersections. Therefore, it is recommended the interchange be signalized with minor geometric improvements and Yukon Avenue and Broadway Street be constructed at roundabouts. This would maintain continuous flow both towards and away from the interchange and would be cheaper to construct than four roundabouts.

The pros and cons of each alternative are summarized below. These are the same for each intersection analyzed.

Signalized Alternative

Pros

- Capacity of intersection improved over existing conditions.
- Predicted to operate with overall acceptable delay and levels-of-service.
- May be less expensive than the roundabout alternative.
- Minor right-of-way impacts expected.

Cons

- Collision severity may not improve.
- Possible increase of rear-end collisions.
- Requires power, increasing maintenance costs.
- Interrupts flow of eastbound and westbound traffic.

Roundabout Alternatives

Pros

- Multi-lane roundabout predicted to operate with good delay and levels of service.
- Significant improvement to safety predicted; nearly 50% reduction in collisions
- Reduction of conflict points compared to existing and signalized options.
- Maintains traffic flow in the eastbound and westbound directions.
- Low maintenance costs.

Cons

- Expected to be more expensive than the signalized alternative.
- Right-of-way impacts may be necessary.
- Drainage improvements may be necessary

REFERENCES

1. *Highway Safety Manual, 1st Edition*, 2010, Table 14-5: Potential Crash Effects of Converting a Minor-Road Stop Control into an All-Way Stop Control
2. *Highway Safety Manual, 1st Edition*, 2010, Table 14-4: Potential Crash Effects of Converting a Stop-Controlled Intersection into a Modern Roundabout
3. *Highway Safety Manual, 1st Edition*, 2010, Table 14-5: Potential Crash Effects of Converting a Minor-Road Stop Control into an All-Way Stop Control

ATTACHMENT A

EXISTING TRAFFIC DATA

151st St. & 101st St. - TMC

Tue Apr 12, 2022

Full Length (12 AM-12 AM (+1))

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940879, Location: 35.94435, -96.008238



Provided by: Traffic Engineering Consultants, Inc.
6000 S. Western Ave, Suite 300, Oklahoma City, OK, 73139, US

Leg Direction	West Eastbound					East Westbound					South Northbound					North Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2022-04-12 12:00AM	3	8	2	0	13	4	7	0	0	11	2	0	0	0	2	0	1	0	0	1	27
12:15AM	2	8	1	0	11	0	9	2	0	11	3	0	2	0	5	2	0	1	0	3	30
12:30AM	0	9	2	0	11	1	3	0	1	5	1	0	0	0	1	0	0	0	0	0	17
12:45AM	0	5	2	0	7	3	4	0	0	7	3	2	1	0	6	1	1	0	0	2	22
Hourly Total	5	30	7	0	42	8	23	2	1	34	9	2	3	0	14	3	2	1	0	6	96
1:00AM	0	3	0	0	3	1	3	0	0	4	3	0	0	0	3	1	0	0	0	1	11
1:15AM	0	1	2	0	3	2	3	0	0	5	3	0	0	0	3	0	0	1	0	1	12
1:30AM	0	4	0	0	4	0	3	1	0	4	1	0	0	0	1	0	0	1	0	1	10
1:45AM	0	5	3	0	8	2	1	0	0	3	2	0	0	0	2	1	0	0	0	1	14
Hourly Total	0	13	5	0	18	5	10	1	0	16	9	0	0	0	9	2	0	2	0	4	47
2:00AM	0	2	0	0	2	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	6
2:15AM	0	3	1	0	4	1	8	0	0	9	3	0	1	0	4	0	0	0	0	0	17
2:30AM	1	0	1	0	2	0	1	0	0	1	2	0	0	0	2	0	0	0	0	0	5
2:45AM	0	2	1	0	3	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	9
Hourly Total	1	7	3	0	11	2	18	0	0	20	5	0	1	0	6	0	0	0	0	0	37
3:00AM	0	3	3	0	6	1	4	0	0	5	3	0	0	0	3	0	0	0	0	0	14
3:15AM	2	4	0	0	6	1	3	1	0	5	0	0	0	0	0	0	0	0	0	0	11
3:30AM	1	5	3	0	9	0	11	0	0	11	3	1	1	0	5	0	0	0	0	0	25
3:45AM	0	7	2	0	9	0	4	0	0	4	1	0	0	0	1	0	0	0	0	0	14
Hourly Total	3	19	8	0	30	2	22	1	0	25	7	1	1	0	9	0	0	0	0	0	64
4:00AM	0	6	1	0	7	0	7	1	0	8	1	0	0	0	1	0	0	0	0	0	16
4:15AM	1	3	5	0	9	1	6	1	0	8	2	0	0	0	2	0	0	0	0	0	19
4:30AM	0	9	1	0	10	0	10	1	0	11	2	0	0	0	2	1	0	0	0	1	24
4:45AM	2	19	3	0	24	0	15	0	0	15	2	0	1	0	3	0	0	1	0	1	43
Hourly Total	3	37	10	0	50	1	38	3	0	42	7	0	1	0	8	1	0	1	0	2	102
5:00AM	2	23	4	0	29	1	18	3	0	22	3	0	0	0	3	2	0	0	0	2	56
5:15AM	1	34	4	0	39	2	25	3	0	30	3	1	0	0	4	1	0	7	0	8	81
5:30AM	3	39	3	0	45	3	42	4	0	49	4	0	0	0	4	1	0	6	0	7	105
5:45AM	3	25	5	0	33	4	45	0	0	49	3	0	0	0	3	0	0	2	0	2	87
Hourly Total	9	121	16	0	146	10	130	10	0	150	13	1	0	0	14	4	0	15	0	19	329
6:00AM	7	39	3	0	49	3	37	6	0	46	6	0	1	0	7	4	0	8	0	12	114
6:15AM	12	52	5	0	69	5	84	12	0	101	7	0	0	0	7	5	1	11	0	17	194
6:30AM	15	83	14	1	113	9	111	4	0	124	10	0	0	0	10	6	1	21	0	28	275
6:45AM	14	97	21	0	132	2	108	5	0	115	15	0	5	0	20	6	0	16	0	22	289
Hourly Total	48	271	43	1	363	19	340	27	0	386	38	0	6	0	44	21	2	56	0	79	872
7:00AM	15	99	18	0	132	4	99	26	0	129	4	0	4	0	8	4	0	22	0	26	295
7:15AM	32	153	14	2	201	7	152	17	0	176	11	2	4	1	18	7	1	23	0	31	426
7:30AM	73	237	19	3	332	8	157	24	1	190	6	2	4	0	12	7	0	25	0	32	566

Leg Direction	West Eastbound					East Westbound					South Northbound					North Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
7:45AM	49	175	27	2	253	7	184	28	1	220	6	2	2	0	10	3	0	30	0	33	516
Hourly Total	169	664	78	7	918	26	592	95	2	715	27	6	14	1	48	21	1	100	0	122	1803
8:00AM	35	125	13	0	173	11	153	28	0	192	9	1	3	0	13	6	2	28	0	36	414
8:15AM	24	121	8	0	153	6	119	21	0	146	10	1	3	0	14	10	2	27	0	39	352
8:30AM	16	108	9	0	133	3	113	18	0	134	7	0	8	0	15	7	0	36	0	43	325
8:45AM	17	87	12	1	117	3	102	11	0	116	7	0	3	0	10	7	2	16	0	25	268
Hourly Total	92	441	42	1	576	23	487	78	0	588	33	2	17	0	52	30	6	107	0	143	1359
9:00AM	20	79	8	0	107	4	82	12	0	98	6	1	1	0	8	16	1	30	0	47	260
9:15AM	10	83	11	0	104	3	80	7	0	90	10	1	2	0	13	5	3	17	0	25	232
9:30AM	10	75	8	0	93	1	75	13	0	89	7	0	2	0	9	8	0	10	0	18	209
9:45AM	15	82	10	0	107	5	83	13	0	101	5	1	2	0	8	7	1	17	0	25	241
Hourly Total	55	319	37	0	411	13	320	45	0	378	28	3	7	0	38	36	5	74	0	115	942
10:00AM	17	61	8	0	86	5	56	8	0	69	8	3	2	0	13	1	1	17	0	19	187
10:15AM	19	60	12	0	91	5	74	14	0	93	8	3	3	0	14	6	2	15	0	23	221
10:30AM	11	68	14	0	93	9	74	9	0	92	9	3	7	0	19	15	3	17	0	35	239
10:45AM	6	59	12	0	77	7	71	9	1	88	13	0	4	0	17	5	2	11	0	18	200
Hourly Total	53	248	46	0	347	26	275	40	1	342	38	9	16	0	63	27	8	60	0	95	847
11:00AM	21	66	8	0	95	4	60	23	0	87	16	3	1	0	20	6	0	23	0	29	231
11:15AM	18	68	9	0	95	8	71	22	0	101	10	2	0	0	12	9	1	23	0	33	241
11:30AM	30	66	9	0	105	1	85	11	0	97	9	2	7	0	18	10	2	32	0	44	264
11:45AM	22	71	8	0	101	7	73	26	0	106	3	2	3	0	8	17	0	23	0	40	255
Hourly Total	91	271	34	0	396	20	289	82	0	391	38	9	11	0	58	42	3	101	0	146	991
12:00PM	29	80	17	1	127	3	90	19	0	112	11	3	2	0	16	11	1	26	0	38	293
12:15PM	19	59	11	0	89	6	79	14	0	99	11	0	3	0	14	19	1	30	0	50	252
12:30PM	14	80	8	0	102	4	68	16	0	88	7	0	3	0	10	22	1	27	0	50	250
12:45PM	14	63	16	1	94	4	96	21	0	121	7	2	3	0	12	18	3	25	0	46	273
Hourly Total	76	282	52	2	412	17	333	70	0	420	36	5	11	0	52	70	6	108	0	184	1068
1:00PM	20	78	8	1	107	3	69	11	1	84	11	3	4	0	18	9	0	21	0	30	239
1:15PM	25	74	10	0	109	6	75	16	0	97	7	1	5	0	13	10	0	36	0	46	265
1:30PM	23	71	6	2	102	2	69	15	0	86	10	0	0	0	10	8	3	20	0	31	229
1:45PM	24	76	12	0	112	4	80	11	0	95	4	1	2	0	7	13	1	26	0	40	254
Hourly Total	92	299	36	3	430	15	293	53	1	362	32	5	11	0	48	40	4	103	0	147	987
2:00PM	23	77	15	1	116	5	89	13	0	107	9	0	3	0	12	12	2	33	0	47	282
2:15PM	25	89	10	0	124	6	97	24	0	127	11	3	2	0	16	16	1	22	0	39	306
2:30PM	14	127	8	0	149	7	98	20	1	126	9	2	4	0	15	15	0	26	0	41	331
2:45PM	23	103	11	1	138	5	133	28	0	166	5	1	4	0	10	15	0	29	0	44	358
Hourly Total	85	396	44	2	527	23	417	85	1	526	34	6	13	0	53	58	3	110	0	171	1277
3:00PM	16	98	12	0	126	8	116	21	0	145	13	2	8	0	23	12	1	44	0	57	351
3:15PM	29	122	13	0	164	5	106	16	0	127	4	0	0	0	4	13	0	37	0	50	345
3:30PM	31	149	12	1	193	4	125	18	0	147	13	1	12	0	26	8	1	39	0	48	414
3:45PM	34	134	9	0	177	6	111	31	0	148	6	0	7	0	13	20	2	57	0	79	417
Hourly Total	110	503	46	1	660	23	458	86	0	567	36	3	27	0	66	53	4	177	0	234	1527
4:00PM	27	133	11	0	171	3	125	26	1	155	9	1	3	1	14	18	0	34	0	52	392
4:15PM	20	141	8	0	169	4	152	28	0	184	8	1	6	0	15	12	1	32	0	45	413
4:30PM	24	171	10	0	205	0	104	23	1	128	9	0	0	0	9	13	0	33	0	46	388

Leg Direction	West Eastbound					East Westbound					South Northbound					North Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
4:45PM	29	182	10	0	221	6	117	27	0	150	7	1	3	0	11	19	2	35	0	56	438
Hourly Total	100	627	39	0	766	13	498	104	2	617	33	3	12	1	49	62	3	134	0	199	1631
5:00PM	29	183	15	0	227	2	143	15	0	160	10	2	3	0	15	15	0	45	0	60	462
5:15PM	24	204	16	0	244	2	137	16	1	156	10	1	3	0	14	9	0	29	0	38	452
5:30PM	31	176	6	0	213	2	121	29	0	152	5	0	1	0	6	15	0	46	0	61	432
5:45PM	26	146	7	0	179	3	99	23	0	125	7	0	1	0	8	16	1	36	0	53	365
Hourly Total	110	709	44	0	863	9	500	83	1	593	32	3	8	0	43	55	1	156	0	212	1711
6:00PM	21	120	9	0	150	3	108	23	0	134	6	0	3	0	9	18	0	29	0	47	340
6:15PM	21	92	6	0	119	5	114	37	0	156	6	1	2	0	9	11	0	33	0	44	328
6:30PM	16	104	12	0	132	4	85	19	0	108	5	0	2	0	7	13	0	29	0	42	289
6:45PM	25	74	10	0	109	4	81	22	0	107	9	1	5	0	15	16	0	21	0	37	268
Hourly Total	83	390	37	0	510	16	388	101	0	505	26	2	12	0	40	58	0	112	0	170	1225
7:00PM	14	60	4	0	78	2	84	23	0	109	4	0	4	0	8	13	1	22	0	36	231
7:15PM	19	59	7	0	85	4	82	17	0	103	5	2	3	0	10	9	0	52	0	61	259
7:30PM	15	67	10	1	93	3	80	30	0	113	5	1	1	0	7	15	0	27	0	42	255
7:45PM	26	60	4	0	90	3	66	23	1	93	3	1	0	0	4	17	0	32	0	49	236
Hourly Total	74	246	25	1	346	12	312	93	1	418	17	4	8	0	29	54	1	133	0	188	981
8:00PM	16	35	7	0	58	3	51	18	0	72	2	0	2	0	4	14	0	26	0	40	174
8:15PM	12	49	2	0	63	4	48	8	0	60	5	1	2	0	8	14	1	25	0	40	171
8:30PM	6	49	8	0	63	2	54	17	0	73	6	0	2	0	8	12	1	22	0	35	179
8:45PM	9	46	6	0	61	4	60	26	0	90	6	0	2	0	8	19	1	16	0	36	195
Hourly Total	43	179	23	0	245	13	213	69	0	295	19	1	8	0	28	59	3	89	0	151	719
9:00PM	16	42	3	0	61	1	42	12	0	55	2	0	1	0	3	10	0	12	0	22	141
9:15PM	11	31	1	0	43	0	22	4	0	26	1	0	2	0	3	8	0	24	0	32	104
9:30PM	12	27	1	0	40	0	22	11	0	33	1	1	0	0	2	11	0	15	0	26	101
9:45PM	6	23	5	0	34	3	27	13	0	43	5	0	1	0	6	7	0	16	0	23	106
Hourly Total	45	123	10	0	178	4	113	40	0	157	9	1	4	0	14	36	0	67	0	103	452
10:00PM	7	21	3	0	31	3	31	2	0	36	4	0	1	0	5	6	1	14	0	21	93
10:15PM	4	24	3	0	31	2	24	2	0	28	1	0	0	0	1	4	0	6	0	10	70
10:30PM	1	23	2	0	26	2	14	4	0	20	3	1	2	0	6	5	0	5	0	10	62
10:45PM	1	15	5	0	21	0	10	2	0	12	3	0	1	0	4	0	2	1	0	3	40
Hourly Total	13	83	13	0	109	7	79	10	0	96	11	1	4	0	16	15	3	26	0	44	265
11:00PM	0	19	3	0	22	3	13	1	0	17	10	1	0	0	11	1	1	3	0	5	55
11:15PM	1	11	4	0	16	1	8	0	0	9	2	0	2	0	4	0	1	1	0	2	31
11:30PM	1	16	2	0	19	1	10	1	0	12	6	0	3	0	9	1	0	0	0	1	41
11:45PM	2	9	4	0	15	1	10	1	0	12	6	0	3	0	9	0	0	3	0	3	39
Hourly Total	4	55	13	0	72	6	41	3	0	50	24	1	8	0	33	2	2	7	0	11	166
Total	1364	6333	711	18	8426	313	6189	1181	10	7693	561	68	203	2	834	749	57	1739	0	2545	19498
% Approach	16.2%	75.2%	8.4%	0.2%	-	4.1%	80.4%	15.4%	0.1%	-	67.3%	8.2%	24.3%	0.2%	-	29.4%	2.2%	68.3%	0%	-	-
% Total	7.0%	32.5%	3.6%	0.1%	43.2%	1.6%	31.7%	6.1%	0.1%	39.5%	2.9%	0.3%	1.0%	0%	4.3%	3.8%	0.3%	8.9%	0%	13.1%	-
Lights	1336	6004	685	18	8043	306	5890	1158	10	7364	537	67	203	2	809	739	56	1703	0	2498	18714
% Lights	97.9%	94.8%	96.3%	100%	95.5%	97.8%	95.2%	98.1%	100%	95.7%	95.7%	98.5%	100%	100%	97.0%	98.7%	98.2%	97.9%	0%	98.2%	96.0%
Articulated Trucks	10	153	4	0	167	2	156	5	0	163	4	0	0	0	4	1	0	8	0	9	343
% Articulated Trucks	0.7%	2.4%	0.6%	0%	2.0%	0.6%	2.5%	0.4%	0%	2.1%	0.7%	0%	0%	0%	0.5%	0.1%	0%	0.5%	0%	0.4%	1.8%
Buses and Single-Unit Trucks	18	176	22	0	216	5	143	18	0	166	20	1	0	0	21	9	1	28	0	38	441

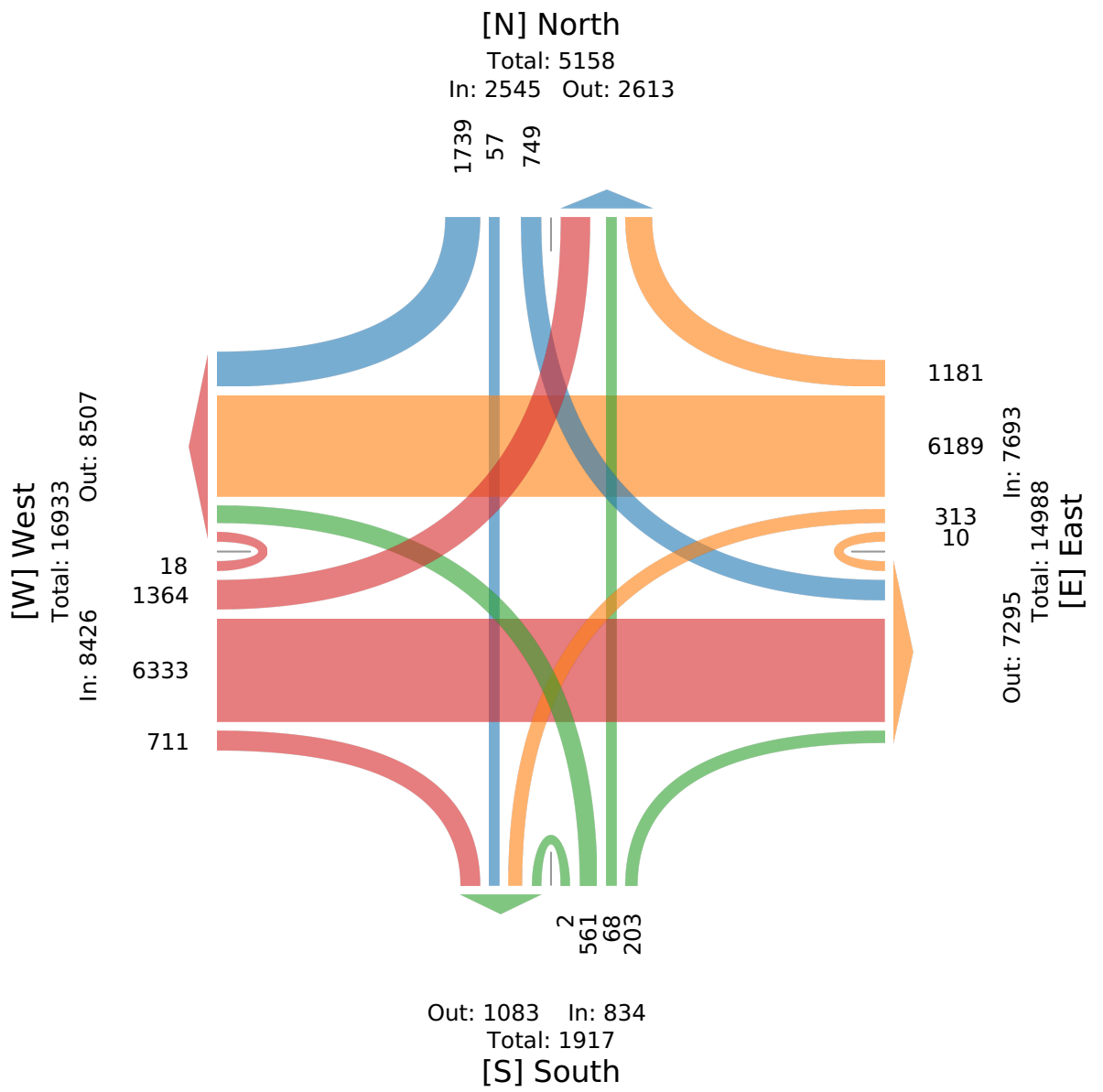
Leg Direction	West Eastbound					East Westbound					South Northbound					North Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
% Buses and Single-Unit Trucks	1.3%	2.8%	3.1%	0%	2.6%	1.6%	2.3%	1.5%	0%	2.2%	3.6%	1.5%	0%	0%	2.5%	1.2%	1.8%	1.6%	0%	1.5%	2.3%

*L: Left, R: Right, T: Thru, U: U-Turn

151st St. & 101st St. - TMC
Tue Apr 12, 2022
Full Length (12 AM-12 AM (+1))
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 940879, Location: 35.94435, -96.008238



Provided by: Traffic Engineering Consultants, Inc.
6000 S. Western Ave, Suite 300, Oklahoma City, OK, 73139, US



151st St. & 101st St. - TMC

Tue Apr 12, 2022

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

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940879, Location: 35.94435, -96.008238



Provided by: Traffic Engineering Consultants, Inc.
6000 S. Western Ave, Suite 300, Oklahoma City, OK, 73139, US

Leg Direction	West Eastbound					East Westbound					South Northbound					North Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2022-04-12 7:15AM	32	153	14	2	201	7	152	17	0	176	11	2	4	1	18	7	1	23	0	31	426
7:30AM	73	237	19	3	332	8	157	24	1	190	6	2	4	0	12	7	0	25	0	32	566
7:45AM	49	175	27	2	253	7	184	28	1	220	6	2	2	0	10	3	0	30	0	33	516
8:00AM	35	125	13	0	173	11	153	28	0	192	9	1	3	0	13	6	2	28	0	36	414
Total	189	690	73	7	959	33	646	97	2	778	32	7	13	1	53	23	3	106	0	132	1922
% Approach	19.7%	71.9%	7.6%	0.7%	-	4.2%	83.0%	12.5%	0.3%	-	60.4%	13.2%	24.5%	1.9%	-	17.4%	2.3%	80.3%	0%	-	-
% Total	9.8%	35.9%	3.8%	0.4%	49.9%	1.7%	33.6%	5.0%	0.1%	40.5%	1.7%	0.4%	0.7%	0.1%	2.8%	1.2%	0.2%	5.5%	0%	6.9%	-
PHF	0.647	0.728	0.676	0.583	0.722	0.750	0.878	0.866	0.500	0.884	0.727	0.875	0.813	0.250	0.736	0.821	0.375	0.883	-	0.917	0.849
Lights	183	665	71	7	926	32	631	96	2	761	31	7	13	1	52	22	3	103	0	128	1867
% Lights	96.8%	96.4%	97.3%	100%	96.6%	97.0%	97.7%	99.0%	100%	97.8%	96.9%	100%	100%	100%	98.1%	95.7%	100%	97.2%	0%	97.0%	97.1%
Articulated Trucks	5	9	1	0	15	0	10	0	0	10	0	0	0	0	0	1	0	1	0	2	27
% Articulated Trucks	2.6%	1.3%	1.4%	0%	1.6%	0%	1.5%	0%	0%	1.3%	0%	0%	0%	0%	0%	4.3%	0%	0.9%	0%	1.5%	1.4%
Buses and Single-Unit Trucks	1	16	1	0	18	1	5	1	0	7	1	0	0	0	1	0	0	2	0	2	28
% Buses and Single-Unit Trucks	0.5%	2.3%	1.4%	0%	1.9%	3.0%	0.8%	1.0%	0%	0.9%	3.1%	0%	0%	0%	1.9%	0%	0%	1.9%	0%	1.5%	1.5%

* L: Left, R: Right, T: Thru, U: U-Turn

151st St. & 101st St. - TMC

Tue Apr 12, 2022

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

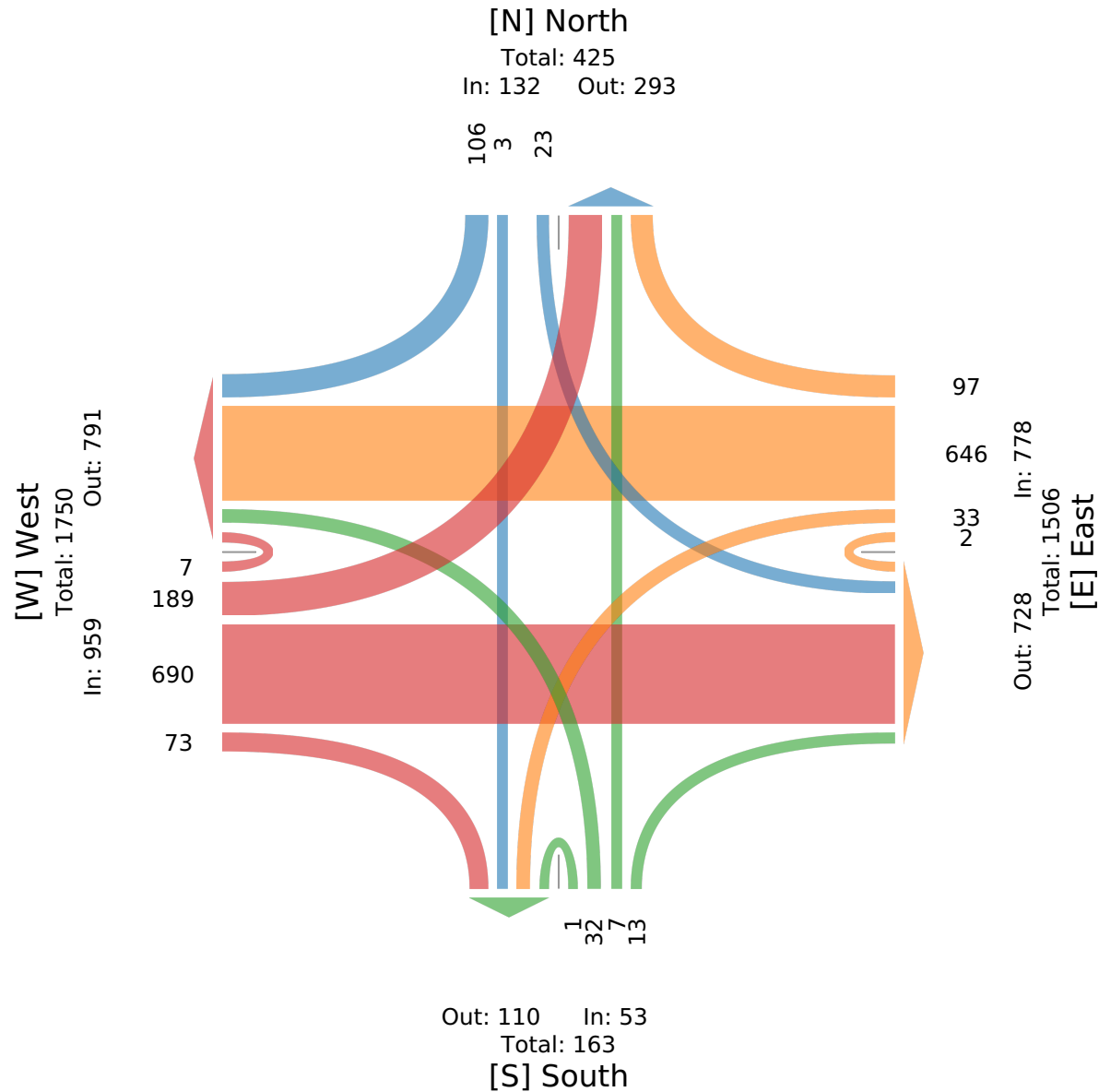
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940879, Location: 35.94435, -96.008238



Provided by: Traffic Engineering Consultants, Inc.
6000 S. Western Ave, Suite 300, Oklahoma City, OK, 73139, US



151st St. & 101st St. - TMC

Tue Apr 12, 2022

Midday Peak (12 PM - 1 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940879, Location: 35.94435, -96.008238



Provided by: Traffic Engineering Consultants, Inc.
6000 S. Western Ave, Suite 300, Oklahoma City, OK, 73139, US

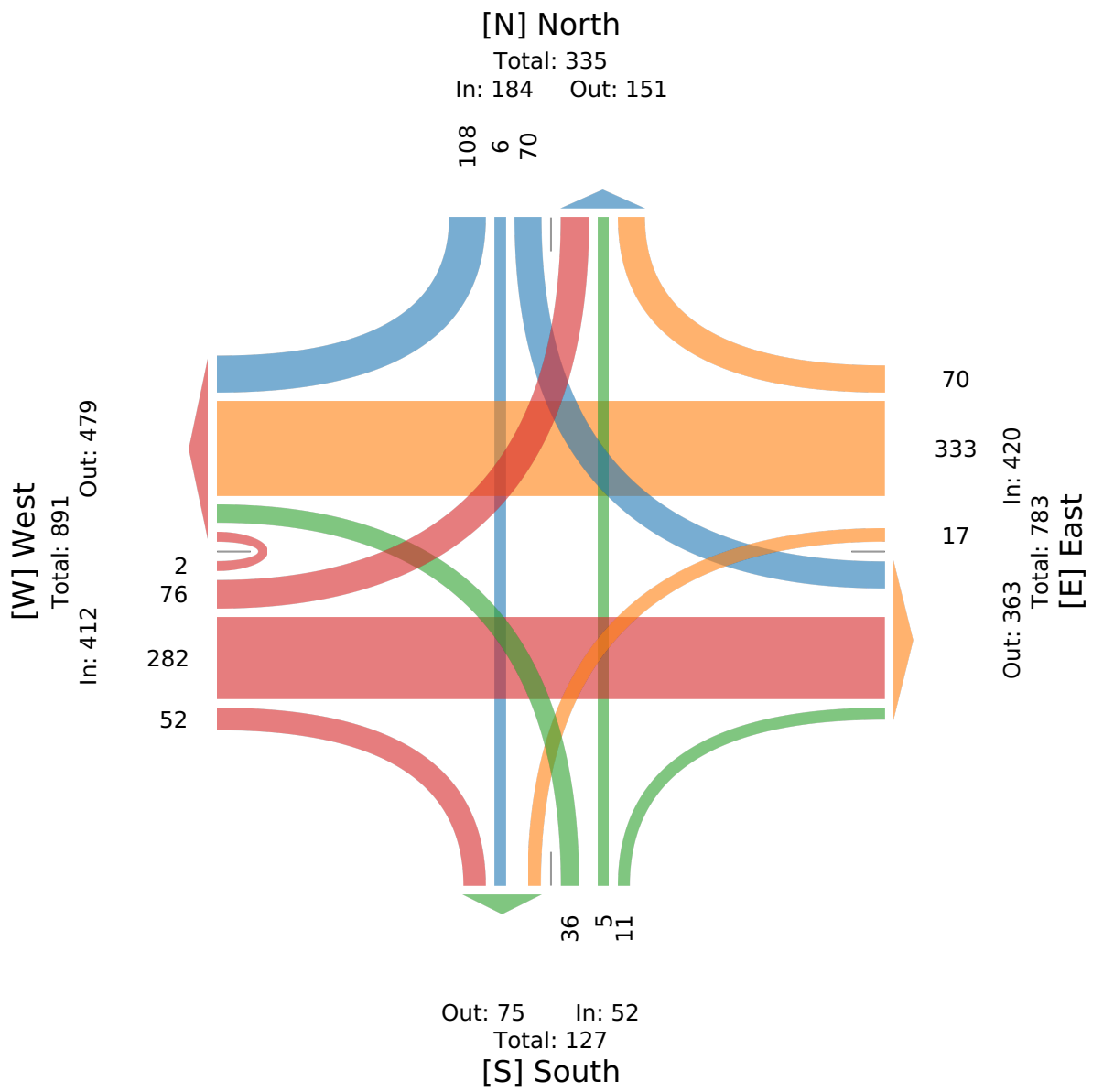
Leg Direction	West Eastbound					East Westbound					South Northbound					North Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2022-04-12 12:00PM	29	80	17	1	127	3	90	19	0	112	11	3	2	0	16	11	1	26	0	38	293
12:15PM	19	59	11	0	89	6	79	14	0	99	11	0	3	0	14	19	1	30	0	50	252
12:30PM	14	80	8	0	102	4	68	16	0	88	7	0	3	0	10	22	1	27	0	50	250
12:45PM	14	63	16	1	94	4	96	21	0	121	7	2	3	0	12	18	3	25	0	46	273
Total	76	282	52	2	412	17	333	70	0	420	36	5	11	0	52	70	6	108	0	184	1068
% Approach	18.4%	68.4%	12.6%	0.5%	-	4.0%	79.3%	16.7%	0%	-	69.2%	9.6%	21.2%	0%	-	38.0%	3.3%	58.7%	0%	-	-
% Total	7.1%	26.4%	4.9%	0.2%	38.6%	1.6%	31.2%	6.6%	0%	39.3%	3.4%	0.5%	1.0%	0%	4.9%	6.6%	0.6%	10.1%	0%	17.2%	-
PHF	0.655	0.881	0.765	0.500	0.811	0.708	0.867	0.833	-	0.868	0.818	0.417	0.917	-	0.813	0.795	0.500	0.900	-	0.920	0.911
Lights	74	255	47	2	378	17	292	69	0	378	34	5	11	0	50	68	6	106	0	180	986
% Lights	97.4%	90.4%	90.4%	100%	91.7%	100%	87.7%	98.6%	0%	90.0%	94.4%	100%	100%	0%	96.2%	97.1%	100%	98.1%	0%	97.8%	92.3%
Articulated Trucks	0	8	1	0	9	0	14	0	0	14	0	0	0	0	0	0	0	0	0	0	23
% Articulated Trucks	0%	2.8%	1.9%	0%	2.2%	0%	4.2%	0%	0%	3.3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2.2%
Buses and Single-Unit Trucks	2	19	4	0	25	0	27	1	0	28	2	0	0	0	2	2	0	2	0	4	59
% Buses and Single-Unit Trucks	2.6%	6.7%	7.7%	0%	6.1%	0%	8.1%	1.4%	0%	6.7%	5.6%	0%	0%	0%	3.8%	2.9%	0%	1.9%	0%	2.2%	5.5%

* L: Left, R: Right, T: Thru, U: U-Turn

151st St. & 101st St. - TMC
Tue Apr 12, 2022
Midday Peak (12 PM - 1 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 940879, Location: 35.94435, -96.008238



Provided by: Traffic Engineering Consultants, Inc.
6000 S. Western Ave, Suite 300, Oklahoma City, OK, 73139, US



151st St. & 101st St. - TMC

Tue Apr 12, 2022

PM Peak (4:45 PM - 5:45 PM)

All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)

All Movements

ID: 940879, Location: 35.94435, -96.008238



Provided by: Traffic Engineering Consultants, Inc.
6000 S. Western Ave, Suite 300, Oklahoma City, OK, 73139, US

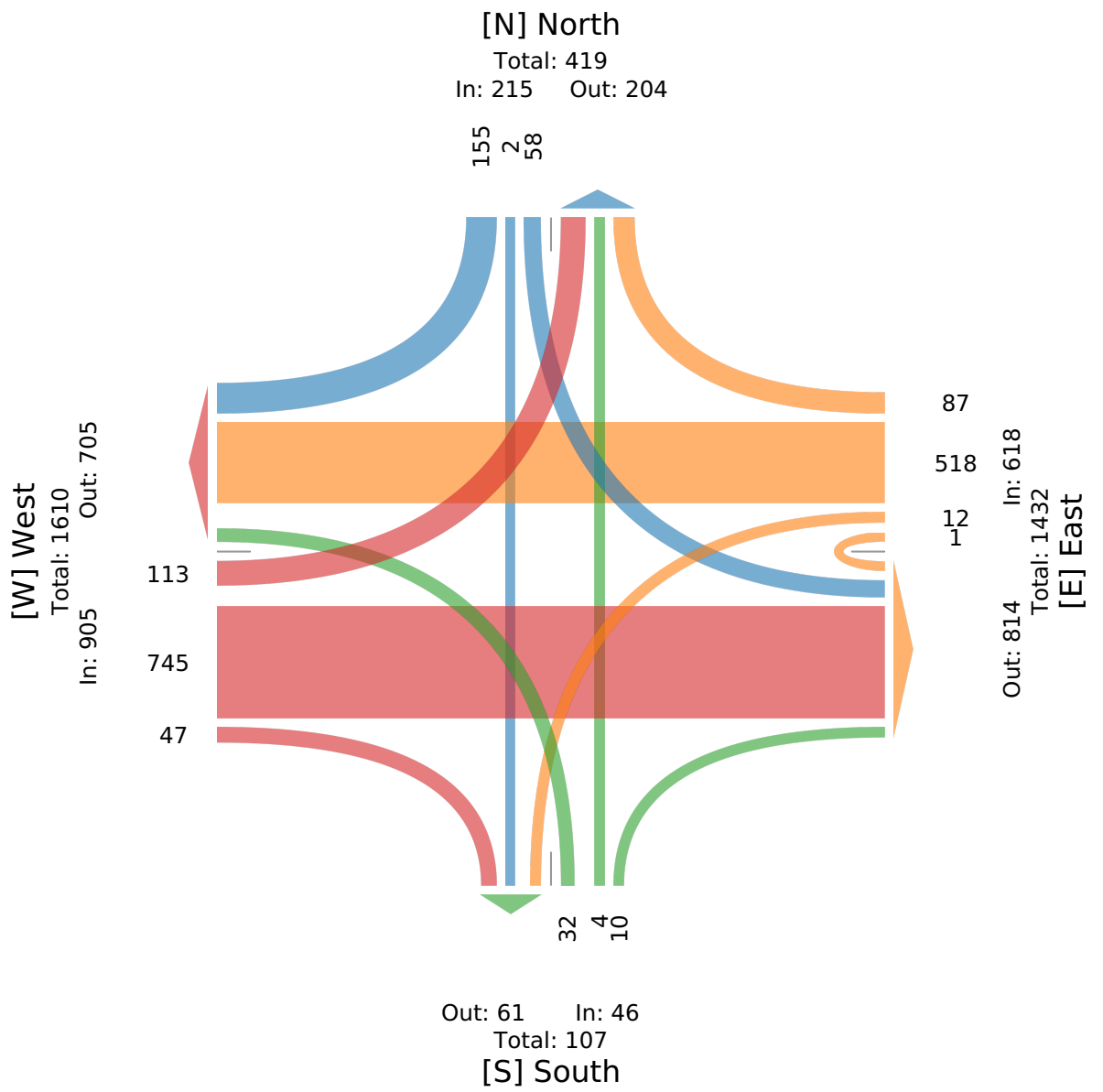
Leg Direction	West Eastbound					East Westbound					South Northbound					North Southbound					
Time	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	L	T	R	U	App	Int
2022-04-12 4:45PM	29	182	10	0	221	6	117	27	0	150	7	1	3	0	11	19	2	35	0	56	438
5:00PM	29	183	15	0	227	2	143	15	0	160	10	2	3	0	15	15	0	45	0	60	462
5:15PM	24	204	16	0	244	2	137	16	1	156	10	1	3	0	14	9	0	29	0	38	452
5:30PM	31	176	6	0	213	2	121	29	0	152	5	0	1	0	6	15	0	46	0	61	432
Total	113	745	47	0	905	12	518	87	1	618	32	4	10	0	46	58	2	155	0	215	1784
% Approach	12.5%	82.3%	5.2%	0%	-	1.9%	83.8%	14.1%	0.2%	-	69.6%	8.7%	21.7%	0%	-	27.0%	0.9%	72.1%	0%	-	-
% Total	6.3%	41.8%	2.6%	0%	50.7%	0.7%	29.0%	4.9%	0.1%	34.6%	1.8%	0.2%	0.6%	0%	2.6%	3.3%	0.1%	8.7%	0%	12.1%	-
PHF	0.911	0.913	0.734	-	0.927	0.500	0.906	0.750	0.250	0.966	0.800	0.500	0.833	-	0.767	0.763	0.250	0.842	-	0.881	0.965
Lights	112	734	47	0	893	12	509	85	1	607	32	4	10	0	46	58	2	153	0	213	1759
% Lights	99.1%	98.5%	100%	0%	98.7%	100%	98.3%	97.7%	100%	98.2%	100%	100%	100%	0%	100%	100%	100%	98.7%	0%	99.1%	98.6%
Articulated Trucks	0	7	0	0	7	0	7	0	0	7	0	0	0	0	0	0	0	1	0	1	15
% Articulated Trucks	0%	0.9%	0%	0%	0.8%	0%	1.4%	0%	0%	1.1%	0%	0%	0%	0%	0%	0%	0%	0.6%	0%	0.5%	0.8%
Buses and Single-Unit Trucks	1	4	0	0	5	0	2	2	0	4	0	0	0	0	0	0	0	1	0	1	10
% Buses and Single-Unit Trucks	0.9%	0.5%	0%	0%	0.6%	0%	0.4%	2.3%	0%	0.6%	0%	0%	0%	0%	0%	0%	0%	0.6%	0%	0.5%	0.6%

* L: Left, R: Right, T: Thru, U: U-Turn

151st St. & 101st St. - TMC
Tue Apr 12, 2022
PM Peak (4:45 PM - 5:45 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks)
All Movements
ID: 940879, Location: 35.94435, -96.008238

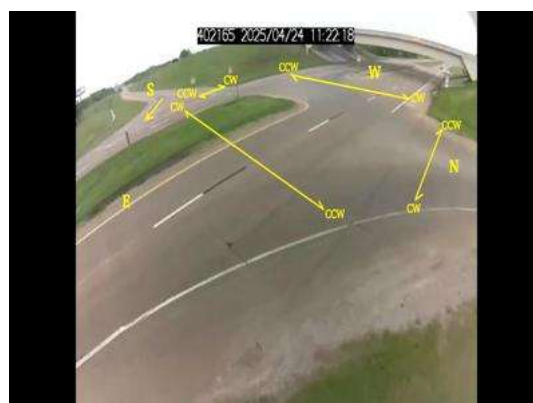


Provided by: Traffic Engineering Consultants, Inc.
6000 S. Western Ave, Suite 300, Oklahoma City, OK, 73139, US



SUMMARY	
Project	J SITZ - GLENPOOL - US 75 AND SH 67 - SERATRAN
Project Code	60S
Site Name	8 - US-75 NB On/Off Ramp & SH-67
Legs and Movements	All Processed Legs & Movements
Count Interval	15
Start Time	00:00
End Time	23:45
Location	8 - US-75 NB On/Off Ramp & SH-67
Latitude and Longitude	(35.944393, -96.011221)

	START	END	PHF
AM PEAK	04-24-2025 07:15:00	04-24-2025 08:15:00	0.91
PM PEAK	04-24-2025 16:30:00	04-24-2025 17:30:00	0.94
Mid-Day PEAK	04-24-2025 11:45:00	04-24-2025 12:45:00	0.96
Forced Peak AM			
Forced Peak PM			





Site: 8 - US-75 NB On/Off Ramp & SH-67

GPS:35.944393, -96.011221

Date:04-24-2025

TURNING MOVEMENT DATA

Leg	US-75 NB On Ramp							SH-67							US-75 NB Off Ramp							SH-67							
Direction	SouthBound							WestBound							NorthBound							EastBound							
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
00:00	0	0	0	0	0	0	0	0	5	4	0	9	0	0	0	0	5	0	5	0	0	6	12	0	0	18	0	0	32
00:15	0	0	0	0	0	0	0	0	10	5	0	15	0	0	1	0	8	0	9	0	0	2	7	0	0	9	0	0	33
00:30	0	0	0	0	0	0	0	0	11	3	0	14	0	0	0	0	1	0	1	0	0	3	8	0	0	11	0	0	26
00:45	0	0	0	0	0	0	0	0	5	4	0	9	0	0	4	0	3	0	7	0	0	2	10	0	0	12	0	0	28
Hourly Total	0	0	0	0	0	0	0	0	31	16	0	47	0	0	5	0	17	0	22	0	0	13	37	0	0	50	0	0	119
01:00	0	0	0	0	0	0	0	0	10	3	0	13	0	0	0	0	2	0	2	0	0	4	4	0	0	8	0	0	23
01:15	0	0	0	0	0	0	0	0	6	4	0	10	0	0	0	0	4	0	4	0	0	3	4	0	1	8	0	0	22
01:30	0	0	0	0	0	0	0	0	3	1	0	4	0	0	0	0	3	0	3	0	0	1	5	0	0	6	0	0	13
01:45	0	0	0	0	0	0	0	0	3	2	0	5	0	0	1	0	1	0	2	0	0	0	7	0	0	7	0	0	14
Hourly Total	0	0	0	0	0	0	0	0	22	10	0	32	0	0	1	0	10	0	11	0	0	8	20	0	1	29	0	0	72
02:00	0	0	0	0	0	0	0	0	3	3	0	6	0	0	2	0	3	0	5	0	0	4	4	0	0	8	0	0	19
02:15	0	0	0	0	0	0	0	0	5	3	0	8	0	0	1	0	2	0	3	0	0	3	6	0	0	9	0	0	20
02:30	0	0	0	0	0	0	0	0	3	3	0	6	0	0	1	0	0	0	1	0	0	3	2	0	0	5	0	0	12
02:45	0	0	0	0	0	0	0	0	2	5	0	7	0	0	0	0	1	0	1	0	0	2	3	0	0	5	0	0	13
Hourly Total	0	0	0	0	0	0	0	0	13	14	0	27	0	0	4	0	6	0	10	0	0	12	15	0	0	27	0	0	64
03:00	0	0	0	0	0	0	0	0	1	4	0	5	0	0	0	0	0	0	0	0	0	4	5	0	0	9	0	0	14
03:15	0	0	0	0	0	0	0	0	2	13	0	15	0	0	0	0	9	0	9	0	0	7	6	0	0	13	0	0	37
03:30	0	0	0	0	0	0	0	0	1	7	0	8	0	0	1	0	1	0	2	0	0	6	6	0	0	12	0	0	22
03:45	0	0	0	0	0	0	0	0	4	6	0	10	0	0	2	0	4	0	6	0	0	5	4	0	0	9	0	0	25
Hourly Total	0	0	0	0	0	0	0	0	8	30	0	38	0	0	3	0	14	0	17	0	0	22	21	0	0	43	0	0	98
04:00	0	0	0	0	0	0	0	0	3	3	0	6	0	0	0	0	3	0	3	0	0	5	2	0	0	7	0	0	16
04:15	0	0	0	0	0	0	0	0	1	16	0	17	0	0	1	0	5	0	6	0	0	10	11	0	0	21	0	0	44
04:30	0	0	0	0	0	0	0	0	16	18	0	34	0	0	1	0	11	0	12	0	0	9	8	0	0	17	0	0	63
04:45	0	0	0	0	0	0	0	0	16	18	0	34	0	0	4	0	13	0	17	0	0	19	13	0	0	32	0	0	83
Hourly Total	0	0	0	0	0	0	0	0	36	55	0	91	0	0	6	0	32	0	38	0	0	43	34	0	0	77	0	0	206
05:00	0	0	0	0	0	0	0	0	8	25	0	33	0	0	2	0	13	0	15	0	0	15	20	0	0	35	0	0	83
05:15	0	0	0	0	0	0	0	0	17	44	0	61	0	0	3	0	18	0	21	0	0	23	33	0	0	56	0	0	138
05:30	0	0	0	0	0	0	0	0	14	43	0	57	0	0	4	0	30	0	34	0	0	31	29	0	0	60	0	0	151
05:45	0	0	0	0	0	0	0	0	28	36	0	64	0	0	2	0	26	0	28	0	0	23	40	0	0	63	0	0	155
Hourly Total	0	0	0	0	0	0	0	0	67	148	0	215	0	0	11	0	87	0	98	0	0	92	122	0	0	214	0	0	527
06:00	0	0	0	0	0	0	0	0	31	44	0	75	0	0	3	0	22	0	25	0	0	39	29	0	0	68	0	0	168
06:15	0	0	0	0	0	0	0	0	49	71	0	120	0	0	3	0	30	0	33	0	0	41	57	0	0	98	0	0	251
06:30	0	0	0	0	0	0	0	0	66	88	0	154	0	0	3	0	39	0	42	0	0	47	88	0	0	135	0	0	331
06:45	0	0	0	0	0	0	0	0	99	73	0	172	0	0	8	0	45	0	53	0	0	42	124	0	0	166	0	0	391
Hourly Total	0	0	0	0	0	0	0	0	245	276	0	521	0	0	17	0	136	0	153	0	0	169	298	0	0	467	0	0	1141



Site: 8 - US-75 NB On/Off Ramp & SH-67

GPS:35.944393, -96.011221

Date:04-24-2025

TURNING MOVEMENT DATA

Leg Direction Start Time	US-75 NB On Ramp							SH-67							US-75 NB Off Ramp							SH-67							
	SouthBound							WestBound							NorthBound							EastBound							
	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
07:00	0	0	0	0	0	0	0	0	116	86	0	202	0	0	8	0	52	0	60	0	0	48	106	0	0	154	0	0	416
07:15	0	0	0	0	0	0	0	0	160	65	0	225	0	0	22	0	78	0	100	0	0	36	153	0	1	190	0	0	515
07:30	0	0	0	0	0	0	0	0	218	49	0	267	0	0	26	0	94	0	120	0	0	10	163	0	0	173	0	0	560
07:45	0	0	0	0	0	0	0	0	213	83	0	296	0	0	14	1	80	0	95	0	0	20	168	0	0	188	0	0	579
Hourly Total	0	0	0	0	0	0	0	0	707	283	0	990	0	0	70	1	304	0	375	0	0	114	590	0	1	705	0	0	2070
08:00	0	0	0	0	0	0	0	0	146	68	0	214	0	0	16	1	49	0	66	0	0	30	149	0	0	179	0	0	459
08:15	0	0	0	0	0	0	0	0	135	63	0	198	0	0	12	1	75	0	88	0	0	21	152	0	0	173	0	0	459
08:30	0	0	0	0	0	0	0	0	122	66	0	188	0	0	11	0	72	0	83	0	0	32	130	0	0	162	0	0	433
08:45	0	0	0	0	0	0	0	0	93	62	0	155	0	0	8	0	41	0	49	0	0	41	101	0	0	142	0	0	346
Hourly Total	0	0	0	0	0	0	0	0	496	259	0	755	0	0	47	2	237	0	286	0	0	124	532	0	0	656	0	0	1697
09:00	0	0	0	0	0	0	0	0	86	64	0	150	0	0	8	0	41	0	49	0	0	35	82	0	0	117	0	0	316
09:15	0	0	0	0	0	0	0	0	72	65	0	137	0	0	6	0	40	0	46	0	0	38	97	0	0	135	0	0	318
09:30	0	0	0	0	0	0	0	0	85	47	0	132	0	0	1	0	36	0	37	0	0	36	92	0	0	128	0	0	297
09:45	0	0	0	0	0	0	0	0	80	52	0	132	0	0	10	1	34	0	45	0	0	35	80	0	0	115	0	0	292
Hourly Total	0	0	0	0	0	0	0	0	323	228	0	551	0	0	25	1	151	0	177	0	0	144	351	0	0	495	0	0	1223
10:00	0	0	0	0	0	0	0	0	60	47	0	107	0	0	2	0	34	0	36	0	0	36	92	0	1	129	0	0	272
10:15	0	0	0	0	0	0	0	0	62	44	0	106	0	0	9	0	31	0	40	0	0	28	75	0	0	103	0	0	249
10:30	0	0	0	0	0	0	0	0	62	35	0	97	0	0	10	0	37	0	47	0	0	33	103	0	0	136	0	0	280
10:45	0	0	0	0	0	0	0	0	77	43	0	120	0	0	7	2	30	0	39	0	0	26	71	0	0	97	0	0	256
Hourly Total	0	0	0	0	0	0	0	0	261	169	0	430	0	0	28	2	132	0	162	0	0	123	341	0	1	465	0	0	1057
11:00	0	0	0	0	0	0	0	0	87	28	0	115	0	0	10	0	36	0	46	0	0	33	74	0	0	107	0	0	268
11:15	0	0	0	0	0	0	0	0	76	44	0	120	0	0	3	0	31	0	34	0	0	34	88	0	1	123	0	0	277
11:30	0	0	0	0	0	0	0	0	84	47	0	131	0	0	13	0	42	0	55	0	0	20	100	0	0	120	0	0	306
11:45	0	0	0	0	0	0	0	0	103	45	0	148	0	0	7	1	35	0	43	0	0	36	101	0	0	137	0	0	328
Hourly Total	0	0	0	0	0	0	0	0	350	164	0	514	0	0	33	1	144	0	178	0	0	123	363	0	1	487	0	0	1179
12:00	0	0	0	0	0	0	0	0	111	36	0	147	0	0	9	0	35	0	44	0	0	30	76	0	0	106	0	0	297
12:15	0	0	0	0	0	0	0	0	104	42	0	146	0	0	5	1	44	0	50	0	0	27	94	0	0	121	0	0	317
12:30	0	0	0	0	0	0	0	0	77	40	0	117	0	0	3	0	32	0	35	0	0	47	114	0	0	161	0	0	313
12:45	0	0	0	0	0	0	0	0	74	40	0	114	0	0	8	0	21	0	29	0	0	39	82	0	0	121	0	0	264
Hourly Total	0	0	0	0	0	0	0	0	366	158	0	524	0	0	25	1	132	0	158	0	0	143	366	0	0	509	0	0	1191
13:00	0	0	0	0	0	0	0	0	93	44	0	137	0	0	2	0	32	0	34	0	0	38	85	0	0	123	0	0	294
13:15	0	0	0	0	0	0	0	0	100	32	0	132	0	0	7	0	24	0	31	0	0	26	84	0	0	110	0	0	273
13:30	0	0	0	0	0	0	0	0	95	46	0	141	0	0	10	0	29	0	39	0	0	33	82	0	0	115	0	0	295
13:45	0	0	0	0	0	0	0	0	77	36	0	113	0	0	10	1	54	0	65	0	0	19	84	0	0	103	0	0	281
Hourly Total	0	0	0	0	0	0	0	0	365	158	0	523	0	0	29	1	139	0	169	0	0	116	335	0	0	451	0	0	1143



Site: 8 - US-75 NB On/Off Ramp & SH-67

GPS:35.944393, -96.011221

Date:04-24-2025

TURNING MOVEMENT DATA

Leg Direction Start Time	US-75 NB On Ramp							SH-67							US-75 NB Off Ramp							SH-67							
	SouthBound							WestBound							NorthBound							EastBound							
	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
14:00	0	0	0	0	0	0	0	0	113	40	0	153	0	0	8	0	28	0	36	0	0	34	91	0	0	125	0	0	314
14:15	0	0	0	0	0	0	0	0	109	42	0	151	0	0	5	2	37	0	44	0	0	31	97	0	0	128	0	0	323
14:30	0	0	0	0	0	0	0	0	132	49	0	181	0	0	15	2	54	0	71	0	0	26	129	0	0	155	0	0	407
14:45	0	0	0	0	0	0	0	0	132	46	0	178	0	0	9	0	36	0	45	0	0	35	106	0	0	141	0	0	364
Hourly Total	0	0	0	0	0	0	0	0	486	177	0	663	0	0	37	4	155	0	196	0	0	126	423	0	0	549	0	0	1408
15:00	0	0	0	0	0	0	0	0	149	43	0	192	0	0	17	0	40	0	57	0	0	30	94	0	0	124	0	0	373
15:15	0	0	0	0	0	0	0	0	142	59	0	201	0	0	11	1	46	0	58	0	0	36	177	0	0	213	0	0	472
15:30	0	0	0	0	0	0	0	0	174	42	0	216	0	0	9	0	56	0	65	0	0	28	163	0	0	191	0	0	472
15:45	0	0	0	0	0	0	0	0	161	49	0	210	0	0	15	0	68	0	83	0	0	28	146	0	0	174	0	0	467
Hourly Total	0	0	0	0	0	0	0	0	626	193	0	819	0	0	52	1	210	0	263	0	0	122	580	0	0	702	0	0	1784
16:00	0	0	0	0	0	0	0	0	162	63	0	225	0	0	14	2	48	0	64	0	0	24	132	0	0	156	0	0	445
16:15	0	0	0	0	0	0	0	0	166	53	1	220	0	0	15	2	55	0	72	0	0	36	160	0	0	196	0	0	488
16:30	0	0	0	0	0	0	0	0	190	56	0	246	0	0	17	1	72	0	90	0	0	27	162	0	0	189	0	0	525
16:45	0	0	0	0	0	0	0	0	147	51	0	198	0	0	12	1	76	0	89	0	0	33	160	0	0	193	0	0	480
Hourly Total	0	0	0	0	0	0	0	0	665	223	1	889	0	0	58	6	251	0	315	0	0	120	614	0	0	734	0	0	1938
17:00	0	0	0	0	0	0	0	0	169	50	0	219	0	0	16	2	75	0	93	0	0	31	177	0	0	208	0	0	520
17:15	0	0	0	0	0	0	0	0	168	45	0	213	0	0	24	0	95	0	119	0	0	32	189	0	0	221	0	0	553
17:30	0	0	0	0	0	0	0	0	152	57	0	209	0	0	18	0	71	0	89	0	0	33	188	0	0	221	0	0	519
17:45	0	0	0	0	0	0	0	0	138	43	0	181	0	0	10	1	62	0	73	0	0	26	163	0	0	189	0	0	443
Hourly Total	0	0	0	0	0	0	0	0	627	195	0	822	0	0	68	3	303	0	374	0	0	122	717	0	0	839	0	0	2035
18:00	0	0	0	0	0	0	0	0	126	40	0	166	0	0	7	1	57	0	65	0	0	32	150	0	0	182	0	0	413
18:15	0	0	0	0	0	0	0	0	116	52	0	168	0	0	6	0	44	0	50	0	0	27	131	0	0	158	0	0	376
18:30	0	0	0	0	0	0	0	0	109	48	0	157	0	0	7	0	31	0	38	0	0	25	135	0	0	160	0	0	355
18:45	0	0	0	0	0	0	0	0	103	39	0	142	0	0	8	0	26	0	34	0	0	20	110	0	0	130	0	0	306
Hourly Total	0	0	0	0	0	0	0	0	454	179	0	633	0	0	28	1	158	0	187	0	0	104	526	0	0	630	0	0	1450
19:00	0	0	0	0	0	0	0	0	97	36	0	133	0	0	2	0	25	0	27	0	0	33	107	0	0	140	0	0	300
19:15	0	0	0	0	0	0	0	0	81	26	0	107	0	0	4	0	20	0	24	0	0	29	106	0	0	135	0	0	266
19:30	0	0	0	0	0	0	0	0	93	37	0	130	0	0	10	0	31	0	41	0	0	22	103	0	0	125	0	0	296
19:45	0	0	0	0	0	0	0	0	81	30	0	111	0	0	5	0	20	0	25	0	0	20	97	0	0	117	0	0	253
Hourly Total	0	0	0	0	0	0	0	0	352	129	0	481	0	0	21	0	96	0	117	0	0	104	413	0	0	517	0	0	1115
20:00	0	0	0	0	0	0	0	0	84	23	0	107	0	0	7	0	29	0	36	0	0	31	98	0	0	129	0	0	272
20:15	0	0	0	0	0	0	0	0	86	28	0	114	0	0	2	1	26	0	29	0	0	13	69	0	0	82	0	0	225
20:30	0	0	0	0	0	0	0	0	80	36	0	116	0	0	2	0	24	0	26	0	0	16	71	0	0	87	0	0	229
20:45	0	0	0	0	0	0	0	0	81	36	0	117	0	0	6	0	12	0	18	0	0	8	70	0	0	78	0	0	213
Hourly Total	0	0	0	0	0	0	0	0	331	123	0	454	0	0	17	1	91	0	109	0	0	68	308	0	0	376	0	0	939



Site: 8 - US-75 NB On/Off Ramp & SH-67

GPS:35.944393, -96.011221

Date:04-24-2025

TURNING MOVEMENT DATA

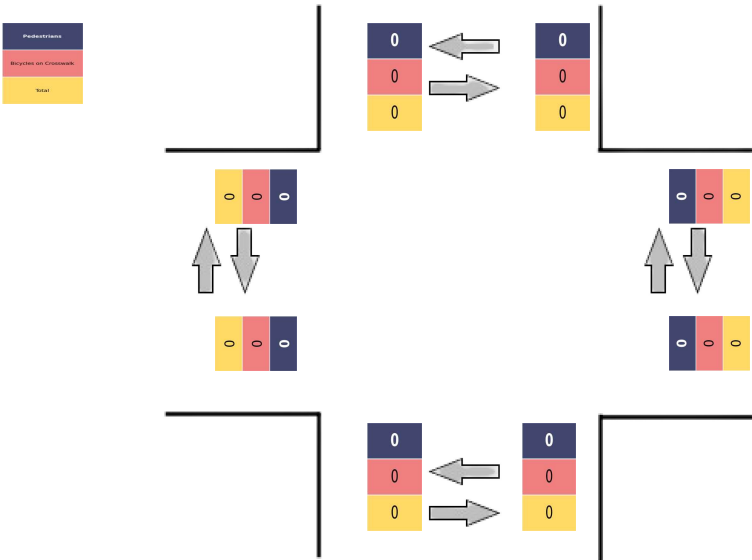
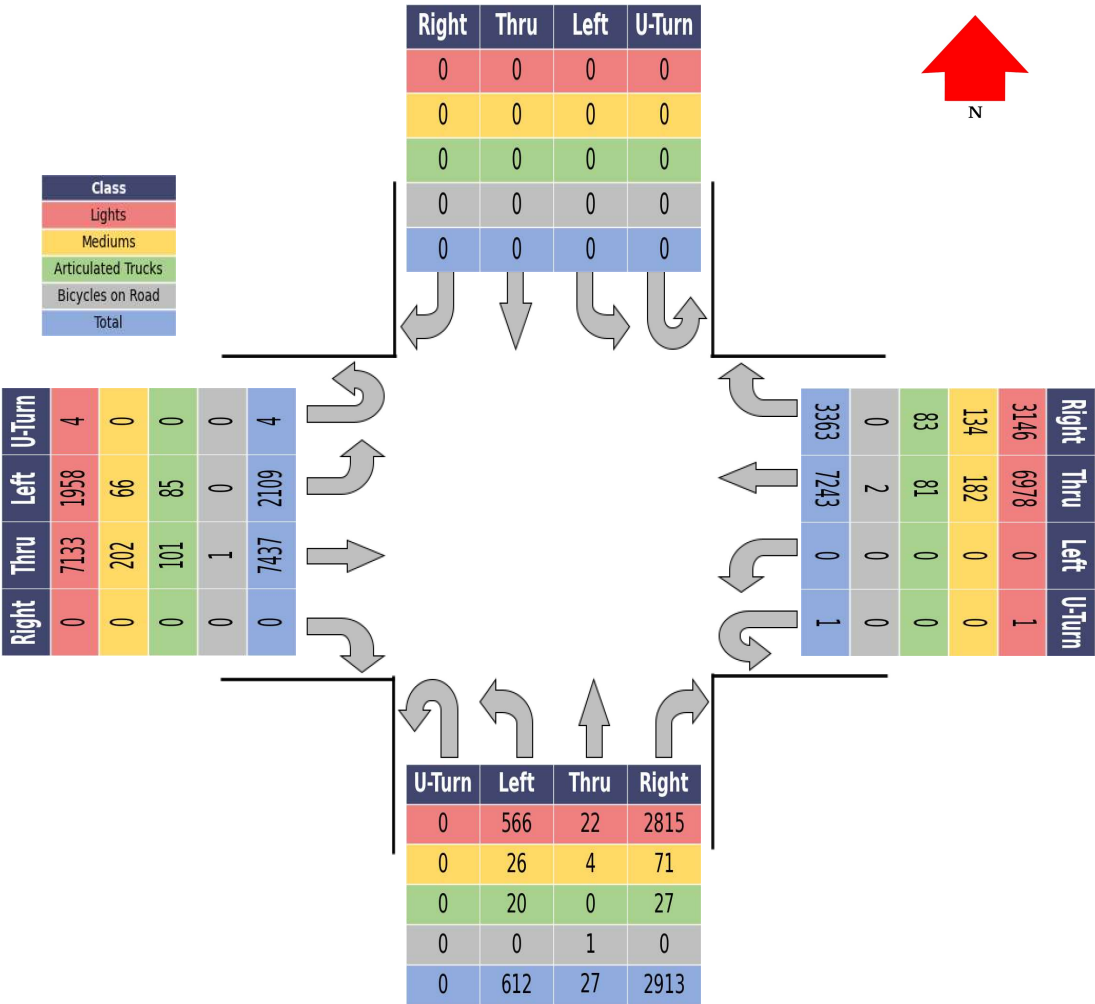
Leg	US-75 NB On Ramp							SH-67							US-75 NB Off Ramp							SH-67							
Direction	SouthBound							WestBound							NorthBound							EastBound							
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
21:00	0	0	0	0	0	0	0	0	58	28	0	86	0	0	5	0	26	0	31	0	0	25	71	0	0	96	0	0	213
21:15	0	0	0	0	0	0	0	0	64	20	0	84	0	0	3	0	13	0	16	0	0	9	47	0	0	56	0	0	156
21:30	0	0	0	0	0	0	0	0	54	24	0	78	0	0	3	0	9	0	12	0	0	16	43	0	0	59	0	0	149
21:45	0	0	0	0	0	0	0	0	39	16	0	55	0	0	3	0	9	0	12	0	0	10	48	0	0	58	0	0	125
Hourly Total	0	0	0	0	0	0	0	0	215	88	0	303	0	0	14	0	57	0	71	0	0	60	209	0	0	269	0	0	643
22:00	0	0	0	0	0	0	0	0	34	12	0	46	0	0	1	0	8	0	9	0	0	11	44	0	0	55	0	0	110
22:15	0	0	0	0	0	0	0	0	38	38	0	76	0	0	3	1	9	0	13	0	0	4	41	0	0	45	0	0	134
22:30	0	0	0	0	0	0	0	0	35	9	0	44	0	0	0	0	9	0	9	0	0	5	32	0	0	37	0	0	90
22:45	0	0	0	0	0	0	0	0	29	9	0	38	0	0	0	0	8	0	8	0	0	7	31	0	0	38	0	0	84
Hourly Total	0	0	0	0	0	0	0	0	136	68	0	204	0	0	4	1	34	0	39	0	0	27	148	0	0	175	0	0	418
23:00	0	0	0	0	0	0	0	0	14	6	0	20	0	0	5	0	6	0	11	0	0	2	24	0	0	26	0	0	57
23:15	0	0	0	0	0	0	0	0	21	8	0	29	0	0	1	0	4	0	5	0	0	3	16	0	0	19	0	0	53
23:30	0	0	0	0	0	0	0	0	9	5	0	14	0	0	1	0	2	0	3	0	0	3	18	0	0	21	0	0	38
23:45	0	0	0	0	0	0	0	0	17	1	0	18	0	0	2	1	5	0	8	0	0	2	16	0	0	18	0	0	44
Hourly Total	0	0	0	0	0	0	0	0	61	20	0	81	0	0	9	1	17	0	27	0	0	10	74	0	0	84	0	0	192
Grand Total	0	0	0	0	0	0	0	0	7243	3363	1	10607	0	0	612	27	2913	0	3552	0	0	2109	7437	0	4	9550	0	0	23709
approach %	0	0	0	0	0	0	0	0	68	31	0	100	0	0	17	0	82	0	99	0	0	22	77	0	0	100	0	0	300
Total %	0	0	0	0	0	0	0	0	30	14	0	44	0	0	2	0	12	0	14	0	0	8	31	0	0	40	0	0	100
Lights	0	0	0	0	0	0	0	0	6978	3146	1	10125	0	0	566	22	2815	0	3403	0	0	1958	7133	0	4	9095	0	0	22623
Lights %	0	0	0	0	0	0	0	0	96	93	100	0	0	0	92	81	96	0	0	0	0	92	95	0	100	0	0	95	
Mediums	0	0	0	0	0	0	0	0	182	134	0	316	0	0	26	4	71	0	101	0	0	66	202	0	0	268	0	0	685
Mediums %	0	0	0	0	0	0	0	0	2	3	0	0	0	0	4	14	2	0	0	0	0	3	2	0	0	0	0	2	
Articulated Trucks	0	0	0	0	0	0	0	0	81	83	0	164	0	0	20	0	27	0	47	0	0	85	101	0	0	186	0	0	397
Articulated Trucks %	0	0	0	0	0	0	0	0	1	2	0	0	0	0	3	0	0	0	0	0	0	4	1	0	0	0	0	1	
Bicycles on Road	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	1	0	0	1	0	0	0	1	0	0	1	0	0	4
Bicycles on Road %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles on Crosswalk %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Site: 8 - US-75 NB On/Off Ramp & SH-67

GPS:35.944393, -96.011221

Date:04-24-2025

Turning Movement Data Plot





Site: 8 - US-75 NB On/Off Ramp & SH-67

GPS:35.944393, -96.011221

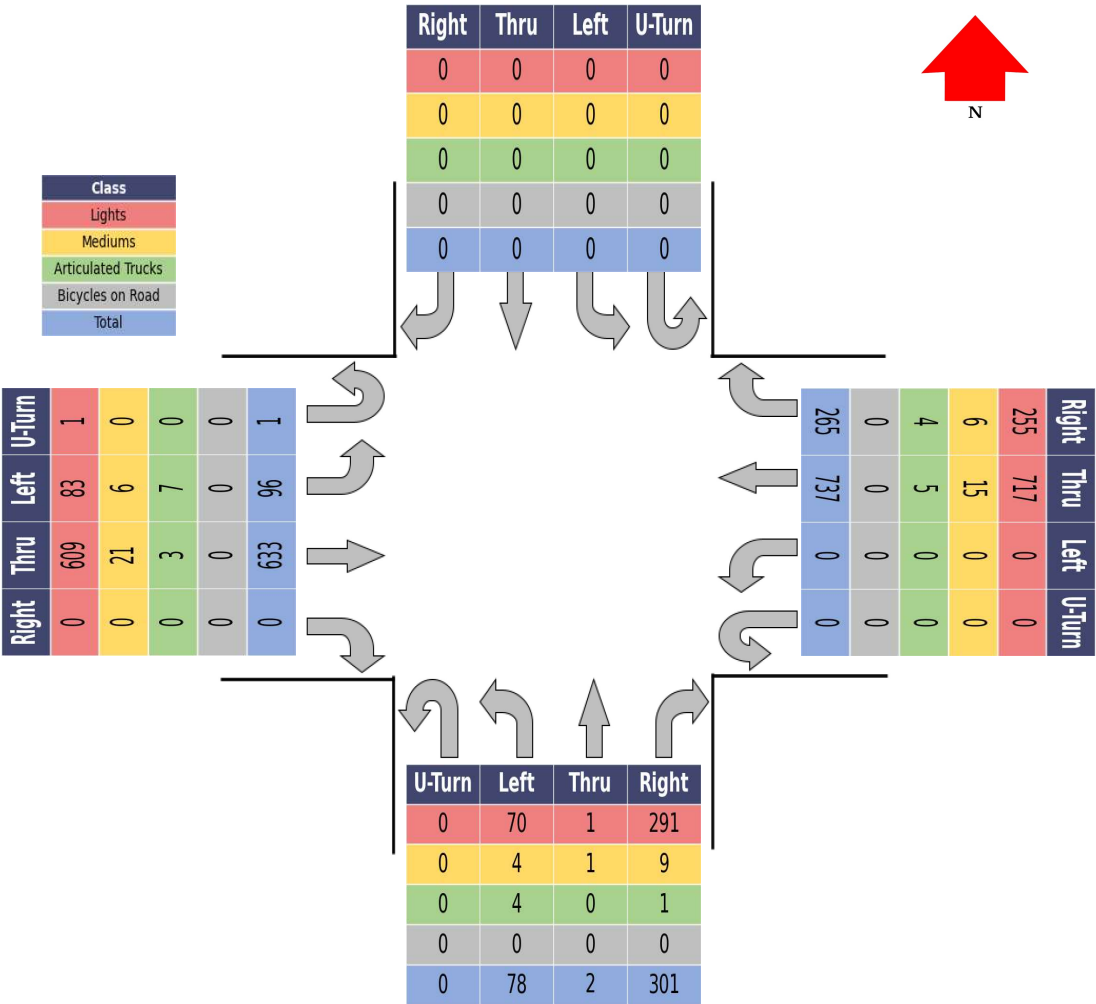
Date:04-24-2025

TURNING MOVEMENT AM PEAK HOUR

Leg	US-75 NB On Ramp								SH-67								US-75 NB Off Ramp								SH-67							
Direction	SouthBound								WestBound								NorthBound								EastBound							
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total			
07:15:00	0	0	0	0	0	0	0	0	160	65	0	225	0	0	22	0	78	0	100	0	0	36	153	0	1	190	0	0	515			
07:30:00	0	0	0	0	0	0	0	0	218	49	0	267	0	0	26	0	94	0	120	0	0	10	163	0	0	173	0	0	560			
07:45:00	0	0	0	0	0	0	0	0	213	83	0	296	0	0	14	1	80	0	95	0	0	20	168	0	0	188	0	0	579			
08:00:00	0	0	0	0	0	0	0	0	146	68	0	214	0	0	16	1	49	0	66	0	0	30	149	0	0	179	0	0	459			
Grand Total	0	0	0	0	0	0	0	0	737	265	0	1002	0	0	78	2	301	0	381	0	0	96	633	0	1	730	0	0	2113			
approach %	0	0	0	0	0	0	0	0	74	26	0	100	0	0	20	1	79	0	100	0	0	13	87	0	0	100	0	0	300			
Total %	0	0	0	0	0	0	0	0	35	13	0	47	0	0	4	0	14	0	18	0	0	5	30	0	0	35	0	0	100			
Lights	0	0	0	0	0	0	0	0	717	255	0	972	0	0	70	1	291	0	362	0	0	83	609	0	1	693	0	0	2027			
Lights %	0	0	0	0	0	0	0	0	97	96	0	0	0	0	90	50	97	0	0	0	0	86	96	0	100	0	0	96				
Mediums	0	0	0	0	0	0	0	0	15	6	0	21	0	0	4	1	9	0	14	0	0	6	21	0	0	27	0	0	62			
Mediums %	0	0	0	0	0	0	0	0	2	2	0	0	0	0	5	50	3	0	0	0	0	6	3	0	0	0	0	0	3			
Articulated Trucks	0	0	0	0	0	0	0	0	5	4	0	9	0	0	4	0	1	0	5	0	0	7	3	0	0	10	0	0	24			
Articulated Trucks %	0	0	0	0	0	0	0	0	1	2	0	0	0	0	5	0	0	0	0	0	0	7	0	0	0	0	0	0	1			
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Bicycles on Road %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Pedestrians %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Bicycles on Crosswalk %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
PHF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.85	0.8	0.0	0.85	0.0	0.0	0.75	0.5	0.8	0.0	0.79	0.0	0.0	0.67	0.94	0.0	0.25	0.96	0.0	0.0	0.91			

Site: 8 - US-75 NB On/Off Ramp & SH-67
 GPS:35.944393, -96.011221
 Date:04-24-2025

AM Peak Turning Movement Data Summary





Site: 8 - US-75 NB On/Off Ramp & SH-67

GPS:35.944393, -96.011221

Date:04-24-2025

TURNING MOVEMENT PM PEAK HOUR

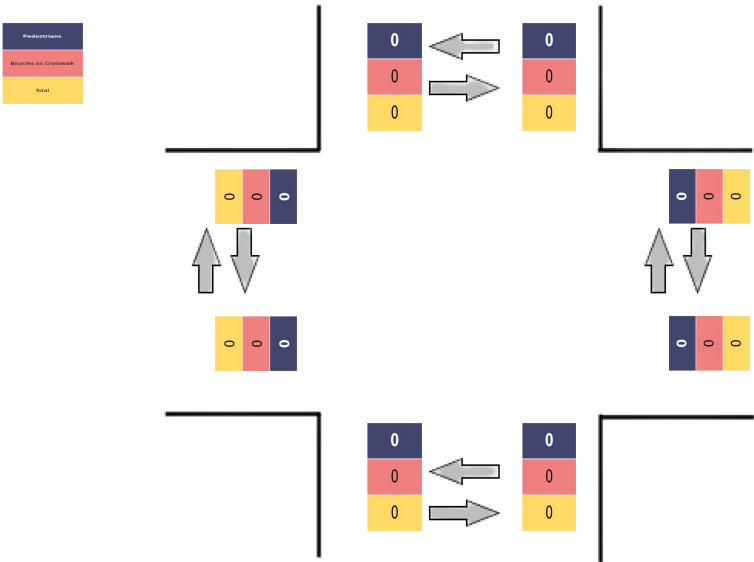
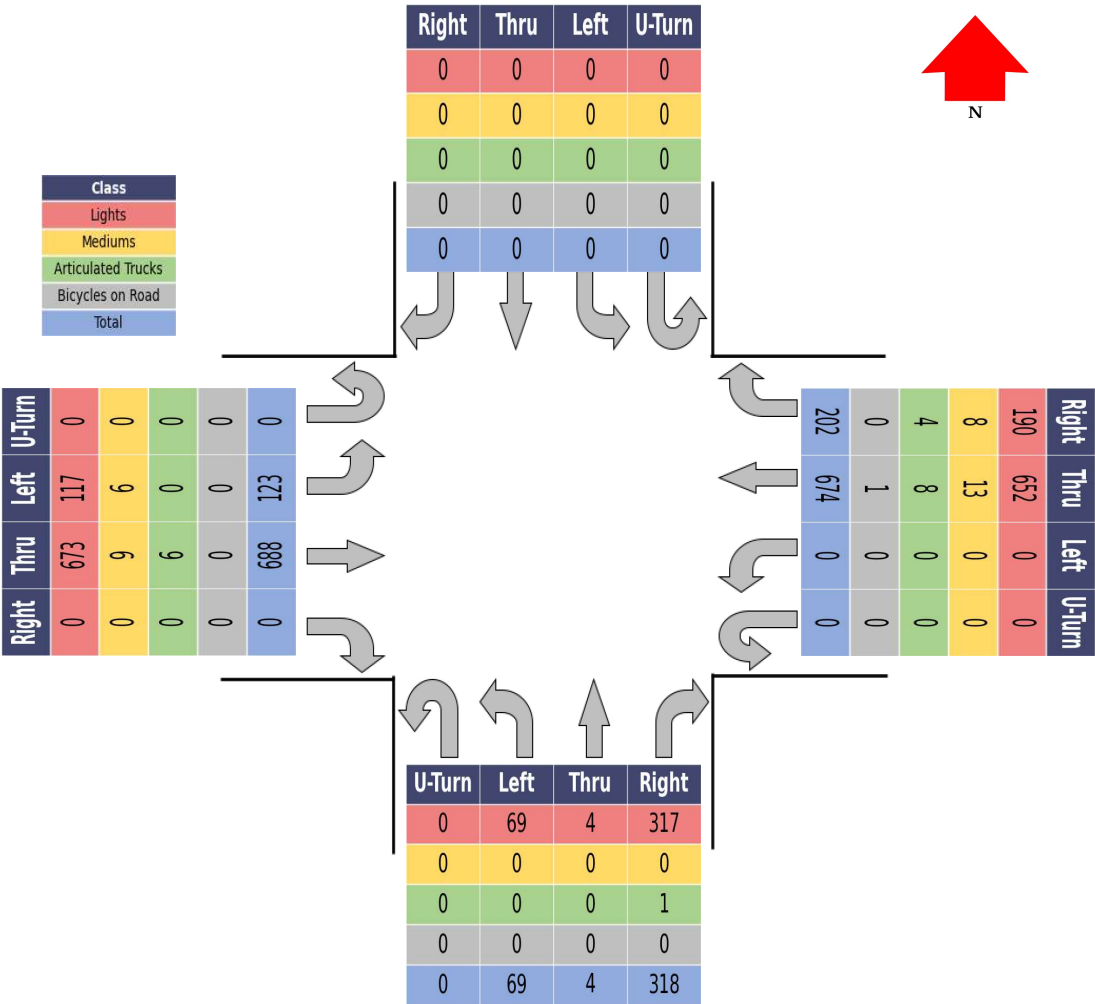
Leg	US-75 NB On Ramp							SH-67							US-75 NB Off Ramp							SH-67							
Direction	SouthBound							WestBound							NorthBound							EastBound							
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
16:30:00	0	0	0	0	0	0	0	0	190	56	0	246	0	0	17	1	72	0	90	0	0	27	162	0	0	189	0	0	525
16:45:00	0	0	0	0	0	0	0	0	147	51	0	198	0	0	12	1	76	0	89	0	0	33	160	0	0	193	0	0	480
17:00:00	0	0	0	0	0	0	0	0	169	50	0	219	0	0	16	2	75	0	93	0	0	31	177	0	0	208	0	0	520
17:15:00	0	0	0	0	0	0	0	0	168	45	0	213	0	0	24	0	95	0	119	0	0	32	189	0	0	221	0	0	553
Grand Total	0	0	0	0	0	0	0	0	674	202	0	876	0	0	69	4	318	0	391	0	0	123	688	0	0	811	0	0	2078
approach %	0	0	0	0	0	0	0	0	77	23	0	100	0	0	18	1	81	0	100	0	0	15	85	0	0	100	0	0	300
Total %	0	0	0	0	0	0	0	0	32	10	0	42	0	0	3	0	15	0	19	0	0	6	33	0	0	39	0	0	100
Lights	0	0	0	0	0	0	0	0	652	190	0	842	0	0	69	4	317	0	390	0	0	117	673	0	0	790	0	0	2022
Lights %	0	0	0	0	0	0	0	0	97	94	0	0	0	0	100	100	100	0	0	0	0	95	98	0	0	0	0	0	97
Mediums	0	0	0	0	0	0	0	0	13	8	0	21	0	0	0	0	0	0	0	0	0	6	9	0	0	15	0	0	36
Mediums %	0	0	0	0	0	0	0	0	2	4	0	0	0	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	2
Articulated Trucks	0	0	0	0	0	0	0	0	8	4	0	12	0	0	0	0	1	0	1	0	0	0	6	0	0	6	0	0	19
Articulated Trucks %	0	0	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Bicycles on Road	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Bicycles on Road %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.89	0.9	0.0	0.89	0.0	0.0	0.72	0.5	0.84	0.0	0.82	0.0	0.0	0.93	0.91	0.0	0.0	0.92	0.0	0.0	0.94

Site: 8 - US-75 NB On/Off Ramp & SH-67

GPS:35.944393, -96.011221

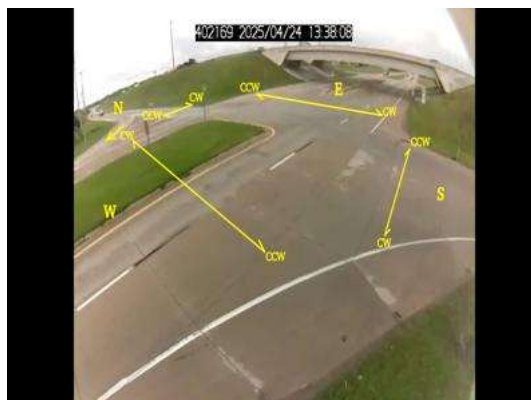
Date:04-24-2025

PM Peak Turning Movement Data Summary



SUMMARY	
Project	J SITZ - GLENPOOL - US 75 AND SH 67 - SERATRAN
Project Code	60S
Site Name	7 - US-75 SB On/Off Ramp & SH-67
Legs and Movements	All Processed Legs & Movements
Count Interval	15
Start Time	00:00
End Time	23:45
Location	7 - US-75 SB On/Off Ramp & SH-67
Latitude and Longitude	(35.94437, -96.012563)

	START	END	PHF
AM PEAK	04-24-2025 07:15:00	04-24-2025 08:15:00	0.89
PM PEAK	04-24-2025 16:30:00	04-24-2025 17:30:00	0.94
Mid-Day PEAK	04-24-2025 11:45:00	04-24-2025 12:45:00	0.93
Forced Peak AM			
Forced Peak PM			





Site: 7 - US-75 SB On/Off Ramp & SH-67

GPS:35.94437, -96.012563

Date:04-24-2025

TURNING MOVEMENT DATA

Leg	US-75 SB Off Ramp							SH-67							US-75 SB On Ramp							SH-67							
Direction	SouthBound							WestBound							NorthBound							EastBound							
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
00:00	6	0	4	0	10	0	0	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0	11	2	0	13	0	0	28
00:15	7	0	3	0	10	0	0	8	3	0	0	11	0	0	0	0	0	0	0	0	0	0	3	1	0	4	0	0	25
00:30	5	0	1	0	6	0	0	7	3	0	1	11	0	0	0	0	0	0	0	0	0	0	4	2	0	6	0	0	23
00:45	10	0	1	0	11	0	0	2	7	0	0	9	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	22
Hourly Total	28	0	9	0	37	0	0	20	15	0	1	36	0	0	0	0	0	0	0	0	0	0	20	5	0	25	0	0	98
01:00	5	0	1	0	6	0	0	6	4	0	0	10	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	20
01:15	4	0	1	0	5	0	0	2	5	0	0	7	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	15
01:30	4	0	1	0	5	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	11
01:45	5	0	2	0	7	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	12
Hourly Total	18	0	5	0	23	0	0	8	16	0	0	24	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	0	58
02:00	4	0	0	0	4	0	0	2	2	0	0	4	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	12
02:15	6	0	3	0	9	0	0	5	2	0	0	7	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	19
02:30	3	0	0	0	3	0	0	1	2	0	1	4	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	10
02:45	3	0	1	0	4	0	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	7
Hourly Total	16	0	4	0	20	0	0	9	7	0	1	17	0	0	0	0	0	0	0	0	0	0	10	1	0	11	0	0	48
03:00	3	0	1	0	4	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	11
03:15	6	0	1	0	7	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	7	1	0	8	0	0	16
03:30	6	0	0	0	6	0	0	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	6	1	0	7	0	0	16
03:45	1	0	1	0	2	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	8	1	0	9	0	0	17
Hourly Total	16	0	3	0	19	0	0	3	8	0	0	11	0	0	0	0	0	0	0	0	0	0	27	3	0	30	0	0	60
04:00	1	0	0	0	1	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	10
04:15	8	0	2	0	10	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	13	0	0	13	0	0	25
04:30	4	0	2	0	6	0	0	8	9	0	0	17	0	0	0	0	0	0	0	0	0	0	13	0	0	13	0	0	36
04:45	6	0	0	0	6	0	0	8	11	0	0	19	0	0	0	0	0	0	0	0	0	0	26	5	0	31	0	0	56
Hourly Total	19	0	4	0	23	0	0	16	25	0	0	41	0	0	0	0	0	0	0	0	0	0	58	5	0	63	0	0	127
05:00	12	0	3	0	15	0	0	5	5	0	0	10	0	0	0	0	0	0	0	0	0	0	25	2	0	27	0	0	52
05:15	19	0	2	0	21	0	0	11	9	0	0	20	0	0	0	0	0	0	0	0	0	0	35	2	0	37	0	0	78
05:30	15	0	4	0	19	0	0	5	12	0	0	17	0	0	0	0	0	0	0	0	0	0	45	3	0	48	0	0	84
05:45	16	0	5	0	21	0	0	17	10	0	0	27	0	0	0	0	0	0	0	0	0	0	48	9	0	57	0	0	105
Hourly Total	62	0	14	0	76	0	0	38	36	0	0	74	0	0	0	0	0	0	0	0	0	0	153	16	0	169	0	0	319
06:00	14	0	3	0	17	0	0	13	24	0	0	37	0	0	0	0	0	0	0	0	0	0	53	7	0	60	0	0	114
06:15	27	0	7	0	34	0	0	21	29	0	0	50	0	0	0	0	0	0	0	0	0	0	75	5	0	80	0	0	164
06:30	38	0	7	0	45	0	0	37	33	0	0	70	0	0	0	0	0	0	0	0	0	0	98	11	0	109	0	0	224
06:45	57	0	19	0	76	1	1	51	56	0	0	107	0	0	0	0	0	0	0	0	0	0	112	13	0	125	0	0	308
Hourly Total	136	0	36	0	172	1	1	122	142	0	0	264	0	0	0	0	0	0	0	0	0	0	338	36	0	374	0	0	810



Site: 7 - US-75 SB On/Off Ramp & SH-67

GPS:35.94437, -96.012563

Date:04-24-2025

TURNING MOVEMENT DATA

Leg Direction	US-75 SB Off Ramp							SH-67							US-75 SB On Ramp							SH-67							
	SouthBound							WestBound							NorthBound							EastBound							
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
07:00	22	0	20	0	42	0	0	42	83	0	1	126	0	0	0	0	0	0	0	0	0	0	126	12	0	138	0	0	306
07:15	27	0	26	0	53	0	0	67	113	0	0	180	0	0	0	0	0	0	0	0	0	0	163	23	0	186	0	0	419
07:30	22	0	42	0	64	0	0	85	159	0	0	244	0	0	0	0	0	0	0	0	0	0	149	24	0	173	0	0	481
07:45	17	0	59	0	76	0	0	68	158	0	0	226	0	0	0	0	0	0	0	0	0	0	172	24	0	196	0	0	498
Hourly Total	88	0	147	0	235	0	0	262	513	0	1	776	0	0	0	0	0	0	0	0	0	0	610	83	0	693	0	0	1704
08:00	38	0	22	0	60	0	0	49	113	0	0	162	0	0	0	0	0	0	0	0	0	0	143	12	0	155	0	0	377
08:15	32	0	23	0	55	0	0	58	88	0	0	146	0	0	0	0	0	0	0	0	0	0	145	18	0	163	0	0	364
08:30	48	0	19	0	67	0	0	57	68	0	0	125	0	0	0	0	0	0	0	0	0	0	106	7	0	113	0	0	305
08:45	45	0	11	0	56	0	0	40	67	0	0	107	0	0	0	0	0	0	0	0	0	0	100	11	0	111	0	0	274
Hourly Total	163	0	75	0	238	0	0	204	336	0	0	540	0	0	0	0	0	0	0	0	0	0	494	48	0	542	0	0	1320
09:00	42	1	11	0	54	0	0	45	50	0	1	96	0	0	0	0	0	0	0	0	0	0	76	11	0	87	0	0	237
09:15	43	0	14	0	57	0	0	30	47	0	0	77	0	0	0	0	0	0	0	0	0	0	89	15	0	104	0	0	238
09:30	34	0	10	0	44	0	0	44	44	0	0	88	0	0	0	0	0	0	0	0	0	0	93	8	0	101	0	0	233
09:45	44	0	19	0	63	0	0	36	54	0	0	90	0	0	0	0	0	0	0	0	0	0	74	10	0	84	0	0	237
Hourly Total	163	1	54	0	218	0	0	155	195	0	1	351	0	0	0	0	0	0	0	0	0	0	332	44	0	376	0	0	945
10:00	51	0	8	0	59	0	0	30	31	0	1	62	0	0	0	0	0	0	0	0	0	0	76	7	0	83	0	0	204
10:15	43	0	12	0	55	0	0	27	42	0	0	69	0	0	0	0	0	0	0	0	0	0	59	5	0	64	0	0	188
10:30	64	0	27	0	91	0	0	29	44	0	0	73	0	0	0	0	0	0	0	0	0	0	70	10	0	80	0	0	244
10:45	48	0	16	0	64	0	0	39	42	0	0	81	0	0	0	0	0	0	0	0	0	0	52	20	0	72	0	0	217
Hourly Total	206	0	63	0	269	0	0	125	159	0	1	285	0	0	0	0	0	0	0	0	0	0	257	42	0	299	0	0	853
11:00	43	0	15	0	58	0	0	43	56	0	0	99	0	0	0	0	0	0	0	0	0	0	63	5	0	68	0	0	225
11:15	50	0	13	0	63	0	0	31	51	0	0	82	0	0	0	0	0	0	0	0	0	0	73	8	0	81	0	0	226
11:30	51	0	10	0	61	0	0	34	64	0	0	98	0	0	0	0	0	0	0	0	0	0	71	12	0	83	0	0	242
11:45	45	0	17	0	62	0	0	47	54	0	0	101	0	0	0	0	0	0	0	0	0	0	87	5	0	92	0	0	255
Hourly Total	189	0	55	0	244	0	0	155	225	0	0	380	0	0	0	0	0	0	0	0	0	0	294	30	0	324	0	0	948
12:00	45	0	13	0	58	0	0	53	68	0	0	121	0	0	0	0	0	0	0	0	0	0	61	8	0	69	0	0	248
12:15	46	1	24	0	71	0	0	45	67	0	0	112	0	0	0	0	0	0	0	0	0	0	79	13	0	92	0	0	275
12:30	65	0	31	0	96	0	0	29	55	0	0	84	0	0	0	0	0	0	0	0	0	0	92	14	0	106	0	0	286
12:45	47	0	22	0	69	0	0	36	46	0	0	82	0	0	0	0	0	0	0	0	0	0	78	9	0	87	0	0	238
Hourly Total	203	1	90	0	294	0	0	163	236	0	0	399	0	0	0	0	0	0	0	0	0	0	310	44	0	354	0	0	1047
13:00	48	0	18	0	66	0	0	40	54	0	1	95	0	0	0	0	0	0	0	0	0	0	73	9	0	82	0	0	243
13:15	31	0	25	0	56	0	0	50	56	0	1	107	0	0	0	0	0	0	0	0	0	0	78	11	0	89	0	0	252
13:30	43	0	24	0	67	0	0	42	64	0	0	106	0	0	0	0	0	0	0	0	0	0	71	8	0	79	0	0	252
13:45	39	1	22	0	62	0	0	40	47	0	1	88	0	0	0	0	0	0	0	0	0	0	61	8	0	69	0	0	219
Hourly Total	161	1	89	0	251	0	0	172	221	0	3	396	0	0	0	0	0	0	0	0	0	0	283	36	0	319	0	0	966



Site: 7 - US-75 SB On/Off Ramp & SH-67

GPS:35.94437, -96.012563

Date:04-24-2025

TURNING MOVEMENT DATA

Leg Direction Start Time	US-75 SB Off Ramp							SH-67							US-75 SB On Ramp							SH-67							
	SouthBound							WestBound							NorthBound							EastBound							
	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
14:00	49	0	25	0	74	0	0	50	71	0	0	121	0	0	0	0	0	0	0	0	0	0	77	14	0	91	0	0	286
14:15	36	0	20	0	56	0	0	43	69	0	0	112	0	0	0	0	0	0	0	0	0	0	92	14	0	106	0	0	274
14:30	44	0	40	0	84	0	0	54	93	0	0	147	0	0	0	0	0	0	0	0	0	0	113	13	0	126	0	0	357
14:45	58	0	23	0	81	0	0	46	94	0	0	140	0	0	0	0	0	0	0	0	0	0	81	15	0	96	0	0	317
Hourly Total	187	0	108	0	295	0	0	193	327	0	0	520	0	0	0	0	0	0	0	0	0	0	363	56	0	419	0	0	1234
15:00	41	1	31	0	73	0	0	64	105	0	0	169	0	0	0	0	0	0	0	0	0	0	86	10	0	96	0	0	338
15:15	35	1	38	0	74	0	0	61	89	0	1	151	0	0	0	0	0	0	0	0	0	0	182	19	0	201	0	0	426
15:30	23	1	58	0	82	0	0	72	111	0	0	183	0	0	0	0	0	0	0	0	0	0	159	16	0	175	0	0	440
15:45	24	0	39	0	63	0	0	59	116	0	0	175	0	0	0	0	0	0	0	0	0	0	155	25	0	180	0	0	418
Hourly Total	123	3	166	0	292	0	0	256	421	0	1	678	0	0	0	0	0	0	0	0	0	0	582	70	0	652	0	0	1622
16:00	33	0	25	0	58	0	0	68	107	0	1	176	0	0	0	0	0	0	0	0	0	0	119	30	0	149	0	0	383
16:15	13	0	48	0	61	0	0	71	112	0	0	183	0	0	0	0	0	0	0	0	0	0	183	31	1	215	0	0	459
16:30	16	0	55	0	71	0	0	83	123	0	0	206	0	0	0	0	0	0	0	0	0	0	172	34	0	206	0	0	483
16:45	32	0	23	0	55	0	0	64	97	0	0	161	0	0	0	0	0	0	0	0	0	0	167	49	0	216	0	0	432
Hourly Total	94	0	151	0	245	0	0	286	439	0	1	726	0	0	0	0	0	0	0	0	0	0	641	144	1	786	0	0	1757
17:00	23	0	35	0	58	0	0	67	112	0	0	179	0	0	0	0	0	0	0	0	0	0	182	56	0	238	0	0	475
17:15	18	0	45	0	63	0	0	65	128	0	2	195	0	0	0	0	0	0	0	0	0	0	199	49	0	248	0	0	506
17:30	26	0	39	0	65	0	0	69	102	0	0	171	0	0	0	0	0	0	0	0	0	0	196	42	0	238	0	0	474
17:45	24	0	32	0	56	0	0	71	77	0	1	149	0	0	0	0	0	0	0	0	0	0	161	35	0	196	0	0	401
Hourly Total	91	0	151	0	242	0	0	272	419	0	3	694	0	0	0	0	0	0	0	0	0	0	738	182	0	920	0	0	1856
18:00	52	0	27	0	79	0	0	50	83	0	0	133	0	0	0	0	0	0	0	0	0	0	131	28	0	159	0	0	371
18:15	58	0	19	0	77	0	0	55	68	0	0	123	0	0	0	0	0	0	0	0	0	0	103	15	0	118	0	0	318
18:30	68	0	19	0	87	0	0	59	55	0	0	114	0	0	0	0	0	0	0	0	0	0	89	15	0	104	0	0	305
18:45	56	0	31	0	87	0	0	42	71	0	0	113	0	0	0	0	0	0	0	0	0	0	74	12	0	86	0	0	286
Hourly Total	234	0	96	0	330	0	0	206	277	0	0	483	0	0	0	0	0	0	0	0	0	0	397	70	0	467	0	0	1280
19:00	61	0	23	0	84	0	0	42	57	0	0	99	0	0	0	0	0	0	0	0	0	0	83	8	0	91	0	0	274
19:15	58	0	25	0	83	0	0	37	47	0	0	84	0	0	0	0	0	0	0	0	0	0	72	9	0	81	0	0	248
19:30	61	1	24	0	86	0	0	44	59	0	0	103	0	0	0	0	0	0	0	0	0	0	66	5	0	71	0	0	260
19:45	65	0	20	0	85	0	0	38	49	0	0	87	0	0	0	0	0	0	0	0	0	0	56	8	0	64	0	0	236
Hourly Total	245	1	92	0	338	0	0	161	212	0	0	373	0	0	0	0	0	0	0	0	0	0	277	30	0	307	0	0	1018
20:00	52	0	19	0	71	0	0	28	63	0	0	91	0	0	0	0	0	0	0	0	0	0	73	10	0	83	0	0	245
20:15	42	0	20	0	62	0	0	31	55	0	1	87	0	0	0	0	0	0	0	0	0	0	41	4	0	45	0	0	194
20:30	47	0	17	0	64	0	0	32	49	0	0	81	0	0	0	0	0	0	0	0	0	0	38	6	0	44	0	0	189
20:45	42	0	15	0	57	0	0	34	54	0	0	88	0	0	0	0	0	0	0	0	0	0	34	5	0	39	0	0	184
Hourly Total	183	0	71	0	254	0	0	125	221	0	1	347	0	0	0	0	0	0	0	0	0	0	186	25	0	211	0	0	812



Site: 7 - US-75 SB On/Off Ramp & SH-67

GPS:35.94437, -96.012563

Date:04-24-2025

TURNING MOVEMENT DATA

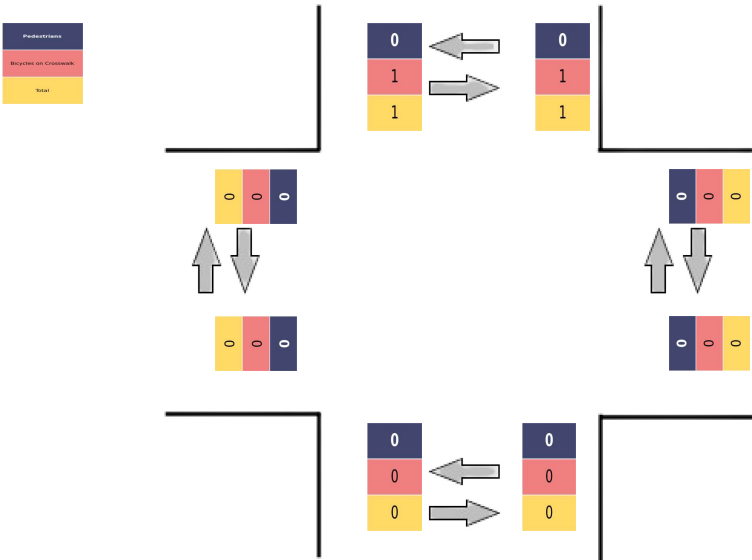
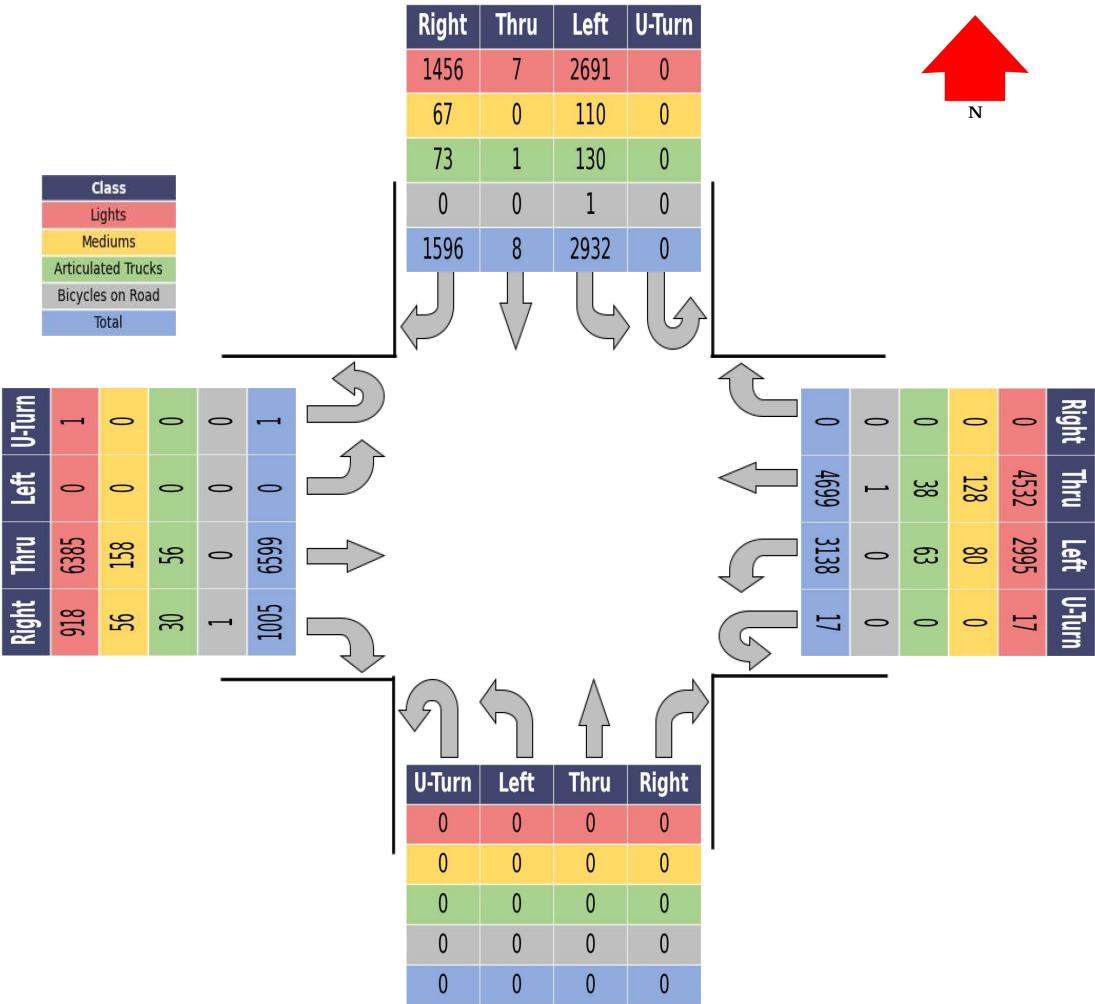
Leg	US-75 SB Off Ramp							SH-67							US-75 SB On Ramp							SH-67							
Direction	SouthBound							WestBound							NorthBound							EastBound							
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
21:00	46	0	19	0	65	0	0	26	38	0	0	64	0	0	0	0	0	0	0	0	0	0	53	9	0	62	0	0	191
21:15	32	0	14	0	46	0	0	27	38	0	0	65	0	0	0	0	0	0	0	0	0	0	23	2	0	25	0	0	136
21:30	37	0	14	0	51	0	0	30	26	0	1	57	0	0	0	0	0	0	0	0	0	0	21	5	0	26	0	0	134
21:45	35	0	17	0	52	0	0	23	19	0	0	42	0	0	0	0	0	0	0	0	0	0	23	3	0	26	0	0	120
Hourly Total	150	0	64	0	214	0	0	106	121	0	1	228	0	0	0	0	0	0	0	0	0	0	120	19	0	139	0	0	581
22:00	31	0	10	0	41	0	0	15	21	0	0	36	0	0	0	0	0	0	0	0	0	0	23	6	0	29	0	0	106
22:15	34	0	9	0	43	0	0	9	30	0	1	40	0	0	0	0	0	0	0	0	0	0	10	3	0	13	0	0	96
22:30	20	0	3	0	23	0	0	18	17	0	1	36	0	0	0	0	0	0	0	0	0	0	20	2	0	22	0	0	81
22:45	16	0	4	0	20	0	0	11	19	0	0	30	0	0	0	0	0	0	0	0	0	0	20	1	0	21	0	0	71
Hourly Total	101	0	26	0	127	0	0	53	87	0	2	142	0	0	0	0	0	0	0	0	0	0	73	12	0	85	0	0	354
23:00	19	1	7	0	27	0	0	6	13	0	0	19	0	0	0	0	0	0	0	0	0	0	5	1	0	6	0	0	52
23:15	12	0	8	0	20	0	0	9	12	0	0	21	0	0	0	0	0	0	0	0	0	0	6	2	0	8	0	0	49
23:30	16	0	2	0	18	0	0	5	6	0	0	11	0	0	0	0	0	0	0	0	0	0	6	1	0	7	0	0	36
23:45	9	0	6	0	15	0	0	8	10	0	0	18	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	41
Hourly Total	56	1	23	0	80	0	0	28	41	0	0	69	0	0	0	0	0	0	0	0	0	0	25	4	0	29	0	0	178
Grand Total	2932	8	1596	0	4536	1	1	3138	4699	0	17	7854	0	0	0	0	0	0	0	0	0	0	6599	1005	1	7605	0	0	19995
approach %	64	0	35	0	100	0	0	39	59	0	0	100	0	0	0	0	0	0	0	0	0	0	86	13	0	100	0	0	300
Total %	14	0	7	0	22	0	0	15	23	0	0	39	0	0	0	0	0	0	0	0	0	0	33	5	0	38	0	0	100
Lights	2691	7	1456	0	4154	0	0	2995	4532	0	17	7544	0	0	0	0	0	0	0	0	0	0	6385	918	1	7304	0	0	19002
Lights %	91	87	91	0	0	0	0	95	96	0	100	0	0	0	0	0	0	0	0	0	0	0	96	91	100	0	0	0	95
Mediums	110	0	67	0	177	0	0	80	128	0	0	208	0	0	0	0	0	0	0	0	0	0	158	56	0	214	0	0	599
Mediums %	3	0	4	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	0	0	0	0	3
Articulated Trucks	130	1	73	0	204	0	0	63	38	0	0	101	0	0	0	0	0	0	0	0	0	0	56	30	0	86	0	0	391
Articulated Trucks %	4	12	4	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1
Bicycles on Road	1	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	3
Bicycles on Road %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk %	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Site: 7 - US-75 SB On/Off Ramp & SH-67

GPS:35.94437, -96.012563

Date:04-24-2025

Turning Movement Data Plot





Site: 7 - US-75 SB On/Off Ramp & SH-67

GPS:35.94437, -96.012563

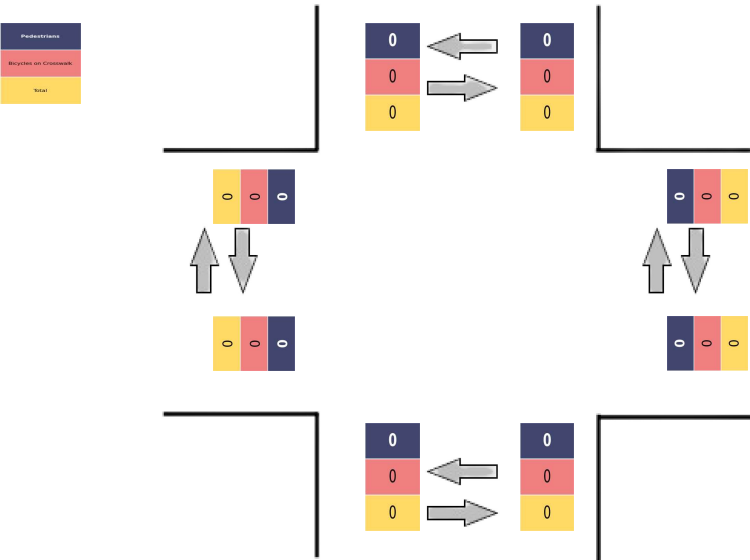
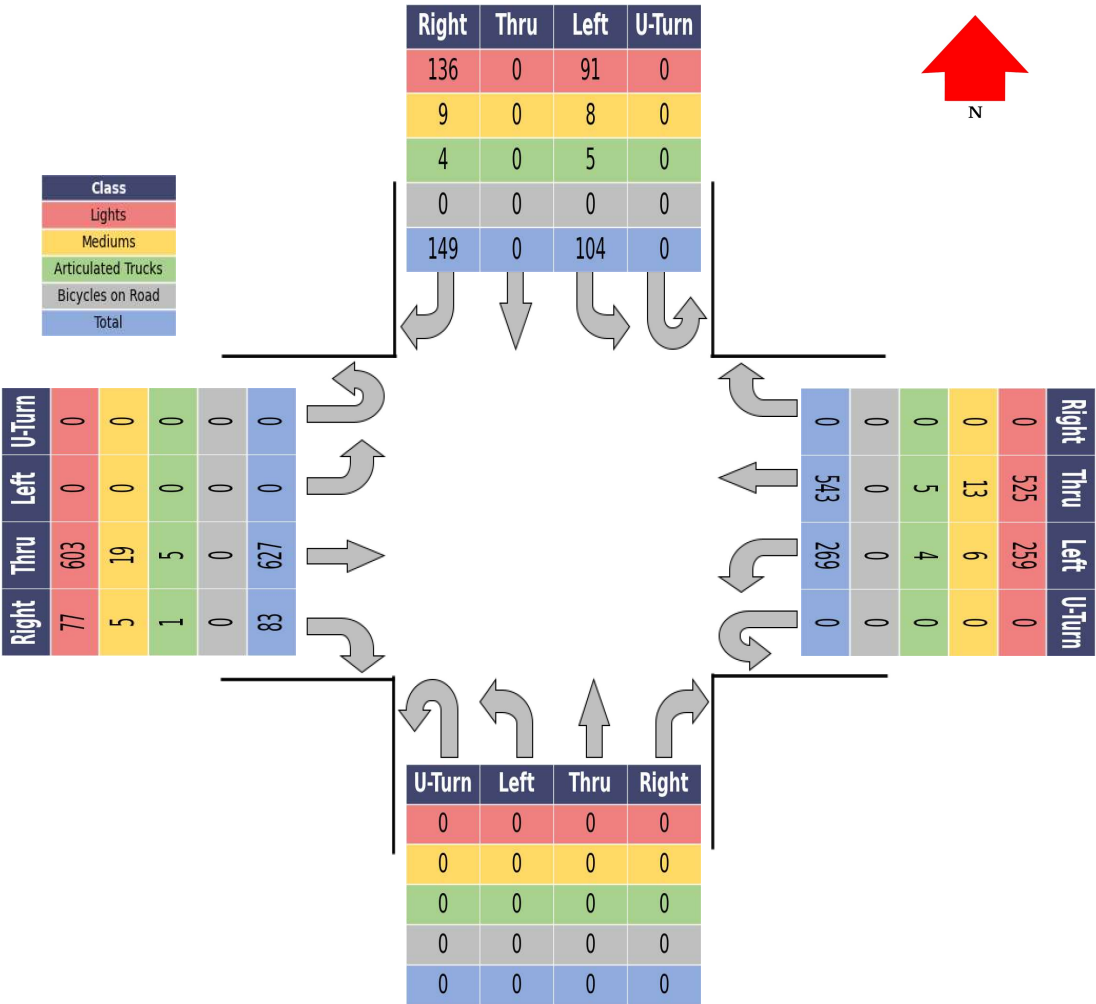
Date:04-24-2025

TURNING MOVEMENT AM PEAK HOUR

Leg	US-75 SB Off Ramp							SH-67							US-75 SB On Ramp							SH-67							
Direction	SouthBound							WestBound							NorthBound							EastBound							
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
07:15:00	27	0	26	0	53	0	0	67	113	0	0	180	0	0	0	0	0	0	0	0	0	0	163	23	0	186	0	0	419
07:30:00	22	0	42	0	64	0	0	85	159	0	0	244	0	0	0	0	0	0	0	0	0	0	149	24	0	173	0	0	481
07:45:00	17	0	59	0	76	0	0	68	158	0	0	226	0	0	0	0	0	0	0	0	0	0	172	24	0	196	0	0	498
08:00:00	38	0	22	0	60	0	0	49	113	0	0	162	0	0	0	0	0	0	0	0	0	0	143	12	0	155	0	0	377
Grand Total	104	0	149	0	253	0	0	269	543	0	0	812	0	0	0	0	0	0	0	0	0	0	627	83	0	710	0	0	1775
approach %	41	0	59	0	100	0	0	33	67	0	0	100	0	0	0	0	0	0	0	0	0	0	88	12	0	100	0	0	300
Total %	6	0	8	0	14	0	0	15	31	0	0	46	0	0	0	0	0	0	0	0	0	0	35	5	0	40	0	0	100
Lights	91	0	136	0	227	0	0	259	525	0	0	784	0	0	0	0	0	0	0	0	0	0	603	77	0	680	0	0	1691
Lights %	88	0	91	0	0	0	0	96	97	0	0	0	0	0	0	0	0	0	0	0	0	0	96	93	0	0	0	0	95
Mediums	8	0	9	0	17	0	0	6	13	0	0	19	0	0	0	0	0	0	0	0	0	0	19	5	0	24	0	0	60
Mediums %	8	0	6	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	6	0	0	0	0	3
Articulated Trucks	5	0	4	0	9	0	0	4	5	0	0	9	0	0	0	0	0	0	0	0	0	0	5	1	0	6	0	0	24
Articulated Trucks %	5	0	3	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.68	0.0	0.63	0.0	0.83	0.0	0.0	0.79	0.85	0.0	0.0	0.83	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.91	0.86	0.0	0.91	0.0	0.0	0.89

Site: 7 - US-75 SB On/Off Ramp & SH-67
GPS:35.94437, -96.012563
Date:04-24-2025

AM Peak Turning Movement Data Summary





Site: 7 - US-75 SB On/Off Ramp & SH-67

GPS:35.94437, -96.012563

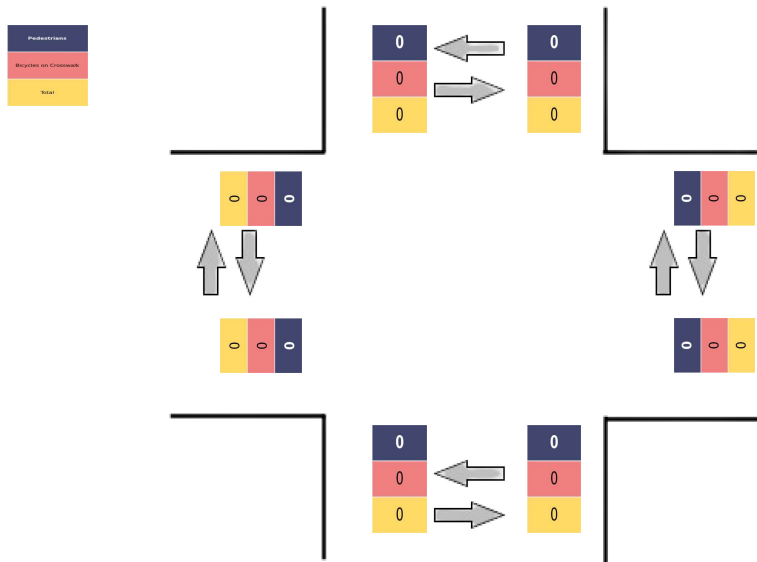
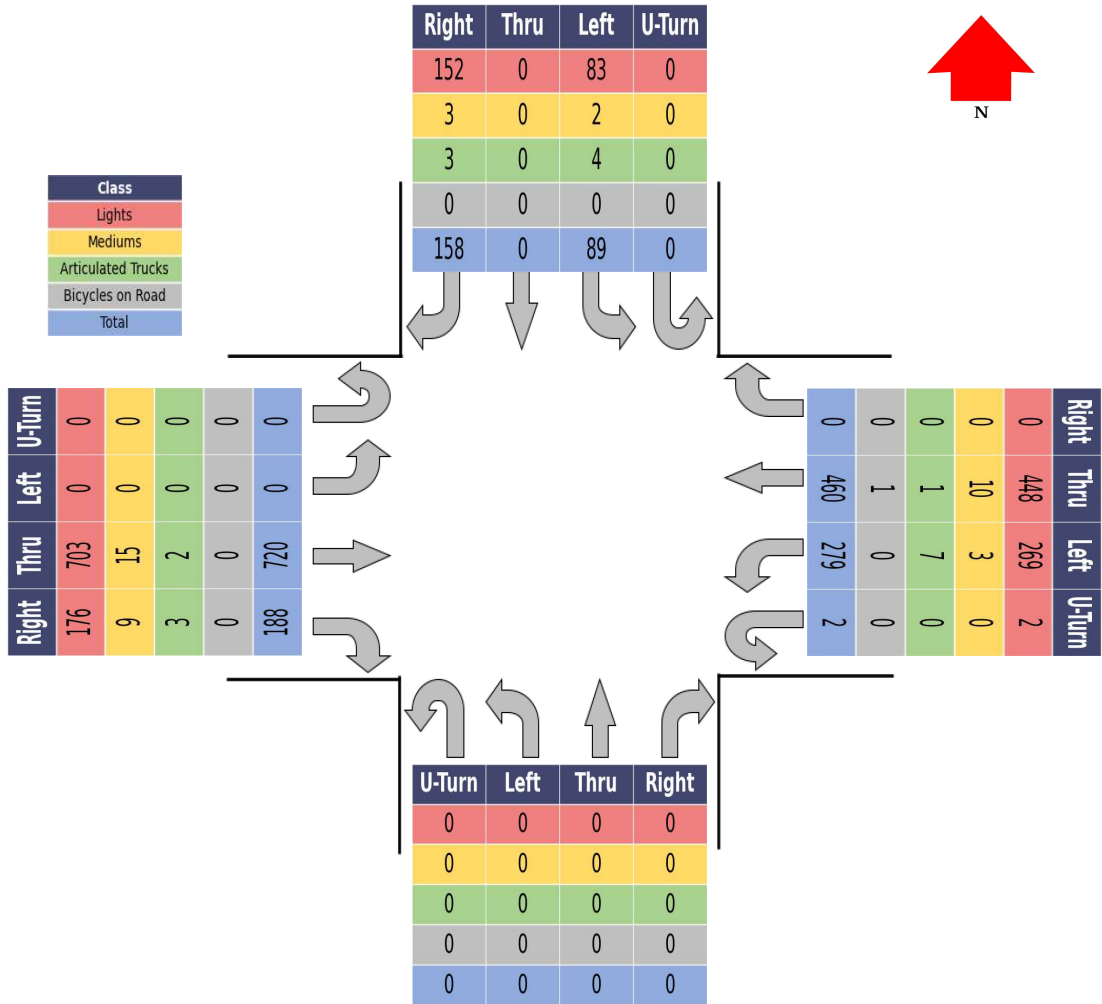
Date:04-24-2025

TURNING MOVEMENT PM PEAK HOUR

Leg Direction	US-75 SB Off Ramp							SH-67							US-75 SB On Ramp							SH-67								
	SouthBound							WestBound							NorthBound							EastBound								
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total	
16:30:00	16	0	55	0	71	0	0	83	123	0	0	206	0	0	0	0	0	0	0	0	0	0	0	172	34	0	206	0	0	483
16:45:00	32	0	23	0	55	0	0	64	97	0	0	161	0	0	0	0	0	0	0	0	0	0	167	49	0	216	0	0	432	
17:00:00	23	0	35	0	58	0	0	67	112	0	0	179	0	0	0	0	0	0	0	0	0	0	182	56	0	238	0	0	475	
17:15:00	18	0	45	0	63	0	0	65	128	0	2	195	0	0	0	0	0	0	0	0	0	0	199	49	0	248	0	0	506	
Grand Total	89	0	158	0	247	0	0	279	460	0	2	741	0	0	0	0	0	0	0	0	0	0	720	188	0	908	0	0	1896	
approach %	36	0	64	0	100	0	0	38	62	0	0	100	0	0	0	0	0	0	0	0	0	0	79	21	0	100	0	0	300	
Total %	5	0	8	0	13	0	0	15	24	0	0	39	0	0	0	0	0	0	0	0	0	0	38	10	0	48	0	0	100	
Lights	83	0	152	0	235	0	0	269	448	0	2	719	0	0	0	0	0	0	0	0	0	0	703	176	0	879	0	0	1833	
Lights %	93	0	96	0	0	0	0	96	97	0	100	0	0	0	0	0	0	0	0	0	0	0	98	94	0	0	0	0	97	
Mediums	2	0	3	0	5	0	0	3	10	0	0	13	0	0	0	0	0	0	0	0	0	0	15	9	0	24	0	0	42	
Mediums %	2	0	2	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	0	0	0	0	2	
Articulated Trucks	4	0	3	0	7	0	0	7	1	0	0	8	0	0	0	0	0	0	0	0	0	0	2	3	0	5	0	0	20	
Articulated Trucks %	4	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	
Bicycles on Road	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Bicycles on Road %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles on Crosswalk %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PHF	0.7	0.0	0.72	0.0	0.87	0.0	0.0	0.84	0.9	0.0	0.25	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.84	0.0	0.92	0.0	0.0	0.94	

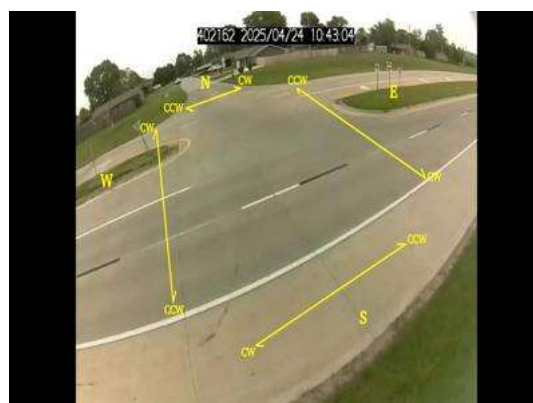
Site: 7 - US-75 SB On/Off Ramp & SH-67
GPS:35.94437, -96.012563
Date:04-24-2025

PM Peak Turning Movement Data Summary



SUMMARY	
Project	J SITZ - GLENPOOL - US 75 AND SH 67 - SERATRAN
Project Code	60S
Site Name	6 - Yukon Ave. and SH-67
Legs and Movements	All Processed Legs & Movements
Count Interval	15
Start Time	00:00
End Time	23:45
Location	6 - Yukon Ave. and SH-67
Latitude and Longitude	(35.944492, -96.015697)

	START	END	PHF
AM PEAK	04-24-2025 07:15:00	04-24-2025 08:15:00	0.87
PM PEAK	04-24-2025 16:45:00	04-24-2025 17:45:00	0.92
Mid-Day PEAK	04-24-2025 11:45:00	04-24-2025 12:45:00	0.94
Forced Peak AM			
Forced Peak PM			





Site: 6 - Yukon Ave. and SH-67

GPS:35.944492, -96.015697

Date:04-24-2025

TURNING MOVEMENT DATA

Leg Direction	Yukon Ave							SH-67							N/A							SH-67							
	SouthBound							WestBound							NorthBound							EastBound							
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
00:00	6	0	1	0	7	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	1	9	0	0	10	0	0	23
00:15	0	0	1	0	1	0	0	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	9
00:30	3	0	0	0	3	0	0	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	10
00:45	1	0	0	0	1	0	0	0	6	2	0	8	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	11
Hourly Total	10	0	2	0	12	0	0	0	19	5	0	24	0	0	0	0	0	0	0	0	0	1	16	0	0	17	0	0	53
01:00	1	0	0	0	1	0	0	0	3	2	0	5	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	8
01:15	1	0	1	0	2	0	0	0	3	3	0	6	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	11
01:30	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	6
01:45	0	0	0	0	0	0	0	0	5	1	0	6	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	7
Hourly Total	2	0	1	0	3	0	0	0	15	6	0	21	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	32
02:00	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	6
02:15	0	0	0	0	0	0	0	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	8
02:30	1	0	1	0	2	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	6
02:45	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	4
Hourly Total	1	0	1	0	2	0	0	0	9	1	0	10	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	24
03:00	3	0	0	0	3	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	5
03:15	2	0	0	0	2	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	11
03:30	1	0	0	0	1	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	8
03:45	1	0	0	0	1	0	0	0	7	0	0	7	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	16
Hourly Total	7	0	0	0	7	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	21	0	0	21	0	0	40
04:00	2	0	0	0	2	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	10
04:15	5	0	0	0	5	0	0	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	16
04:30	3	0	1	0	4	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	10	0	0	10	0	0	25
04:45	7	0	0	0	7	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	24	0	0	24	0	0	42
Hourly Total	17	0	1	0	18	0	0	0	29	0	0	29	0	0	0	0	0	0	0	0	0	0	46	0	0	46	0	0	93
05:00	6	0	0	0	6	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	22	0	0	22	0	0	36
05:15	6	0	0	0	6	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	31	0	0	31	0	0	48
05:30	9	0	1	0	10	0	0	0	14	1	0	15	0	0	0	0	0	0	0	0	0	0	39	0	0	39	0	0	64
05:45	8	0	0	0	8	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0	0	0	49	0	0	49	0	0	73
Hourly Total	29	0	1	0	30	0	0	0	49	1	0	50	0	0	0	0	0	0	0	0	0	0	141	0	0	141	0	0	221
06:00	17	0	2	0	19	0	0	0	25	1	0	26	0	0	0	0	0	0	0	0	0	1	47	0	0	48	0	0	93
06:15	14	0	1	0	15	0	0	0	34	1	0	35	0	0	0	0	0	0	0	0	0	1	62	0	0	63	0	0	113
06:30	22	0	5	0	27	0	0	0	40	1	1	42	0	0	0	0	0	0	0	0	0	0	85	0	0	85	0	0	154
06:45	13	0	4	0	17	0	0	0	67	2	1	70	0	0	0	0	0	0	0	0	0	1	115	0	0	116	0	0	203
Hourly Total	66	0	12	0	78	0	0	0	166	5	2	173	0	0	0	0	0	0	0	0	0	3	309	0	0	312	0	0	563



Site: 6 - Yukon Ave. and SH-67

GPS:35.944492, -96.015697

Date:04-24-2025

TURNING MOVEMENT DATA

Leg Direction Start Time	Yukon Ave							SH-67							N/A							SH-67							
	SouthBound							WestBound							NorthBound							EastBound							
	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
07:00	27	0	16	0	43	0	0	0	102	5	1	108	0	0	0	0	0	0	0	0	0	2	109	0	0	111	0	0	262
07:15	29	0	9	0	38	0	0	0	120	5	9	134	0	0	0	0	0	0	0	0	0	0	147	0	0	147	0	0	319
07:30	27	0	5	0	32	0	0	0	186	9	9	204	0	0	0	0	0	0	0	0	0	0	138	0	1	139	0	0	375
07:45	25	0	7	0	32	0	0	0	183	12	22	217	0	0	0	0	0	0	0	0	0	2	147	0	1	150	0	0	399
Hourly Total	108	0	37	0	145	0	0	0	591	31	41	663	0	0	0	0	0	0	0	0	0	4	541	0	2	547	0	0	1355
08:00	14	0	5	0	19	0	0	0	117	6	9	132	0	0	0	0	0	0	0	0	0	4	133	0	0	137	0	0	288
08:15	17	0	1	0	18	0	0	0	94	5	11	110	0	0	0	0	0	0	0	0	0	0	134	0	0	134	0	0	262
08:30	10	0	4	0	14	0	0	0	78	5	4	87	0	0	0	0	0	0	0	0	0	3	101	0	0	104	0	0	205
08:45	19	0	3	0	22	0	0	0	78	2	2	82	0	0	0	0	0	0	0	0	0	1	87	0	0	88	0	0	192
Hourly Total	60	0	13	0	73	0	0	0	367	18	26	411	0	0	0	0	0	0	0	0	0	8	455	0	0	463	0	0	947
09:00	9	0	3	0	12	0	0	0	56	4	2	62	0	0	0	0	0	0	0	0	0	2	84	0	0	86	0	0	160
09:15	8	0	1	0	9	0	0	0	58	4	0	62	0	0	0	0	0	0	0	0	0	0	92	0	0	92	0	0	163
09:30	19	0	2	0	21	0	0	0	48	2	1	51	0	0	0	0	0	0	0	0	0	1	78	0	0	79	0	0	151
09:45	9	0	2	0	11	0	0	0	66	5	2	73	0	0	0	0	0	0	0	0	0	2	73	0	0	75	0	0	159
Hourly Total	45	0	8	0	53	0	0	0	228	15	5	248	0	0	0	0	0	0	0	0	0	5	327	0	0	332	0	0	633
10:00	10	0	2	0	12	0	0	0	37	3	1	41	0	0	0	0	0	0	0	0	0	1	73	0	0	74	0	0	127
10:15	8	0	2	0	10	0	0	0	51	2	1	54	0	0	0	0	0	0	0	0	0	1	56	0	0	57	0	0	121
10:30	9	0	3	0	12	0	0	0	57	8	4	69	0	0	0	0	0	0	0	0	0	0	65	0	0	65	0	0	146
10:45	9	0	6	0	15	0	0	0	56	4	1	61	0	0	0	0	0	0	0	0	0	3	61	0	0	64	0	0	140
Hourly Total	36	0	13	0	49	0	0	0	201	17	7	225	0	0	0	0	0	0	0	0	0	5	255	0	0	260	0	0	534
11:00	10	0	1	0	11	0	0	0	61	6	0	67	0	0	0	0	0	0	0	0	0	1	59	0	0	60	0	0	138
11:15	10	0	3	0	13	0	0	0	63	3	0	66	0	0	0	0	0	0	0	0	0	2	72	0	0	74	0	0	153
11:30	9	0	5	0	14	0	0	0	68	5	1	74	0	0	0	0	0	0	0	0	0	2	73	0	0	75	0	0	163
11:45	11	0	1	0	12	0	0	0	59	9	3	71	0	0	0	0	0	0	0	0	0	2	79	0	0	81	0	0	164
Hourly Total	40	0	10	0	50	0	0	0	251	23	4	278	0	0	0	0	0	0	0	0	0	7	283	0	0	290	0	0	618
12:00	6	0	4	0	10	0	0	0	75	7	0	82	0	0	0	0	0	0	0	0	0	2	64	0	0	66	0	0	158
12:15	5	0	1	0	6	0	0	0	81	3	6	90	0	0	0	0	0	0	0	0	0	5	81	0	1	87	0	0	183
12:30	7	0	3	0	10	0	0	0	68	3	9	80	0	0	0	0	0	0	0	0	0	3	90	0	0	93	0	0	183
12:45	8	0	3	0	11	0	0	0	70	4	1	75	0	0	0	0	0	0	0	0	0	0	75	0	0	75	0	0	161
Hourly Total	26	0	11	0	37	0	0	0	294	17	16	327	0	0	0	0	0	0	0	0	0	10	310	0	1	321	0	0	685
13:00	8	0	2	0	10	0	0	0	61	6	4	71	0	0	0	0	0	0	0	0	0	1	70	0	0	71	0	0	152
13:15	8	0	2	0	10	0	0	0	72	9	2	83	0	0	0	0	0	0	0	0	0	0	78	0	0	78	0	0	171
13:30	10	0	3	0	13	0	0	0	79	5	1	85	0	0	0	0	0	0	0	0	0	0	72	0	0	72	0	0	170
13:45	4	0	0	0	4	0	0	0	67	4	1	72	0	0	0	0	0	0	0	0	0	1	62	0	0	63	0	0	139
Hourly Total	30	0	7	0	37	0	0	0	279	24	8	311	0	0	0	0	0	0	0	0	0	2	282	0	0	284	0	0	632



Site: 6 - Yukon Ave. and SH-67

GPS:35.944492, -96.015697

Date:04-24-2025

TURNING MOVEMENT DATA

Leg Direction Start Time	Yukon Ave							SH-67							N/A							SH-67							
	SouthBound							WestBound							NorthBound							EastBound							
	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
14:00	6	0	0	0	6	0	0	0	89	3	4	96	0	0	0	0	0	0	0	0	0	1	80	0	0	81	0	0	183
14:15	13	0	1	0	14	0	0	0	81	6	1	88	0	0	0	0	0	0	0	0	0	2	93	0	0	95	0	0	197
14:30	12	0	3	0	15	0	0	0	117	5	12	134	0	0	0	0	0	0	0	0	0	0	103	0	0	103	0	0	252
14:45	9	0	1	0	10	0	0	0	105	8	0	113	0	0	0	0	0	0	0	0	0	1	84	0	1	86	0	0	209
Hourly Total	40	0	5	0	45	0	0	0	392	22	17	431	0	0	0	0	0	0	0	0	0	4	360	0	1	365	0	0	841
15:00	11	0	1	0	12	0	0	0	128	7	5	140	0	0	0	0	0	0	0	0	0	2	83	0	0	85	0	0	237
15:15	17	0	1	0	18	0	0	0	112	9	6	127	0	0	0	0	0	0	0	0	0	2	175	0	0	177	0	0	322
15:30	11	0	3	0	14	0	0	0	129	18	19	166	0	0	0	0	0	0	0	0	0	6	147	0	0	153	0	0	333
15:45	14	0	3	0	17	0	0	0	128	12	17	157	0	0	0	0	0	0	0	0	0	5	147	0	1	153	0	0	327
Hourly Total	53	0	8	0	61	0	0	0	497	46	47	590	0	0	0	0	0	0	0	0	0	15	552	0	1	568	0	0	1219
16:00	7	0	3	0	10	0	0	0	113	9	11	133	0	0	0	0	0	0	0	0	0	5	132	0	0	137	0	0	280
16:15	20	0	3	0	23	0	0	0	126	14	14	154	0	0	0	0	0	0	0	0	0	6	180	0	0	186	0	0	363
16:30	20	0	6	0	26	0	0	0	132	17	30	179	0	0	0	0	0	0	0	0	0	5	157	0	0	162	0	0	367
16:45	19	0	1	0	20	0	0	0	105	12	9	126	0	0	0	0	0	0	0	0	0	4	187	0	0	191	0	0	337
Hourly Total	66	0	13	0	79	0	0	0	476	52	64	592	0	0	0	0	0	0	0	0	0	20	656	0	0	676	0	0	1347
17:00	26	0	8	0	34	0	0	0	117	13	15	145	0	0	0	0	0	0	0	0	0	15	198	0	0	213	0	0	392
17:15	21	0	1	0	22	0	0	0	137	18	18	173	0	0	0	0	0	0	0	0	0	6	210	0	0	216	0	0	411
17:30	21	0	11	0	32	0	0	0	113	13	13	139	0	0	0	0	0	0	0	0	0	6	202	0	0	208	0	0	379
17:45	14	0	4	0	18	0	0	0	86	8	18	112	0	0	0	0	0	0	0	0	0	4	166	0	0	170	0	0	300
Hourly Total	82	0	24	0	106	0	0	0	453	52	64	569	0	0	0	0	0	0	0	0	0	31	776	0	0	807	0	0	1482
18:00	13	0	1	0	14	0	0	0	91	12	8	111	0	0	0	0	0	0	0	0	0	4	138	0	1	143	0	0	268
18:15	7	0	5	0	12	0	0	0	68	13	5	86	0	0	0	0	0	0	0	0	0	4	109	0	0	113	0	0	211
18:30	17	0	1	0	18	0	0	0	62	10	3	75	0	0	0	0	0	0	0	0	0	5	81	0	0	86	0	0	179
18:45	15	0	3	0	18	0	0	0	84	12	4	100	0	0	0	0	0	0	0	0	0	3	66	0	0	69	0	0	187
Hourly Total	52	0	10	0	62	0	0	0	305	47	20	372	0	0	0	0	0	0	0	0	0	16	394	0	1	411	0	0	845
19:00	22	0	1	0	23	0	0	0	70	10	1	81	0	0	0	0	0	0	0	0	0	4	67	0	0	71	0	0	175
19:15	9	0	5	0	14	0	0	0	53	18	2	73	0	0	0	0	0	0	0	0	0	3	70	0	0	73	0	0	160
19:30	16	0	3	0	19	0	0	0	68	12	0	80	0	0	0	0	0	0	0	0	0	2	60	0	0	62	0	0	161
19:45	8	0	1	0	9	0	0	0	63	8	1	72	0	0	0	0	0	0	0	0	0	5	50	0	0	55	0	0	136
Hourly Total	55	0	10	0	65	0	0	0	254	48	4	306	0	0	0	0	0	0	0	0	0	14	247	0	0	261	0	0	632
20:00	11	0	4	0	15	0	0	0	70	9	1	80	0	0	0	0	0	0	0	0	0	3	72	0	0	75	0	0	170
20:15	6	0	1	0	7	0	0	0	68	6	1	75	0	0	0	0	0	0	0	0	0	2	37	0	0	39	0	0	121
20:30	4	0	2	0	6	0	0	0	57	7	0	64	0	0	0	0	0	0	0	0	0	4	41	0	0	45	0	0	115
20:45	2	0	1	0	3	0	0	0	65	7	0	72	0	0	0	0	0	0	0	0	0	1	37	0	0	38	0	0	113
Hourly Total	23	0	8	0	31	0	0	0	260	29	2	291	0	0	0	0	0	0	0	0	0	10	187	0	0	197	0	0	519



Site: 6 - Yukon Ave. and SH-67

GPS:35.944492, -96.015697

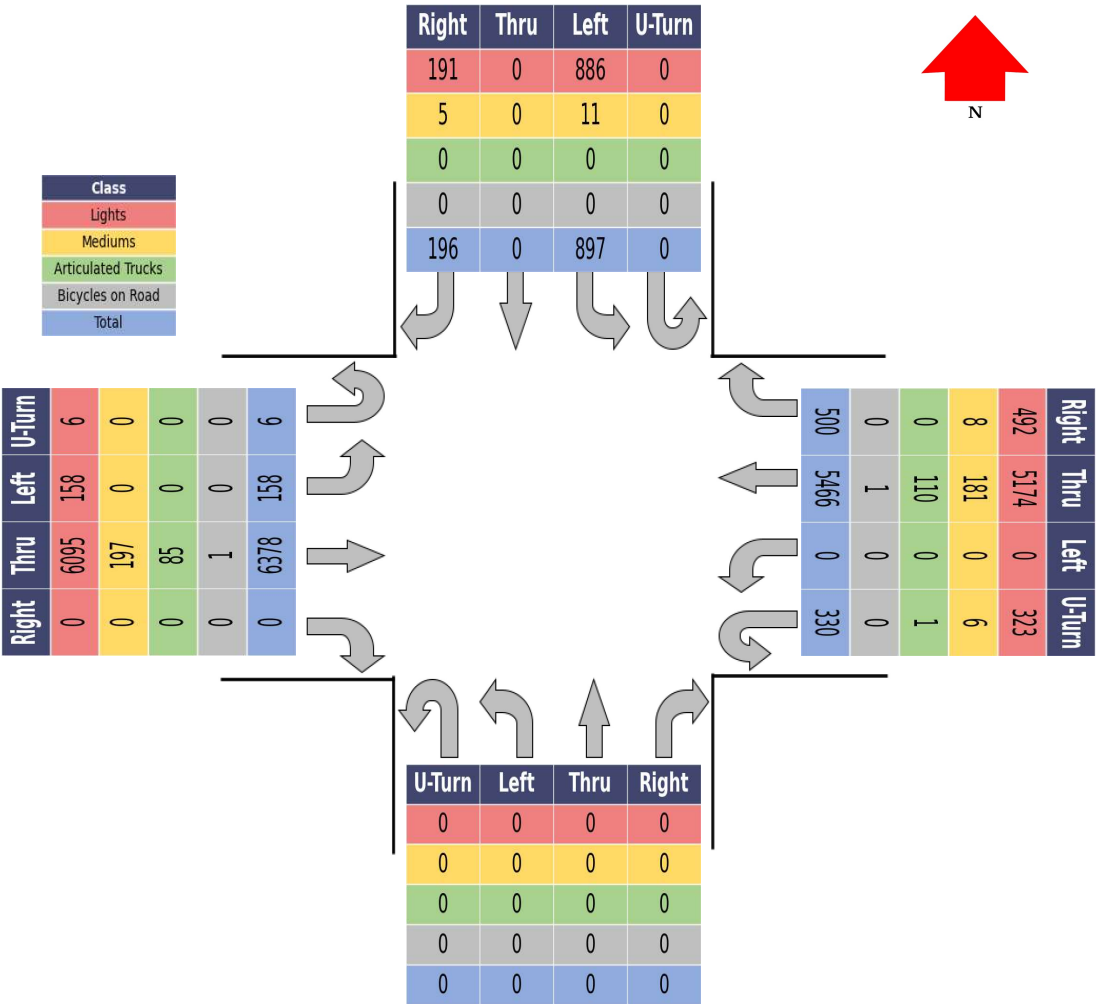
Date:04-24-2025

TURNING MOVEMENT DATA

Leg	Yukon Ave							SH-67							N/A							SH-67								
Direction	SouthBound							WestBound							NorthBound							EastBound								
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total	
21:00	11	0	1	0	12	0	0	0	48	4	2	54	0	0	0	0	0	0	0	0	0	0	0	48	0	0	48	0	0	114
21:15	5	0	0	0	5	0	0	0	45	6	0	51	0	0	0	0	0	0	0	0	0	0	0	21	0	0	21	0	0	77
21:30	2	0	0	0	2	0	0	0	34	7	0	41	0	0	0	0	0	0	0	0	0	0	1	23	0	0	24	0	0	67
21:45	5	0	0	0	5	0	0	0	34	4	0	38	0	0	0	0	0	0	0	0	0	0	1	21	0	0	22	0	0	65
Hourly Total	23	0	1	0	24	0	0	0	161	21	2	184	0	0	0	0	0	0	0	0	0	0	2	113	0	0	115	0	0	323
22:00	5	0	0	0	5	0	0	0	32	0	0	32	0	0	0	0	0	0	0	0	0	0	1	24	0	0	25	0	0	62
22:15	6	0	0	0	6	0	0	0	32	5	0	37	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	51	
22:30	4	0	0	0	4	0	0	0	20	3	0	23	0	0	0	0	0	0	0	0	0	0	17	0	0	17	0	0	44	
22:45	4	0	0	0	4	0	0	0	17	3	1	21	0	0	0	0	0	0	0	0	0	0	17	0	0	17	0	0	42	
Hourly Total	19	0	0	0	19	0	0	0	101	11	1	113	0	0	0	0	0	0	0	0	0	0	1	66	0	0	67	0	0	199
23:00	1	0	0	0	1	0	0	0	17	4	0	21	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	26	
23:15	2	0	0	0	2	0	0	0	18	2	0	20	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	27	
23:30	1	0	0	0	1	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	16	
23:45	3	0	0	0	3	0	0	0	14	3	0	17	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	25	
Hourly Total	7	0	0	0	7	0	0	0	57	9	0	66	0	0	0	0	0	0	0	0	0	0	21	0	0	21	0	0	94	
Grand Total	897	0	196	0	1093	0	0	0	5466	500	330	6296	0	0	0	0	0	0	0	0	0	158	6378	0	6	6542	0	0	13931	
approach %	82	0	17	0	100	0	0	0	86	7	5	100	0	0	0	0	0	0	0	0	0	2	97	0	0	99	0	0	300	
Total %	6	0	1	0	7	0	0	0	39	3	2	45	0	0	0	0	0	0	0	0	0	1	45	0	0	46	0	0	100	
Lights	886	0	191	0	1077	0	0	0	5174	492	323	5989	0	0	0	0	0	0	0	0	0	158	6095	0	6	6259	0	0	13325	
Lights %	98	0	97	0	0	0	0	0	94	98	97	0	0	0	0	0	0	0	0	0	0	100	95	0	100	0	0	95		
Mediums	11	0	5	0	16	0	0	0	181	8	6	195	0	0	0	0	0	0	0	0	0	0	197	0	0	197	0	0	408	
Mediums %	1	0	2	0	0	0	0	0	3	1	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	2	
Articulated Trucks	0	0	0	0	0	0	0	0	110	0	1	111	0	0	0	0	0	0	0	0	0	0	85	0	0	85	0	0	196	
Articulated Trucks %	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
Bicycles on Road	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	
Bicycles on Road %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles on Crosswalk %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Site: 6 - Yukon Ave. and SH-67
GPS:35.944492, -96.015697
Date:04-24-2025

Turning Movement Data Plot





Site: 6 - Yukon Ave. and SH-67

GPS:35.944492, -96.015697

Date:04-24-2025

TURNING MOVEMENT AM PEAK HOUR

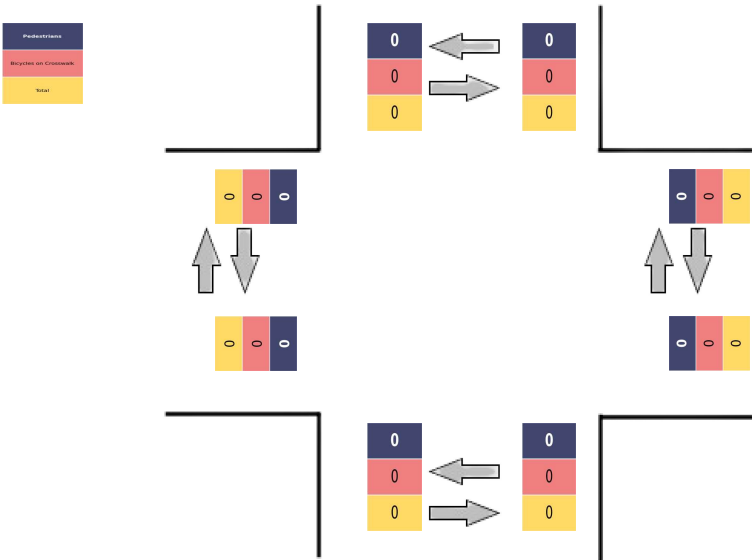
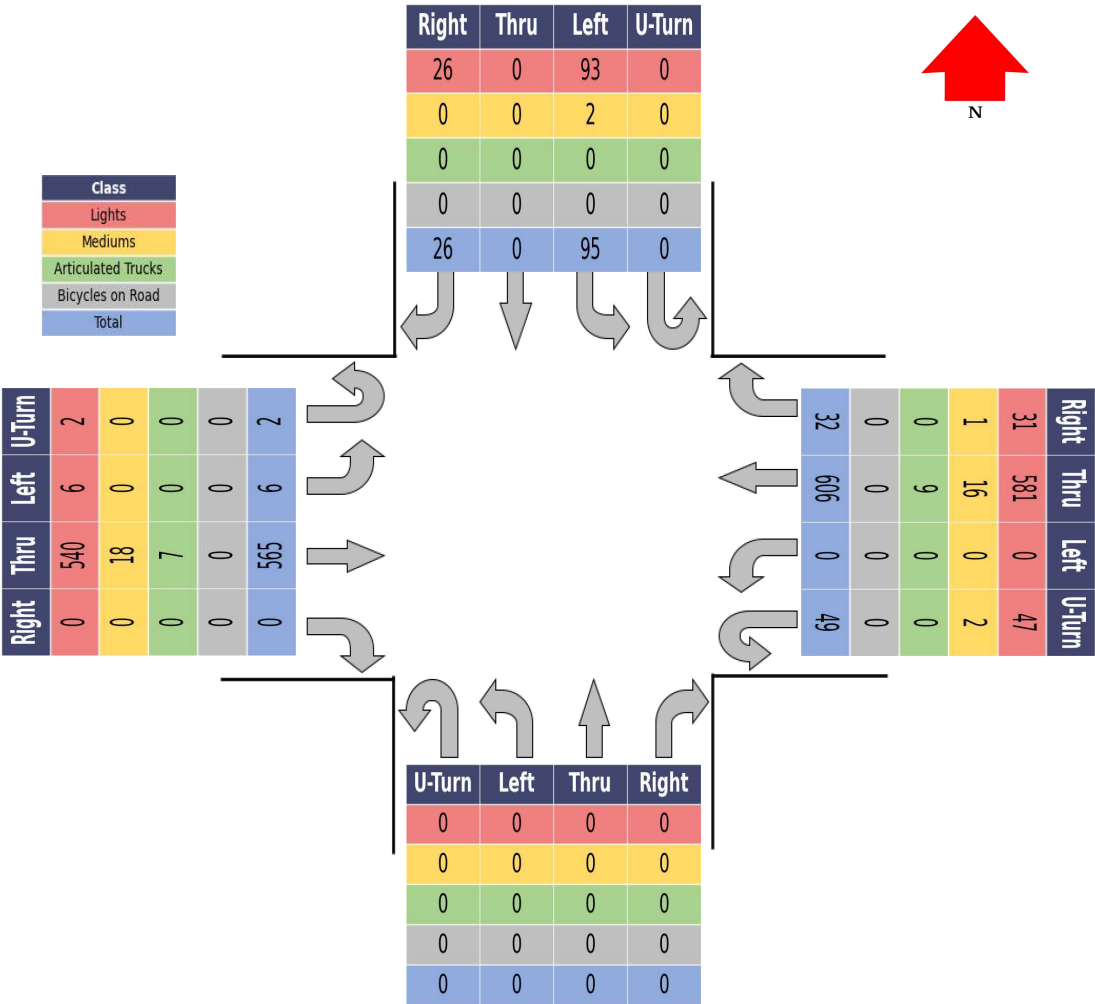
Leg	Yukon Ave							SH-67							N/A							SH-67							
Direction	SouthBound							WestBound							NorthBound							EastBound							
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total
07:15:00	29	0	9	0	38	0	0	0	120	5	9	134	0	0	0	0	0	0	0	0	0	0	147	0	0	147	0	0	319
07:30:00	27	0	5	0	32	0	0	0	186	9	9	204	0	0	0	0	0	0	0	0	0	0	138	0	1	139	0	0	375
07:45:00	25	0	7	0	32	0	0	0	183	12	22	217	0	0	0	0	0	0	0	0	0	2	147	0	1	150	0	0	399
08:00:00	14	0	5	0	19	0	0	0	117	6	9	132	0	0	0	0	0	0	0	0	0	4	133	0	0	137	0	0	288
Grand Total	95	0	26	0	121	0	0	0	606	32	49	687	0	0	0	0	0	0	0	0	0	6	565	0	2	573	0	0	1381
approach %	79	0	21	0	100	0	0	0	88	5	7	100	0	0	0	0	0	0	0	0	0	1	99	0	0	100	0	0	300
Total %	7	0	2	0	9	0	0	0	44	2	4	50	0	0	0	0	0	0	0	0	0	0	41	0	0	41	0	0	100
Lights	93	0	26	0	119	0	0	0	581	31	47	659	0	0	0	0	0	0	0	0	0	6	540	0	2	548	0	0	1326
Lights %	98	0	100	0	0	0	0	0	96	97	96	0	0	0	0	0	0	0	0	0	0	100	96	0	100	0	0	96	
Mediums	2	0	0	0	2	0	0	0	16	1	2	19	0	0	0	0	0	0	0	0	0	0	18	0	0	18	0	0	39
Mediums %	2	0	0	0	0	0	0	0	3	3	4	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
Articulated Trucks	0	0	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	0	16
Articulated Trucks %	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Bicycles on Road	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Road %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	0.82	0.0	0.72	0.0	0.8	0.0	0.0	0.0	0.81	0.67	0.56	0.79	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.38	0.96	0.0	0.5	0.96	0.0	0.0	0.87

Site: 6 - Yukon Ave. and SH-67

GPS:35.944492, -96.015697

Date:04-24-2025

AM Peak Turning Movement Data Summary





Site: 6 - Yukon Ave. and SH-67

GPS:35.944492, -96.015697

Date:04-24-2025

TURNING MOVEMENT PM PEAK HOUR

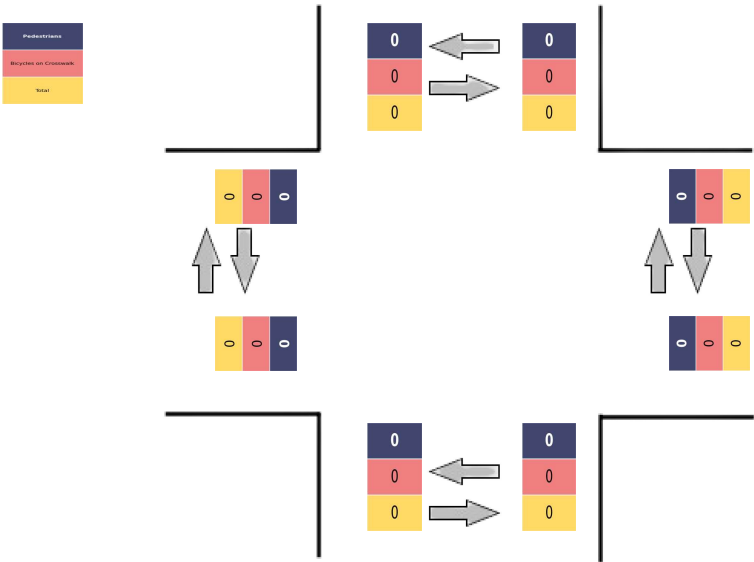
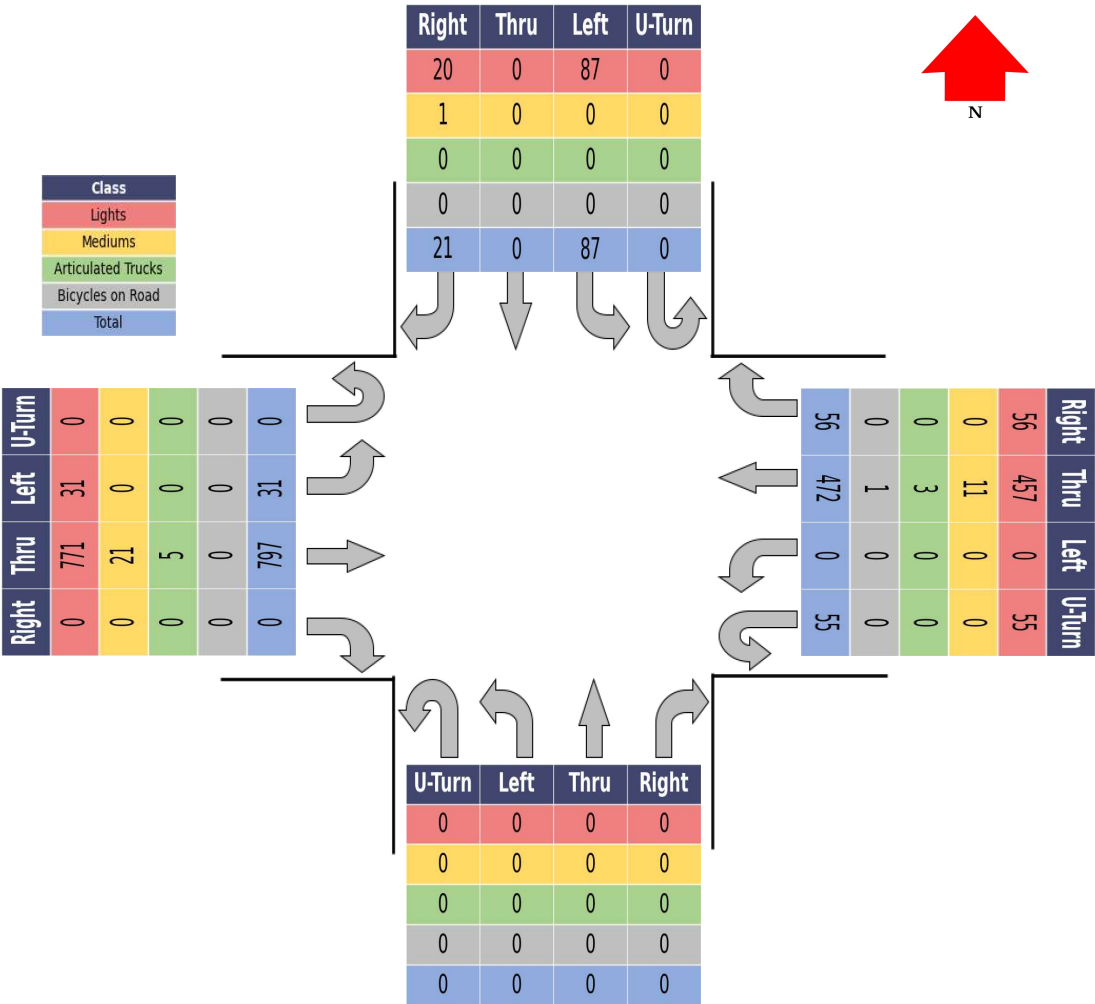
Leg	Yukon Ave							SH-67							N/A							SH-67								
Direction	SouthBound							WestBound							NorthBound							EastBound								
Start Time	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Left	Thru	Right	U-Turn	App Total	Peds CW	Peds CCW	Int Total	
16:45:00	19	0	1	0	20	0	0	0	105	12	9	126	0	0	0	0	0	0	0	0	0	0	4	187	0	0	191	0	0	337
17:00:00	26	0	8	0	34	0	0	0	117	13	15	145	0	0	0	0	0	0	0	0	0	15	198	0	0	213	0	0	392	
17:15:00	21	0	1	0	22	0	0	0	137	18	18	173	0	0	0	0	0	0	0	0	0	6	210	0	0	216	0	0	411	
17:30:00	21	0	11	0	32	0	0	0	113	13	13	139	0	0	0	0	0	0	0	0	0	6	202	0	0	208	0	0	379	
Grand Total	87	0	21	0	108	0	0	0	472	56	55	583	0	0	0	0	0	0	0	0	0	31	797	0	0	828	0	0	1519	
approach %	81	0	19	0	100	0	0	0	81	10	9	100	0	0	0	0	0	0	0	0	0	4	96	0	0	100	0	0	300	
Total %	6	0	1	0	7	0	0	0	31	4	4	38	0	0	0	0	0	0	0	0	0	2	52	0	0	55	0	0	100	
Lights	87	0	20	0	107	0	0	0	457	56	55	568	0	0	0	0	0	0	0	0	0	31	771	0	0	802	0	0	1477	
Lights %	100	0	95	0	0	0	0	0	97	100	100	0	0	0	0	0	0	0	0	0	0	100	97	0	0	0	0	0	97	
Mediums	0	0	1	0	1	0	0	0	11	0	0	11	0	0	0	0	0	0	0	0	0	0	21	0	0	21	0	0	33	
Mediums %	0	0	5	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	2	
Articulated Trucks	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	5	0	0	5	0	0	8	
Articulated Trucks %	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
Bicycles on Road	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Bicycles on Road %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pedestrians %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles on Crosswalk %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PHF	0.84	0.0	0.48	0.0	0.79	0.0	0.0	0.0	0.86	0.78	0.76	0.84	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.52	0.95	0.0	0.0	0.96	0.0	0.0	0.92	

Site: 6 - Yukon Ave. and SH-67

GPS:35.944492, -96.015697

Date:04-24-2025

PM Peak Turning Movement Data Summary



ATTACHMENT B

CRASH DATA

CRASH SUMMARY REPORT

NUM, SH67, Glenpool, Tulsa, 2012-2024 (2022-2024 Limited Data)

Created on October 10, 2025

Created by Stephen Waldrop

Data extents: January 1, 2012 to December 31, 2024



Applied Filters

Shape: Polygon



Total Crashes

137

Fatal Crashes

1

ODOT Crash Summary

Collision

Total Collisions

137

100.00%

Inattentive Driver Related

91

66.42%

Intersection Related	76	55.47%
Young Driver Related	35	25.55%
Older Driver Related	17	12.41%
CMV Related	12	8.76%
Hit & Run Involved	7	5.11%
Unrestrained	5	3.65%
Motorcycle Related	3	2.19%
Work Zone Related	3	2.19%
Drug Involved	1	0.73%
Alcohol Related	0	0.00%
Bicyclist Related		
Pedestrian Related		

Collision Date & Time (Year)	Collision	
2021	18	13.14%
2020	17	12.41%
2019	12	8.76%
2018	10	7.30%
2017	15	10.95%
2016	10	7.30%
2015	19	13.87%
2014	16	11.68%
+ 21 more	20	14.60%

Crash Severity	Collision	
(O) Property Damage-Only	95	69.34%
(C) Possible Injury	23	16.79%
(B) Suspected Minor Injury	13	9.49%
(A) Suspected Serious Injury	5	3.65%
(K) Fatal Injury	1	0.73%
+ 3 more	0	0%

Manner of Collision	Collision	
Right Angle Straight	26	18.98%
Rear (End), Turning Right	24	17.52%
Rear End, Stopped	24	17.52%
Rear End, Motion	15	10.95%
Fixed Object, Left (Side)	13	9.49%
Sideswipe Same (Direction)	9	6.57%

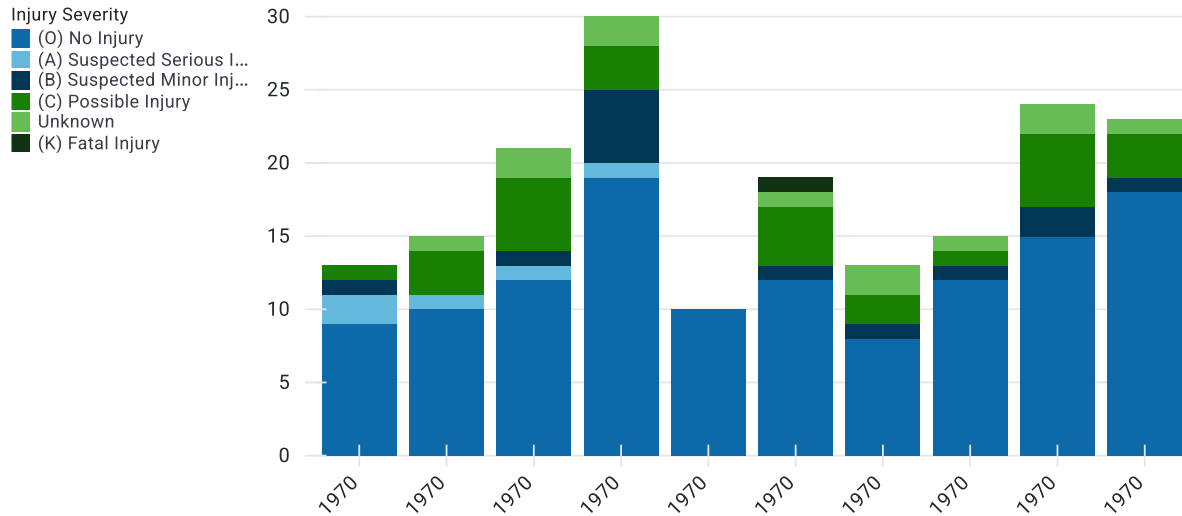
Turning Left, Straight	8	5.84%
Merging (From) Right, Straight	4	2.92%
Turning Left, Left	3	2.19%
Turning Right, Straight	3	2.19%
Fixed Object, Right (Side)	2	1.46%
Animal	1	0.73%
Backing, Stopped, Backing	1	0.73%
Turning Left, Right	1	0.73%
Turning Right, Right	1	0.73%
Unknown	1	0.73%
Unknown/Debris, Ect.	1	0.73%
Backing (From) Driveway, Straight	0	0.00%
Backing, Far Side		
Backing, Near Side		
Driveway, Far (Side) *Within 100Ft. Of Intersection		
Driveway, Near (Side) *Within 100Ft. Of Intersection		
Head-On, Opposite (Direction)		
Inadequate Information		
Merging (From) Left, Straight		
Parked Vehicle, Left (Side)		
Parked Vehicle, Right (Side)		
Pedestrian, Far Side		
Pedestrian, Near Side		
Pedestrian, Turning Left		
Pedestrian, Turning Right		
Rear (End), Turning Left		
Sideswipe Opposite (Direction)		
T-Intersection Straight		
Turning Head-On, Left		
Turning Right, Left		
Turning Right, Opposite		
Turning Straight, Left		
Turning Straight, Right		
U-Turn, Left		
U-Turn, Right		
Vehicle Rolled Over		

Highway Class		Collision
ODOT Highway	137	100.00%
+ 3 more	0	0%

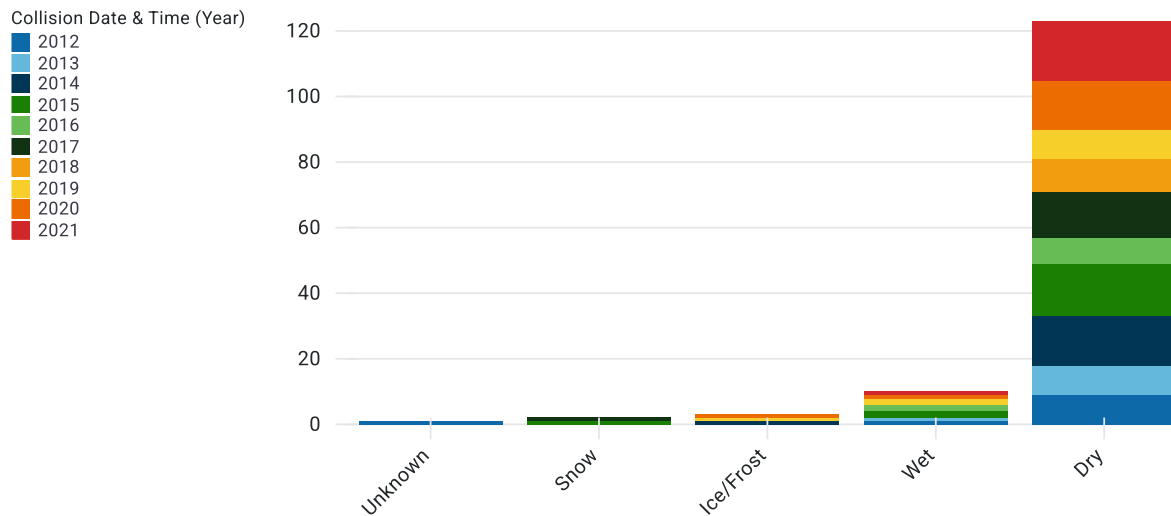
County (Mapped)		Collision
Tulsa	137	100.00%
+ 76 more	0	0%

City (Mapped)		Collision
---------------	--	-----------

Collision Severity By Year



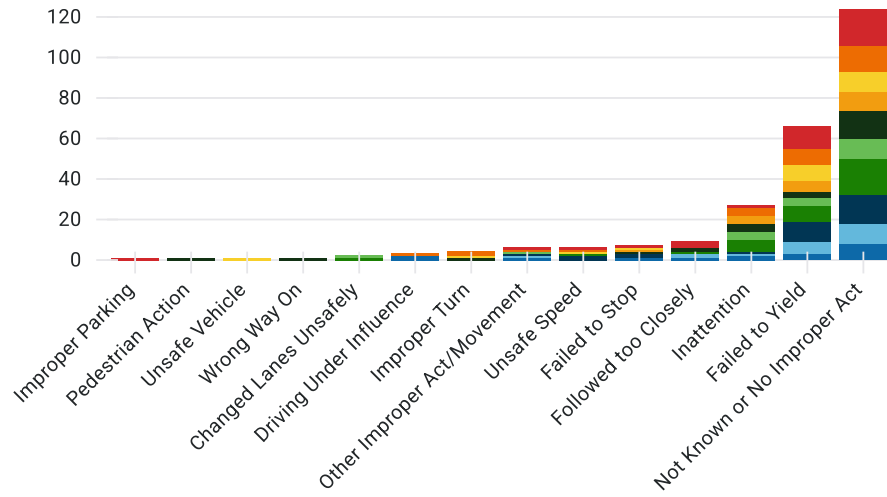
Road Condition By Year



Unsafe/Unlawful By Year

Collision Date & Time (Year)

- 2012
- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2020
- 2021





Program Provided by:
 Traffic Engineering Division
 Collision Analysis and Safety Branch
 (405) 522-0985
 Created: 10/10/2025
 by Stephen Waldrop

Study Map & Totals

Legend

- ▲ Fatality
- Injury
- Property Damage



Remarks:

NONE

Date Range: 01-01-2012 thru 12-31-2024

	2012						2013						2014					
	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot
Collisions		2	1		7	10		1		3	8	12		1	1	4	10	16
Persons		2	1	1		4		1		3		4		2	1	7		10



STUDY TOTALS (CONT.)

Date Range: 01-01-2012 Thru 12-31-2024

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 10/10/2025 by Stephen Waldrop

	2015						2016						2017					
	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot
Collisions		1	5	3	10	19					10	10	1		2	2	11	16
Persons		1	5	4		10						0	1		3	8		12

	2018						2019						2020					
	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot
Collisions			1	2	7	10			1	1	10	12			2	5	12	19
Persons			1	3		4			2	1		3			5	7		12

	2021*						2022*						2023*					
	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot
Collisions			1	3	14	18			1	6	1	8	1			6	1	8
Persons			1	3		4			1	10		11	1			7		8

* DENOTES A YEAR FOR WHICH DATA MAY BE INCOMPLETE.

	2024*					
	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot
Collisions				6	5	11
Persons				11		11

* DENOTES A YEAR FOR WHICH DATA MAY BE INCOMPLETE.

	Study Total					
	Fatality	Suspected Serious Injury	Non-Incapacitating Injury	Possible Injury	Property Damage	Total
Collisions	2	5	15	41	106	169
Persons	2	6	20	65		93

STUDY TOTALS - BY CITY AND HWY CLASS

Date Range: 01-01-2012 Thru 12-31-2024

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 10/10/2025 by Stephen Waldrop

STUDY TOTALS

Year	HIGHWAY COLLISIONS				CITY STREET COLLISIONS				COUNTY ROAD COLLISIONS				TOTAL COLLISIONS			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
2012		3	7	10										3	7	10
2013		4	8	12										4	8	12
2014		6	10	16										6	10	16
2015		9	10	19										9	10	19
2016			10	10											10	10
2017	1	4	11	16									1	4	11	16
2018		3	7	10										3	7	10
2019		2	10	12										2	10	12
2020		7	12	19										7	12	19
2021 *		4	14	18										4	14	18
2022 *		7	1	8										7	1	8
2023 *	1	6	1	8									1	6	1	8
2024 *		6	5	11										6	5	11
Total:	2	61	106	169				0				0	2	61	106	169

* DENOTES A YEAR FOR WHICH DATA MAY BE INCOMPLETE.

County: (72) TULSA

	HIGHWAY COLLISIONS				CITY STREET COLLISIONS				COUNTY ROAD COLLISIONS				TOTAL COLLISIONS			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
(20) GLENPOOL	2	61	106	169									2	61	106	169

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

TABULATION OF COLLISIONS

Date Range: 01-01-2012 Thru 12-31-2024

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 10/10/2025 by Stephen Waldrop

Collisions By Type Of Collision

Type Of Collision	2012				2013				2014				2015				2016			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
Rear-End (front-to-rear)		2	4	6		3	3	6		2	2	4		4	3	7			5	5
Head-On (front-to-front)																				
Right Angle (front-to-side)		1		1		1	1	2		3	6	9		1	2	3			1	1
Angle Turning														1	2	3			2	2
Other Angle																				
Sideswipe Same Direction			1	1										2	1	3			1	1
Sideswipe Opposite Direction																				
Fixed Object			1	1			3	3		1	1	2		1		1				
Pedestrian																				
Pedal Cycle																				
Animal															1	1				
Overturn/Rollover																				
Vehicle-Train																				
Other Single Vehicle Crash																				
Other			1	1			1	1			1	1			1	1			1	1
Total		3	7	10		4	8	12		6	10	16		9	10	19			10	10
Percent		1.8	4.1	5.9		2.4	4.7	7.1		3.6	5.9	9.5		5.3	5.9	11.2			5.9	5.9

Collisions By Type Of Collision

Type Of Collision	2017				2018				2019				2020				2021*			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
Rear-End (front-to-rear)	1	1	6	8		2	5	7			2	2		2	3	5		3	10	13
Head-On (front-to-front)																				
Right Angle (front-to-side)		2	1	3			1	1		2		2		3	1	4		1	1	2
Angle Turning		1		1			1	1			3	3		2	3	5			1	1
Other Angle																				
Sideswipe Same Direction			1	1							2	2			3	3			2	2
Sideswipe Opposite Direction																				
Fixed Object			1	1							1	1			2	2				
Pedestrian																				
Pedal Cycle																				
Animal																				
Overturn/Rollover																				
Vehicle-Train																				
Other Single Vehicle Crash																				
Other			2	2		1		1			2	2								
Total	1	4	11	16		3	7	10		2	10	12		7	12	19		4	14	18
Percent	0.6	2.4	6.5	9.5		1.8	4.1	5.9		1.2	5.9	7.1		4.1	7.1	11.2		2.4	8.3	10.7

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

TABULATION OF COLLISIONS

Date Range: 01-01-2012 Thru 12-31-2024

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 10/10/2025 by Stephen Waldrop

Collisions By Type Of Collision

Type Of Collision	2022*				2023*				2024*				Total				
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Pct
Rear-End (front-to-rear)		2	1	3						1	2	3	1	22	46	69	40.8
Head-On (front-to-front)					1			1					1			1	0.6
Right Angle (front-to-side)		1		1		1		1		4	1	5		20	15	35	20.7
Angle Turning		1		1		1	1	2			1	1		6	14	20	11.8
Other Angle																	
Sideswipe Same Direction														2	11	13	7.7
Sideswipe Opposite Direction																	
Fixed Object		1		1										3	9	12	7.1
Pedestrian																	
Pedal Cycle																	
Animal															1	1	0.6
Overturn/Rollover						1		1						1		1	0.6
Vehicle-Train																	
Other Single Vehicle Crash																	
Other		2		2		3		3		1	1	2		7	10	17	10.1
Total		7	1	8	1	6	1	8		6	5	11	2	61	106	169	100
Percent		4.1	0.6	4.7	0.6	3.6	0.6	4.7		3.6	3.0	6.5	1.2	36.1	62.7	100	

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

TABULATION OF COLLISIONS

Date Range: 01-01-2012 Thru 12-31-2024

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 10/10/2025 by Stephen Waldrop

Unit Type	2012				2013				2014				2015				2016			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
Train																				
Pedestrian																				
Animal															1	1				
Pedal Cycle																				
Parked Vehicle																				
CMV		1		1			1	1			3	3		3		3			1	1
Other Single Vehicle			1	1			3	3		1		1		1	2	3				
Other Multi-Vehicle		5	12	17		8	9	17		10	16	26		15	16	31			19	19
Total		6	13	19		8	13	21		11	19	30		19	19	38			20	20
Percent		1.8	4.0	5.8		2.5	4.0	6.4		3.4	5.8	9.2		5.8	5.8	11.7			6.1	6.1

Unit Type	2017				2018				2019				2020				2021*			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
Train																				
Pedestrian																				
Animal																				
Pedal Cycle																				
Parked Vehicle																				
CMV			1	1			1	1						1		1				
Other Single Vehicle			2	2		1		1		2	2			2	2					
Other Multi-Vehicle	2	9	17	28		4	13	17		4	16	20		13	20	33		8	29	37
Total	2	9	20	31		5	14	19		4	18	22		14	22	36		8	29	37
Percent	0.6	2.8	6.1	9.5		1.5	4.3	5.8		1.2	5.5	6.7		4.3	6.7	11.0		2.5	8.9	11.3

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

TABULATION OF COLLISIONS

Date Range: 01-01-2012 Thru 12-31-2024

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 10/10/2025 by Stephen Waldrop

Unit Type	2022*				2023*				2024*				Total				
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Pct
Train																	
Pedestrian																	
Animal															1	1	0.3
Pedal Cycle																	
Parked Vehicle																	
CMV		1		1	1	1		2					1	7	7	15	4.6
Other Single Vehicle						1		1						4	12	16	4.9
Other Multi-Vehicle		12	2	14	1	8	2	11		14	10	24	3	110	181	294	90.2
Total		13	2	15	2	10	2	14		14	10	24	4	121	201	326	100
Percent		4.0	0.6	4.6	0.6	3.1	0.6	4.3		4.3	3.1	7.4	1.2	37.1	61.7	100	

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

TABULATION OF COLLISIONS

Date Range: 01-01-2012 Thru 12-31-2024

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 10/10/2025 by Stephen Waldrop

Vehicle Type	2012				2013				2014				2015				2016			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
Passenger Vehicle-2 Door										1	1	2		2	1	3			2	2
Passenger Vehicle-4 Door		1	7	8		1	5	6		3	9	12		5	8	13			5	5
Passenger Vehicle-Convertible																				
Pickup Truck		1	2	3		2	4	6		2	3	5		2	4	6			7	7
Single-Unit Truck (2 axles)																				
Single-Unit Truck (3 or more axles)																				
School Bus																				
Truck/Trailer															1	1				
Truck-Tractor (bobtail)																				
Truck-Tractor/Semi-Trailer			1	1			1	1			3	3			3	3			1	1
Truck-Tractor/Double																				
Truck-Tractor/Triple																				
Bus/Large Van (9-15 seats)																				
Bus (16+ seats)																				
Motorcycle		1		1		1		1												
Motor Scooter/Moped																				
Motor Home																				
Farm Machinery																				
ATV																				
Sport Utility Vehicle (SUV)			2	2			6	6		2	5	7			9	9			2	2
Passenger Van		1		1			1	1											1	1
Truck More Than 10,000 lbs.																				
Van (10,000 lbs. or less)																				
Other			3	3							1	1			2	2			2	2
Total		4	15	19		4	17	21		8	22	30		9	28	37			20	20
Percent		1.2	4.4	5.6		1.2	5.0	6.2		2.4	6.5	8.8		2.7	8.3	10.9			5.9	5.9

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



TABULATION OF COLLISIONS

Date Range: 01-01-2012 Thru 12-31-2024

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 10/10/2025 by Stephen Waldrop

Vehicle Type	2017				2018				2019				2020				2021*			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
Passenger Vehicle-2 Door	1	2	1	4															1	1
Passenger Vehicle-4 Door		2	10	12		1	5	6		2	9	11		4	15	19		2	14	16
Passenger Vehicle-Convertible																				
Pickup Truck		1	6	7			6	6			5	5		3	5	8			6	6
Single-Unit Truck (2 axles)			1	1																
Single-Unit Truck (3 or more axles)																				
School Bus																				
Truck/Trailer															1	1				
Truck-Tractor (bobtail)																				
Truck-Tractor/Semi-Trailer			1	1											1	1				
Truck-Tractor/Double																				
Truck-Tractor/Triple																				
Bus/Large Van (9-15 seats)																				
Bus (16+ seats)																				
Motorcycle						1		1												
Motor Scooter/Moped																				
Motor Home																				
Farm Machinery																				
ATV																				
Sport Utility Vehicle (SUV)		2	2	4		1	4	5		1	4	5		1	4	5		2	12	14
Passenger Van																				
Truck More Than 10,000 lbs.																				
Van (10,000 lbs. or less)							1	1											1	1
Other		1	1	2							1	1		1	1	2			1	1
Total	1	8	22	31		3	16	19		3	19	22		9	27	36		4	35	39
Percent	0.3	2.4	6.5	9.1		0.9	4.7	5.6		0.9	5.6	6.5		2.7	8.0	10.6		1.2	10.3	11.5

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

TABULATION OF COLLISIONS

Date Range: 01-01-2012 Thru 12-31-2024

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 10/10/2025 by Stephen Waldrop

Vehicle Type	2022*				2023*				2024*				Total				
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Pct
Passenger Vehicle-2 Door													1	5	6	12	3.5
Passenger Vehicle-4 Door		3	7	10		4	4	8		2	5	7		30	103	133	39.2
Passenger Vehicle-Convertible																	
Pickup Truck		4	2	6			6	6		4	5	9		19	61	80	23.6
Single-Unit Truck (2 axles)															1	1	0.3
Single-Unit Truck (3 or more axles)																	
School Bus																	
Truck/Trailer															2	2	0.6
Truck-Tractor (bobtail)																	
Truck-Tractor/Semi-Trailer		1		1			2	2						1	13	14	4.1
Truck-Tractor/Double																	
Truck-Tractor/Triple																	
Bus/Large Van (9-15 seats)																	
Bus (16+ seats)																	
Motorcycle			1	1										3	1	4	1.2
Motor Scooter/Moped																	
Motor Home																	
Farm Machinery																	
ATV																	
Sport Utility Vehicle (SUV)		2	3	5		1		1		2	2	4		14	55	69	20.4
Passenger Van										1	2	3		2	4	6	1.8
Truck More Than 10,000 lbs.																	
Van (10,000 lbs. or less)											1	1			3	3	0.9
Other					1			1					1	2	12	15	4.4
Total		10	13	23	1	5	12	18		9	15	24	2	76	261	339	100
Percent		2.9	3.8	6.8	0.3	1.5	3.5	5.3		2.7	4.4	7.1	0.6	22.4	77.0	100	

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

TABULATION OF COLLISIONS

Date Range: 01-01-2012 Thru 12-31-2024

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 10/10/2025 by Stephen Waldrop

Day And Time Of Occurrence Of Collisions

Day	Hour Of The Day																								Tot	Pcnt	
	AM												PM														
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12			
Sunday								1			1	1	1	2	3	4	1	1	1	1	1				8	4.5	
Monday					1	1	2	2	2		1	1	3	3	2	7	2	1	2					2	32	18.2	
Tuesday			1	1			2	3		1	2		2	2	4	4	5	1	1					1	30	17.0	
Wednesday						1	1			1	1	2	1	1	3	4	6	1	1					1	24	13.6	
Thursday					1	1	1	1		1			1	4	3	4	5	3	2	1		1	1	1	31	17.6	
Friday			1			1	1	3				1	2	1	1	7	8	1	1	1	1	1	2	1	34	19.3	
Saturday						1		1	1			3	2				3	1	2		1	1		1	17	9.7	
	Early Morning - Sunrise						Morning Peak				Mid Morning/Afternoon						PM Peak			Evening - Late Night						Tot	100
Total	10						21				51						65			29						176	
Percent	5.7						11.9				29.0						36.9			16.5						100	

Roadway/Lighting

Roadway Conditions	Lighting Conditions					Total	Percent
	Daylight	Darkness	Twilight	Lighted	Unknown		
Dry	122	22	7	5		156	88.6
Wet (Water)	11	2	1			14	8.0
Ice, Snow, or Slush	2	2	1			5	2.8
Mud, Dirt, Gravel, or Sand							
Other		1				1	0.6
Total	135	27	9	5		176	100
Percent	76.7	15.3	5.1	2.8		100	

Weather Conditions

Weather Conditions	Total	Percent
Clear	129	73.3
Clouds Present	37	21.0
Raining/Fog	7	4.0
Snowing/Sleet/Hail	3	1.7
Other		
Total	176	100

TABULATION OF COLLISIONS

Date Range: 01-01-2012 Thru 12-31-2024

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 10/10/2025 by Stephen Waldrop

Drivers By Driver Conditions

Unsafe/Unlawful	Apparently Normal			Alcohol Involved						Sleep Suspected			Drug Use Indicated			Unknown Condition			Total				
				Ability Impaired			Odor Detected																
	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Total	Pcnt
Failed to Yield		29	46								1						4		30	50	80	24.7	
Failed to Stop		3	5														1		3	6	9	2.8	
Failed to Signal																							
Improper Turn		2	4														1		2	5	7	2.2	
Improper Start																							
Improper Stop																							
Improper Backing																							
Improper Parking			1																	1	1	0.3	
Improper Passing																							
Improper Lane Change			1																	1	1	0.3	
Left of Center		1																	1		1	0.3	
Following Too Close		7	6														1	1	8	7	15	4.6	
Unsafe Speed		3	3		1						1								5	3	8	2.5	
DWI					1	3													1	3	4	1.2	
Inattention		5	17						1		1						3	1	9	19	28	8.6	
Negligent Driving													1				1		1	1	2	0.6	
Defective Vehicle			1																	1	1	0.3	
Wrong Way																1			1		1	0.3	
No Improper Action	2	56	94											1		3	2	2	59	97	158	48.8	
Other		1	3											1	1		2	1	1	6	8	2.5	
Total	2	107	181		2	3			1	3			1	2	2	7	13	4	120	200	324	100	
Percent	0.6	33.0	55.9		0.6	0.9			0.3	0.9			0.3	0.6	0.6	2.2	4.0	1.2	37.0	61.7	100		

Severities Indicate Highest Severity in Collision

Collisions By Special Feature

Special Feature	Total			
	Fat	Inj *	PD	Tot
Bridge		1	4	5
Work Zone		2	1	3
Cross Median	1	1		2
Train Collision				

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



STUDY CRITERIA

Date Range: 01-01-2012 Thru 12-31-2024

Loaded Criteria: Autosaved Criteria

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 10/10/2025 by Stephen Waldrop

ROADWAY / REGION

QUERY OVER	SELECTIONS
Draw Area on Map	User Selection on Map

DATE

Date Range	01-01-2012 to 12-31-2024
------------	--------------------------

REPORT SECTIONS

Collision Map & Study Totals	(Included)
Collision Analysis Tables	(Included)
- Totals By City, Hwy Class	Checked
- Other Analysis Tables	Checked
Rate Analysis	(Included)
Query Criteria	(Included)

FILTER COLLISIONS

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

REPORT FORMAT OPTIONS

Print Watermark	Checked
Print DPS Case Numbers	Unchecked

SUPPLEMENTARY CRASH DATA - 2024 - 2025

MRN	Crash Severity	Date Of Crash	Name of Road	Name of minor Road	Intersection Related Y/N	Contributing Factor	Manner of Collision	Latitude	Longitude	Street 1	Street 2
2406003818	B	6/27/2024	W 151st St S	US-75 SB Off-Ramp	Y	Failed to Yield	Angle	35.94446	-96.01254	151st St.	US 75 SB Ramps
2408000233	PDO	7/30/2024	SH-67	26th W Ave	N	Asleep	Fixed Object Left Side	35.94458	-96.01781	151st St.	26th W Ave
2502003160	PDO	2/21/2025	151st St	US-75 NB ON-Ramp	Y	Improper Turn	Angle	35.94447	-96.0119	151st St.	US 75 NB Ramps
2503002919	B	3/11/2025	E 151st St S	Along SH-67 - between Broadway and Fern	N	DUI/Unsafe Speed	Rear End	35.94448	-96.00514	151st St.	E. of Broadway
2503004351	PDO	3/26/2025	E 151st St S	US-75 NB Off-Ramp	Y	Failed To Yield	Angle	35.94427	-96.01122	151st St.	US 75 NB Ramps
2504000985	O	3/31/2025	W 151st St S	US-75 SB Off-Ramp	Y	Inattention	Rear End	35.94464	-96.01262	151st St.	US 75 SB Ramps
2504000412	PDO	4/1/2025	E 151st St S	US-75 NB Off-Ramp	Y	Followed Too Closely	Rear End	35.94426	-96.01095	151st St.	US 75 NB Ramps
2504001483	PDO	4/2/2025	US-75 SB Off-Ramp	151st St	Y	Improper Overtaking	Sideswipe, same direction	35.94448	-96.01283	151st St.	US 75 SB Ramps
2504004621	B	4/16/2025	E 151st St	US-75 NB Off-Ramp	Y	Inattention	Rear End	35.94421	-96.01101	151st St.	US 75 NB Ramps
2504003029	O	4/16/2025	W 151st St S	US-75 SB Off-Ramp	Y	Failed to Yield	Angle	35.94446	-96.01255	151st St.	US 75 SB Ramps
2504003123	O	4/17/2025	E 151st St S	US-75 NB Off-Ramp	Y	Inattention	Rear End	35.94423	-96.01102	151st St.	US 75 NB Ramps
2505000045	O	4/19/2025	E 151st St S	Broadway St	Y	Failed to Yield	Angle	35.94446	-96.00826	151st St.	Broadway St
2504004509	B	4/21/2025	W 151st St S	US-75 NB Off-Ramp	Y	Followed Too Closely	Rear End	35.94426	-96.01088	151st St.	US 75 NB Ramps
2505001184	O	4/26/2025	W 151st St S	US-75 SB Off-Ramp	Y	Failed to Yield	Angle	35.94444	-96.01265	151st St.	US 75 SB Ramps
2505000516	O	4/28/2025	151st ST	US-75 SB Off-Ramp	Y	Failed to Yield	Angle	35.94445	-96.01253	151st St.	US 75 SB Ramps
2505000372	B	4/30/2025	E 151st St	US-75 NB Off-Ramp	Y	Failed To Yield	Rear End	35.94421	-96.01104	151st St.	US 75 NB Ramps
2505001450	PDO	5/7/2025	US-75 NB Off-Ramp	E 151st St	Y	Followed Too Closely	Rear End	35.94425	-96.01098	151st St.	US 75 NB Ramps
2505001929	A	5/10/2025	US-75 SB Off-Ramp	W 151st St	Y	Failed To Yield	Angle	35.94424	-96.01251	151st St.	US 75 SB Ramps
2505003553	PDO	5/16/2025	US-75 NB Off-Ramp	E 151st St	Y	Failed To Yield	Rear End	35.94425	-96.01098	151st St.	US 75 NB Ramps
2505004091	B	5/22/2025	W 151st St S	Broadway St	Y	Failed to Yield	Angle	35.94427	-96.00825	151st St.	Broadway St
2506000526	C	5/31/2025	W 151st St S	US-75 SB Off-Ramp	Y	Failed To Yield	Angle	35.94445	-96.01253	151st St.	US 75 SB Ramps
2506000915	O	6/3/2025	W 151st St S	US-75 NB ON-Ramp	Y	Failed to Yield	Angle	35.94442	-96.01131	151st St.	US 75 NB Ramps
2507000764	C	6/25/2025	E 151st St S	US-75 SB Off-Ramp	Y	Failed to Yield	Angle	35.94427	-96.01122	151st St.	US 75 SB Ramps
2507000765	A	7/2/2025	Broadway St	E 151st St	Y	Failed To Stop	Angle	35.94427	-96.00825	151st St.	Broadway St
2507002401	PDO	7/3/2025	US-75	US-75 SB On-Ramp - At Merge Point	N	Failed To Yield	Sideswipe, same direction	35.93937	-96.01201	US 75	US 75 SB Merge
2507003045	PDO	7/16/2025	W 151st St S	S Yukon Ave	Y	Failed To Yield	Angle	35.94455	-96.01567	151st St.	S Yukon Ave
2507004429	O	7/21/2025	E 151st St S	US-75 NB Off-Ramp	Y	Inattention	Rear End	35.94424	-96.011	151st St.	US 75 NB Ramps
2508000573	C	8/3/2025	E 151st St S	US-75 - NB Off-Ramp	Y	Failed to Stop	Rear End	35.94424	-96.01098	151st St.	US 75 NB Ramps
2508004509	B	8/22/2025	W 151st St S	US-75 SB Off-Ramp	Y	Followed Too Closely	Rear End	35.94456	-96.0127	151st St.	US 75 SB Ramps
2509001729	O	9/4/2025	W 151st St S	US-75 SB Off-Ramp	Y	Failed to Yield	Rear End	35.94451	-96.01277	151st St.	US 75 SB Ramps
2509001777	PDO	9/9/2025	SH-67	Broadway St	Y	Failed To Yield	Angle	35.94444	-96.00824	151st St.	Broadway St
2509001747	O	9/9/2025	W 151st St S	US-75 SB Off-Ramp	Y	Inattention	Rear End	35.94449	-96.01282	151st St.	US 75 SB Ramps
2509002518	O	9/12/2025	W 151st St S	S Yukon Ave	Y	Failed to Yield	Angle	35.94456	-96.01567	151st St.	Yukon

ATTACHMENT C

SIGNAL WARRANTS

ATTACHMENT D

EXISTING OPERATIONS RESULTS

Traffic Signal Warrant Analysis
Yukon Ave. & 151st St. - 2025 Traffic - Glenpool, Ok
Traffic Engineering Consultants, Inc.

Study Name: 2025 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Signal Warrants - Summary

Major Street Approaches

Eastbound: 151st St.

Number of Lanes : 2+

Total Approach Volume: 6,542

Westbound: 151st St.

Number of Lanes : 2+

Total Approach Volume: 6,296

Minor Street Approaches

Southbound: Yukon Ave.

Number of Lanes : 1

Total Approach Volume: 1,093

Warrant Summary (Rural Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes..... Not Satisfied

Warrant 1A - Minimum Vehicular Volume..... Not Satisfied

Required volumes reached for 2 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic..... Not Satisfied

Required volumes reached for 7 hours, 8 are needed

Warrant 1C - Combination of Warrants..... Not Satisfied

Required 1A volumes reached for 4 hours, 8 are needed

Required 1B volumes reached for 13 hours, 8 are needed

Warrant 2 - Four Hour Volumes..... Satisfied

Number of hours (5) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour..... Satisfied

Warrant 3A - Peak Hour Delay..... Satisfied

Number of one hour periods (10) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes..... Satisfied

Volumes exceed minimums for at least one hour period.

Warrant 4 - Pedestrian Volumes..... Not Evaluated

Warrant 5 - School Crossing..... Not Evaluated

Warrant 6 - Coordinated Signal System..... Not Evaluated

Warrant 7 - Crash Experience..... Not Evaluated

Warrant 8 - Roadway Network..... Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing..... Not Evaluated

Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Warrant 1A - Minimum Volumes

Description

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

Summary

Only 2 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **420**

Veh/Hr Minor = **105**

Major Road						Minor Road		
151st St.						Yukon Ave.		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
16:45 - 17:45	828	+	583	=	1411	0	108	Yes
06:30 - 07:30	459	+	354	=	813	0	125	Yes
16:30 - 17:30	782	+	623	=	1405	0	102	No
16:15 - 17:15	752	+	604	=	1356	0	103	No
16:00 - 17:00	676	+	592	=	1268	0	79	No
15:45 - 16:45	638	+	623	=	1261	0	76	No
15:30 - 16:30	629	+	610	=	1239	0	64	No
07:30 - 08:30	560	+	663	=	1223	0	101	No
15:15 - 16:15	620	+	583	=	1203	0	59	No
15:00 - 16:00	568	+	590	=	1158	0	61	No
07:45 - 08:45	525	+	546	=	1071	0	83	No
14:45 - 15:45	501	+	546	=	1047	0	54	No
14:30 - 15:30	451	+	514	=	965	0	55	No
17:45 - 18:45	512	+	384	=	896	0	62	No
08:00 - 09:00	463	+	411	=	874	0	73	No
14:15 - 15:15	369	+	475	=	844	0	51	No
14:00 - 15:00	365	+	431	=	796	0	45	No
18:00 - 19:00	411	+	372	=	783	0	62	No
08:15 - 09:15	412	+	341	=	753	0	66	No
13:45 - 14:45	342	+	390	=	732	0	39	No
18:15 - 19:15	339	+	342	=	681	0	71	No
08:30 - 09:30	370	+	293	=	663	0	57	No
13:30 - 14:30	311	+	341	=	652	0	37	No
11:45 - 12:45	327	+	323	=	650	0	38	No
12:00 - 13:00	321		327		648	0	37	No

Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Warrant 1B - Interruption of Continuous Traffic

Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

Summary

Only 7 one hour periods meet minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **630**

Veh/Hr Minor = **53**

Major Road 151st St.						Minor Road Yukon Ave.		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
16:30 - 17:30	782	+	623	=	1405	0	102	Yes
07:15 - 08:15	573	+	687	=	1260	0	121	Yes
15:30 - 16:30	629	+	610	=	1239	0	64	Yes
17:30 - 18:30	634	+	448	=	1082	0	76	Yes
14:30 - 15:30	451	+	514	=	965	0	55	Yes
08:15 - 09:15	412	+	341	=	753	0	66	Yes
06:15 - 07:15	375	+	255	=	630	0	102	Yes
14:15 - 15:15	369	+	475	=	844	0	51	No
14:00 - 15:00	365	+	431	=	796	0	45	No
13:45 - 14:45	342	+	390	=	732	0	39	No
13:30 - 14:30	311	+	341	=	652	0	37	No
11:45 - 12:45	327	+	323	=	650	0	38	No
12:00 - 13:00	321	+	327	=	648	0	37	No
12:15 - 13:15	326	+	316	=	642	0	37	No
13:15 - 14:15	294	+	336	=	630	0	33	No
18:30 - 19:30	299	+	329	=	628	0	73	No
12:30 - 13:30	317	+	309	=	626	0	41	No
11:30 - 12:30	309	+	317	=	626	0	42	No
12:45 - 13:45	296	+	314	=	610	0	44	No
18:45 - 19:45	275	+	334	=	609	0	74	No
13:00 - 14:00	284	+	311	=	595	0	37	No
11:15 - 12:15	296	+	293	=	589	0	49	No
19:15 - 20:15	265	+	305	=	570	0	57	No
11:00 - 12:00	290	+	278	=	568	0	50	No
19:00 - 20:00	261		306		567	0	65	No

Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Warrant 1C Combination of Warrants

Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

Summary

Only 4 hours meet 1A minimums.
13 hours meet 1B minimums.
Warrant is NOT met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70% applied
Warrant 1A 1B
Veh/Hr Major = **336 504**

Veh/Hr Minor = **84 42**

Major Road 151st St.						Minor Road Yukon Ave.				
Time	Major EB	+	Major WB	=	Total	Minor NB		Minor SB		Met1A?
16:15 - 17:15	752	+	604	=	1356	0		103		Yes
17:15 - 18:15	737	+	535	=	1272	0		86		Yes
07:15 - 08:15	573	+	687	=	1260	0		121		Yes
06:15 - 07:15	375	+	255	=	630	0		102		Yes
16:00 - 17:00	676	+	592	=	1268	0		79		No
15:45 - 16:45	638	+	623	=	1261	0		76		No
15:30 - 16:30	629	+	610	=	1239	0		64		No
15:15 - 16:15	620	+	583	=	1203	0		59		No
15:00 - 16:00	568	+	590	=	1158	0		61		No
14:45 - 15:45	501	+	546	=	1047	0		54		No
14:30 - 15:30	451	+	514	=	965	0		55		No
14:15 - 15:15	369	+	475	=	844	0		51		No

Time	Major EB	+	Major WB	=	Total	Minor NB		Minor SB		Met1B?
17:00 - 18:00	807	+	569	=	1376	0		106		Yes
16:00 - 17:00	676	+	592	=	1268	0		79		Yes
07:15 - 08:15	573	+	687	=	1260	0		121		Yes
15:00 - 16:00	568	+	590	=	1158	0		61		Yes
14:00 - 15:00	365	+	431	=	796	0		45		Yes
18:00 - 19:00	411	+	372	=	783	0		62		Yes
08:15 - 09:15	412	+	341	=	753	0		66		Yes
06:15 - 07:15	375	+	255	=	630	0		102		Yes
11:30 - 12:30	309	+	317	=	626	0		42		Yes
12:45 - 13:45	296	+	314	=	610	0		44		Yes
19:00 - 20:00	261	+	306	=	567	0		65		Yes
09:15 - 10:15	320	+	227	=	547	0		53		Yes

Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Warrant 2 - Four Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

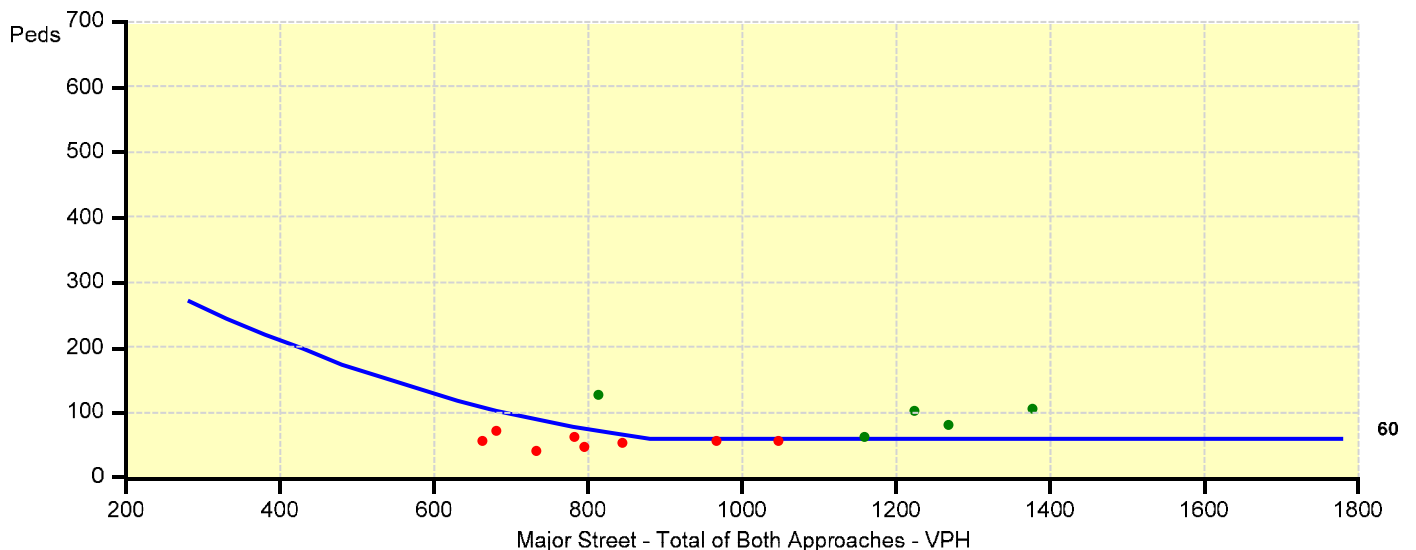
Summary

5 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Major Road 151st St.						Minor Road Yukon Ave.		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
17:00 - 18:00	807	+	569	=	1376	0	106	Yes
16:00 - 17:00	676	+	592	=	1268	0	79	Yes
07:30 - 08:30	560	+	663	=	1223	0	101	Yes
15:00 - 16:00	568	+	590	=	1158	0	61	Yes
06:30 - 07:30	459	+	354	=	813	0	125	Yes
14:45 - 15:45	501	+	546	=	1047	0	54	No
14:30 - 15:30	451	+	514	=	965	0	55	No
14:15 - 15:15	369	+	475	=	844	0	51	No
14:00 - 15:00	365	+	431	=	796	0	45	No
18:00 - 19:00	411	+	372	=	783	0	62	No
13:45 - 14:45	342	+	390	=	732	0	39	No
18:15 - 19:15	339	+	342	=	681	0	71	No



Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Warrant 3A - Peak Hour Delay

Description

Intended for sites where for one hour of the day minor street traffic suffers undue traffic delay entering or crossing the major street.

Summary

40 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Number of Minor Lanes =1

Volume and Delay Requirements

Veh/Hr All Approaches = **650**

Veh/Hr Minor = **100**

Total Delay (Veh-Hrs) = **4**

Major Road						Minor Road			
151st St.						Yukon Ave.			
Time	Total of All Approaches	Met?	Minor NB	Delay NB	Met?	Minor SB	Delay SB	Met?	Warrant Met?
16:45 - 17:45	1519	Yes	0	-	---	108	-	Yes	Yes
16:30 - 17:30	1507	Yes	0	-	---	102	-	Yes	Yes
17:00 - 18:00	1482	Yes	0	-	---	106	-	Yes	Yes
16:15 - 17:15	1459	Yes	0	-	---	103	-	Yes	Yes
07:15 - 08:15	1381	Yes	0	-	---	121	-	Yes	Yes
07:00 - 08:00	1355	Yes	0	-	---	145	-	Yes	Yes
07:30 - 08:30	1324	Yes	0	-	---	101	-	Yes	Yes
06:45 - 07:45	1159	Yes	0	-	---	130	-	Yes	Yes
06:30 - 07:30	938	Yes	0	-	---	125	-	Yes	Yes
06:15 - 07:15	732	Yes	0	-	---	102	-	Yes	Yes
17:15 - 18:15	1358	Yes	0	-	---	86	-	No	No
16:00 - 17:00	1347	Yes	0	-	---	79	-	No	No
15:45 - 16:45	1337	Yes	0	-	---	76	-	No	No
15:30 - 16:30	1303	Yes	0	-	---	64	-	No	No
15:15 - 16:15	1262	Yes	0	-	---	59	-	No	No
15:00 - 16:00	1219	Yes	0	-	---	61	-	No	No
17:30 - 18:30	1158	Yes	0	-	---	76	-	No	No
07:45 - 08:45	1154	Yes	0	-	---	83	-	No	No
14:45 - 15:45	1101	Yes	0	-	---	54	-	No	No
14:30 - 15:30	1020	Yes	0	-	---	55	-	No	No
17:45 - 18:45	958	Yes	0	-	---	62	-	No	No
08:00 - 09:00	947	Yes	0	-	---	73	-	No	No
14:15 - 15:15	895	Yes	0	-	---	51	-	No	No
18:00 - 19:00	845	Yes	0	-	---	62	-	No	No
14:00 - 15:00	841	Yes	0	-	---	45	-	No	No

Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Warrant 3B - Peak Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

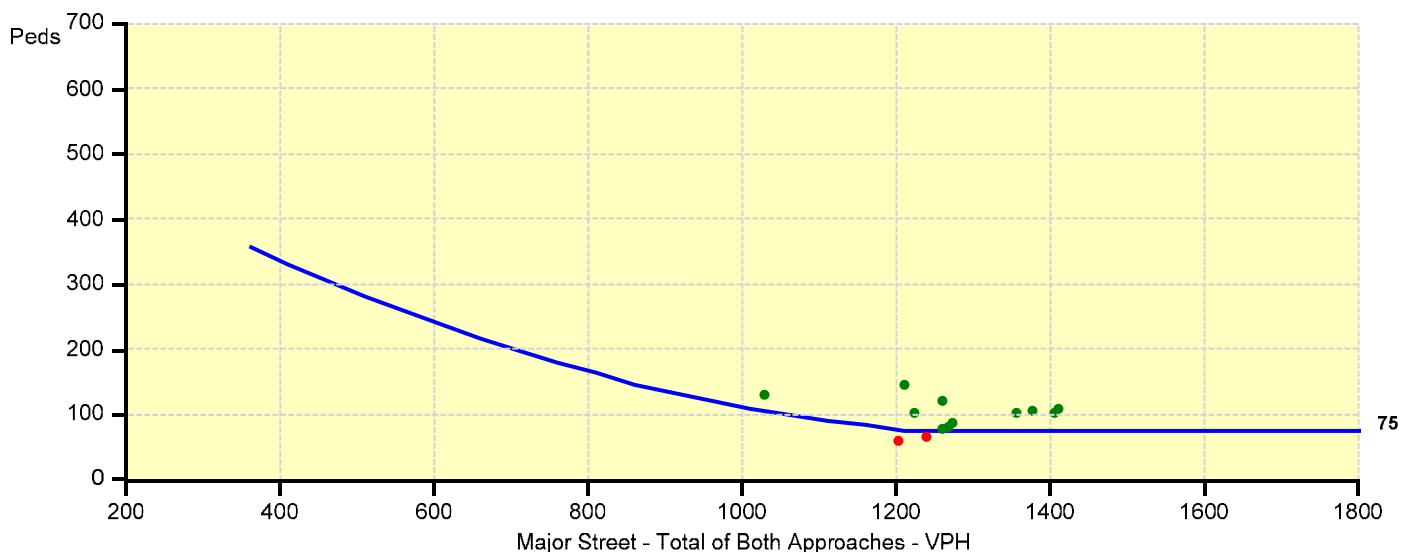
Summary

11 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Major Road 151st St.						Minor Road Yukon Ave.		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
16:45 - 17:45	828	+	583	=	1411	0	108	Yes
16:30 - 17:30	782	+	623	=	1405	0	102	Yes
17:00 - 18:00	807	+	569	=	1376	0	106	Yes
16:15 - 17:15	752	+	604	=	1356	0	103	Yes
17:15 - 18:15	737	+	535	=	1272	0	86	Yes
16:00 - 17:00	676	+	592	=	1268	0	79	Yes
15:45 - 16:45	638	+	623	=	1261	0	76	Yes
07:15 - 08:15	573	+	687	=	1260	0	121	Yes
07:30 - 08:30	560	+	663	=	1223	0	101	Yes
07:00 - 08:00	547	+	663	=	1210	0	145	Yes
06:45 - 07:45	513	+	516	=	1029	0	130	Yes
15:30 - 16:30	629		610		1239	0	64	No



Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2030 Traffic - Glenpool, Ok
Traffic Engineering Consultants, Inc.

Study Name: 2030 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Signal Warrants - Summary

Major Street Approaches

Eastbound: 151st St.

Number of Lanes : 2+

Total Approach Volume: 8,755

Westbound: 151st St.

Number of Lanes : 2+

Total Approach Volume: 9,807

Minor Street Approaches

Northbound: Yukon Ave.

Number of Lanes : 1

Total Approach Volume: 5,315

Southbound: Yukon Ave.

Number of Lanes : 1

Total Approach Volume: 1,546

Warrant Summary (Rural Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes..... Satisfied

Warrant 1A - Minimum Vehicular Volume..... Satisfied

Required volumes reached for 12 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic..... Satisfied

Required volumes reached for 14 hours, 8 are needed

Warrant 1C - Combination of Warrants..... Satisfied

Required 1A volumes reached for 15 hours, 8 are needed

Required 1B volumes reached for 15 hours, 8 are needed

Warrant 2 - Four Hour Volumes..... Satisfied

Number of hours (15) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour..... Satisfied

Warrant 3A - Peak Hour Delay..... Satisfied

Number of one hour periods (48) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes..... Satisfied

Volumes exceed minimums for at least one hour period.

Warrant 4 - Pedestrian Volumes..... Not Evaluated

Warrant 5 - School Crossing..... Not Evaluated

Warrant 6 - Coordinated Signal System..... Not Evaluated

Warrant 7 - Crash Experience..... Not Evaluated

Warrant 8 - Roadway Network..... Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing..... Not Evaluated

Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2030 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2030 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Warrant 1A - Minimum Volumes

Description

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

Summary

12 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **420**

Veh/Hr Minor = **105**

Major Road						Minor Road		
151st St.						Yukon Ave.		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
17:00 - 18:00	1032	+	867	=	1899	508	145	Yes
16:00 - 17:00	887	+	904	=	1791	557	114	Yes
15:00 - 16:00	769	+	915	=	1684	541	96	Yes
07:00 - 08:00	639	+	785	=	1424	14	170	Yes
14:00 - 15:00	542	+	755	=	1297	509	79	Yes
18:00 - 19:00	563	+	605	=	1168	473	91	Yes
12:00 - 13:00	488	+	637	=	1125	392	70	Yes
13:00 - 14:00	450	+	622	=	1072	494	72	Yes
11:00 - 12:00	442	+	566	=	1008	301	84	Yes
19:00 - 20:00	373	+	497	=	870	394	91	Yes
10:00 - 11:00	385	+	462	=	847	149	78	Yes
20:00 - 21:00	271	+	411	=	682	336	45	Yes
08:00 - 09:00	550	+	513	=	1063	31	89	No
08:45 - 09:45	550	+	513	=	1063	31	89	No
08:30 - 09:30	550	+	513	=	1063	31	89	No
08:15 - 09:15	550	+	513	=	1063	31	89	No
09:15 - 10:15	427	+	392	=	819	64	73	No
09:30 - 10:30	427	+	392	=	819	64	73	No
09:00 - 10:00	427	+	392	=	819	64	73	No
09:45 - 10:45	427	+	392	=	819	64	73	No
06:30 - 07:30	363	+	207	=	570	5	91	No
06:15 - 07:15	363	+	207	=	570	5	91	No
06:00 - 07:00	363	+	207	=	570	5	91	No
06:45 - 07:45	363	+	207	=	570	5	91	No
21:30 - 22:30	157		248		405	269	33	No

Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2030 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2030 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Warrant 1B - Interruption of Continuous Traffic

Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

Summary

14 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **630**

Veh/Hr Minor = **53**

Major Road						Minor Road		
151st St.						Yukon Ave.		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
17:00 - 18:00	1032	+	867	=	1899	508	145	Yes
16:00 - 17:00	887	+	904	=	1791	557	114	Yes
15:00 - 16:00	769	+	915	=	1684	541	96	Yes
07:00 - 08:00	639	+	785	=	1424	14	170	Yes
14:00 - 15:00	542	+	755	=	1297	509	79	Yes
18:00 - 19:00	563	+	605	=	1168	473	91	Yes
12:00 - 13:00	488	+	637	=	1125	392	70	Yes
13:00 - 14:00	450	+	622	=	1072	494	72	Yes
08:00 - 09:00	550	+	513	=	1063	31	89	Yes
11:00 - 12:00	442	+	566	=	1008	301	84	Yes
19:00 - 20:00	373	+	497	=	870	394	91	Yes
10:00 - 11:00	385	+	462	=	847	149	78	Yes
09:00 - 10:00	427	+	392	=	819	64	73	Yes
20:00 - 21:00	271	+	411	=	682	336	45	Yes
06:00 - 07:00	363	+	207	=	570	5	91	No
06:15 - 07:15	363	+	207	=	570	5	91	No
06:30 - 07:30	363	+	207	=	570	5	91	No
06:45 - 07:45	363	+	207	=	570	5	91	No
21:00 - 22:00	157	+	248	=	405	269	33	No
21:45 - 22:45	157	+	248	=	405	269	33	No
21:15 - 22:15	157	+	248	=	405	269	33	No
21:30 - 22:30	157	+	248	=	405	269	33	No
22:30 - 23:30	94	+	155	=	249	145	24	No
22:00 - 23:00	94	+	155	=	249	145	24	No
22:45 - 23:45	94		155		249	145	24	No

Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2030 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2030 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Warrant 1C Combination of Warrants

Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

Summary

15 hours meet 1A minimums.
15 hours meet 1B minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70% applied
Warrant 1A 1B
Veh/Hr Major = **336 504**

Veh/Hr Minor = **84 42**

Major Road 151st St.						Minor Road Yukon Ave.				
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1A?		
17:00 - 18:00	1032	+	867	=	1899	508	145	Yes		
16:00 - 17:00	887	+	904	=	1791	557	114	Yes		
15:00 - 16:00	769	+	915	=	1684	541	96	Yes		
07:00 - 08:00	639	+	785	=	1424	14	170	Yes		
14:00 - 15:00	542	+	755	=	1297	509	79	Yes		
18:00 - 19:00	563	+	605	=	1168	473	91	Yes		
12:00 - 13:00	488	+	637	=	1125	392	70	Yes		
13:00 - 14:00	450	+	622	=	1072	494	72	Yes		
08:00 - 09:00	550	+	513	=	1063	31	89	Yes		
11:00 - 12:00	442	+	566	=	1008	301	84	Yes		
19:00 - 20:00	373	+	497	=	870	394	91	Yes		
10:00 - 11:00	385		462		847	149	78	Yes		

Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met1B?		
17:00 - 18:00	1032	+	867	=	1899	508	145	Yes		
16:00 - 17:00	887	+	904	=	1791	557	114	Yes		
15:00 - 16:00	769	+	915	=	1684	541	96	Yes		
07:00 - 08:00	639	+	785	=	1424	14	170	Yes		
14:00 - 15:00	542	+	755	=	1297	509	79	Yes		
18:00 - 19:00	563	+	605	=	1168	473	91	Yes		
12:00 - 13:00	488	+	637	=	1125	392	70	Yes		
13:00 - 14:00	450	+	622	=	1072	494	72	Yes		
08:00 - 09:00	550	+	513	=	1063	31	89	Yes		
11:00 - 12:00	442	+	566	=	1008	301	84	Yes		
19:00 - 20:00	373	+	497	=	870	394	91	Yes		
10:00 - 11:00	385		462		847	149	78	Yes		

Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2030 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2030 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Warrant 2 - Four Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

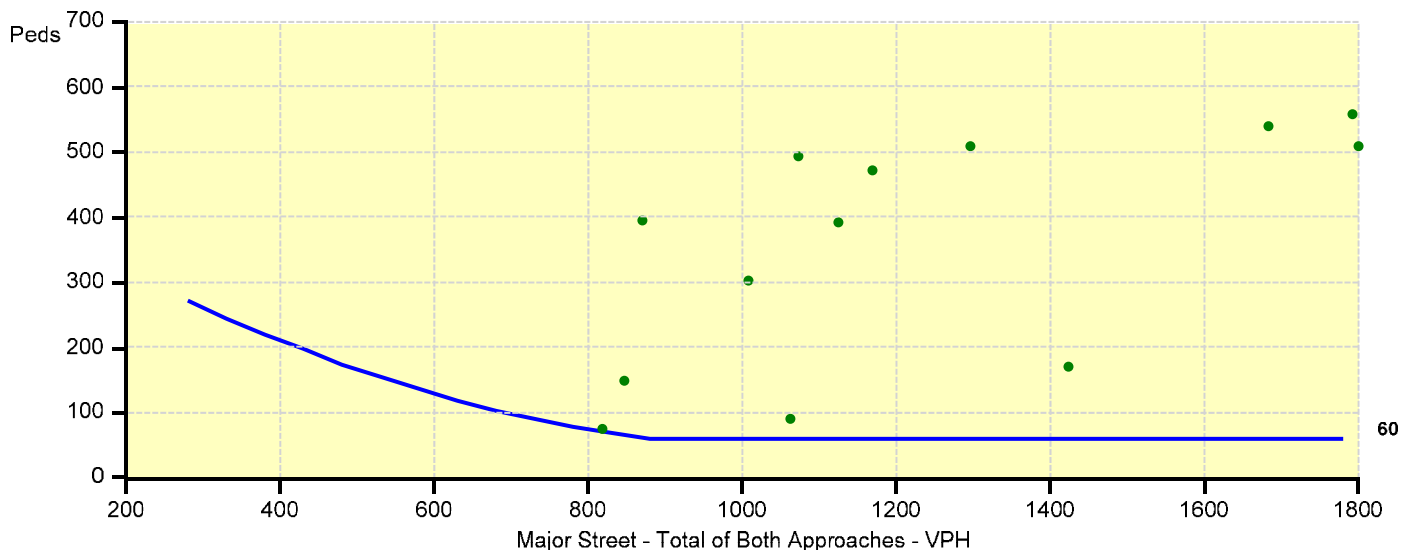
Summary

15 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Major Road 151st St.						Minor Road Yukon Ave.		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
17:00 - 18:00	1032	+	867	=	1899	508	145	Yes
16:00 - 17:00	887	+	904	=	1791	557	114	Yes
15:00 - 16:00	769	+	915	=	1684	541	96	Yes
07:00 - 08:00	639	+	785	=	1424	14	170	Yes
14:00 - 15:00	542	+	755	=	1297	509	79	Yes
18:00 - 19:00	563	+	605	=	1168	473	91	Yes
12:00 - 13:00	488	+	637	=	1125	392	70	Yes
13:00 - 14:00	450	+	622	=	1072	494	72	Yes
08:00 - 09:00	550	+	513	=	1063	31	89	Yes
11:00 - 12:00	442	+	566	=	1008	301	84	Yes
19:00 - 20:00	373	+	497	=	870	394	91	Yes
10:00 - 11:00	385		462		847	149	78	Yes



Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2030 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2030 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Warrant 3A - Peak Hour Delay

Description

Intended for sites where for one hour of the day minor street traffic suffers undue traffic delay entering or crossing the major street.

Summary

56 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Number of Minor Lanes =1

Volume and Delay Requirements

Veh/Hr All Approaches = **800**

Veh/Hr Minor = **100**

Total Delay (Veh-Hrs) = **4**

Major Road						Minor Road			
151st St.						Yukon Ave.			
Time	Total of All Approaches	Met?	Minor NB	Delay NB	Met?	Minor SB	Delay SB	Met?	Warrant Met?
17:00 - 18:00	2552	Yes	508	-	Yes	145	-	---	Yes
17:15 - 18:15	2552	Yes	508	-	Yes	145	-	---	Yes
17:30 - 18:30	2552	Yes	508	-	Yes	145	-	---	Yes
17:45 - 18:45	2552	Yes	508	-	Yes	145	-	---	Yes
16:00 - 17:00	2462	Yes	557	-	Yes	114	-	---	Yes
16:15 - 17:15	2462	Yes	557	-	Yes	114	-	---	Yes
16:30 - 17:30	2462	Yes	557	-	Yes	114	-	---	Yes
16:45 - 17:45	2462	Yes	557	-	Yes	114	-	---	Yes
15:00 - 16:00	2321	Yes	541	-	Yes	96	-	---	Yes
15:15 - 16:15	2321	Yes	541	-	Yes	96	-	---	Yes
15:30 - 16:30	2321	Yes	541	-	Yes	96	-	---	Yes
15:45 - 16:45	2321	Yes	541	-	Yes	96	-	---	Yes
14:00 - 15:00	1885	Yes	509	-	Yes	79	-	---	Yes
14:15 - 15:15	1885	Yes	509	-	Yes	79	-	---	Yes
14:30 - 15:30	1885	Yes	509	-	Yes	79	-	---	Yes
14:45 - 15:45	1885	Yes	509	-	Yes	79	-	---	Yes
18:15 - 19:15	1732	Yes	473	-	Yes	91	-	---	Yes
18:30 - 19:30	1732	Yes	473	-	Yes	91	-	---	Yes
18:45 - 19:45	1732	Yes	473	-	Yes	91	-	---	Yes
18:00 - 19:00	1732	Yes	473	-	Yes	91	-	---	Yes
13:00 - 14:00	1638	Yes	494	-	Yes	72	-	---	Yes
13:15 - 14:15	1638	Yes	494	-	Yes	72	-	---	Yes
13:30 - 14:30	1638	Yes	494	-	Yes	72	-	---	Yes
13:45 - 14:45	1638	Yes	494	-	Yes	72	-	---	Yes
07:00 - 08:00	1608	Yes	14	-	---	170	-	Yes	Yes

Traffic Signal Warrant Analysis

Yukon Ave. & 151st St. - 2030 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2030 Yukon Ave. & 151st St.

Study Date : 10/10/2025

Warrant 3B - Peak Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

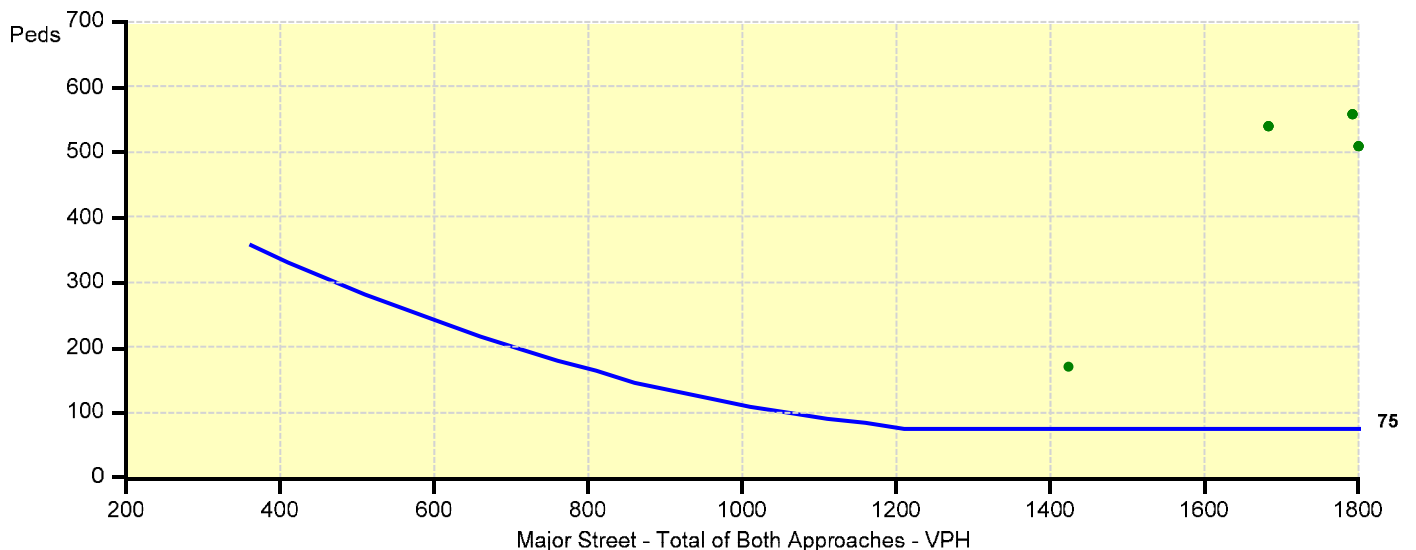
Summary

44 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Major Road 151st St.						Minor Road Yukon Ave.		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
17:15 - 18:15	1032	+	867	=	1899	508	145	Yes
17:30 - 18:30	1032	+	867	=	1899	508	145	Yes
17:00 - 18:00	1032	+	867	=	1899	508	145	Yes
17:45 - 18:45	1032	+	867	=	1899	508	145	Yes
16:30 - 17:30	887	+	904	=	1791	557	114	Yes
16:45 - 17:45	887	+	904	=	1791	557	114	Yes
16:00 - 17:00	887	+	904	=	1791	557	114	Yes
16:15 - 17:15	887	+	904	=	1791	557	114	Yes
15:45 - 16:45	769	+	915	=	1684	541	96	Yes
15:00 - 16:00	769	+	915	=	1684	541	96	Yes
15:15 - 16:15	769	+	915	=	1684	541	96	Yes
15:30 - 16:30	769	+	915	=	1684	541	96	Yes



Traffic Signal Warrant Analysis

SB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 SB Ramps & 151st St.

Study Date : 10/10/2025

Signal Warrants - Summary

Major Street Approaches

Eastbound: 151st St.

Number of Lanes : 2+

Total Approach Volume: 7,605

Westbound: 151st St.

Number of Lanes : 2+

Total Approach Volume: 7,854

Minor Street Approaches

Northbound: SB Ramps

Number of Lanes : 1

Total Approach Volume: 0

Southbound: SB Ramps

Number of Lanes : 1

Total Approach Volume: 4,536

Warrant Summary (Rural Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes..... Satisfied

Warrant 1A - Minimum Vehicular Volume..... Satisfied

Required volumes reached for 16 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic..... Satisfied

Required volumes reached for 14 hours, 8 are needed

Warrant 1C - Combination of Warrants..... Satisfied

Required 1A volumes reached for 16 hours, 8 are needed

Required 1B volumes reached for 15 hours, 8 are needed

Warrant 2 - Four Hour Volumes..... Satisfied

Number of hours (15) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour..... Satisfied

Warrant 3A - Peak Hour Delay..... Satisfied

Number of one hour periods (57) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes..... Satisfied

Volumes exceed minimums for at least one hour period.

Warrant 4 - Pedestrian Volumes..... Not Evaluated

Warrant 5 - School Crossing..... Not Evaluated

Warrant 6 - Coordinated Signal System..... Not Evaluated

Warrant 7 - Crash Experience..... Not Evaluated

Warrant 8 - Roadway Network..... Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing..... Not Evaluated

Traffic Signal Warrant Analysis

SB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 SB Ramps & 151st St.

Study Date : 10/10/2025

Warrant 1A - Minimum Volumes

Description

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

Summary

16 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **420**

Veh/Hr Minor = **105**

Major Road						Minor Road			
151st St.						SB Ramps			
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?	
16:45 - 17:45	940	+	706	=	1646	0	241	Yes	
15:45 - 16:45	750	+	740	=	1490	0	253	Yes	
07:45 - 08:45	627	+	659	=	1286	0	258	Yes	
06:45 - 07:45	622	+	657	=	1279	0	235	Yes	
14:45 - 15:45	568	+	643	=	1211	0	310	Yes	
17:45 - 18:45	577	+	519	=	1096	0	299	Yes	
13:45 - 14:45	392	+	468	=	860	0	276	Yes	
11:45 - 12:45	359	+	418	=	777	0	287	Yes	
08:45 - 09:45	403	+	368	=	771	0	211	Yes	
18:45 - 19:45	329	+	399	=	728	0	340	Yes	
12:45 - 13:45	337	+	390	=	727	0	258	Yes	
10:45 - 11:45	304	+	360	=	664	0	246	Yes	
09:45 - 10:45	311	+	294	=	605	0	268	Yes	
19:45 - 20:45	236	+	346	=	582	0	282	Yes	
05:45 - 06:45	306	+	184	=	490	0	117	Yes	
20:45 - 21:45	152	+	274	=	426	0	219	Yes	
05:30 - 06:30	245	+	131	=	376	0	91	No	
05:15 - 06:15	202	+	101	=	303	0	78	No	
21:45 - 22:45	90	+	154	=	244	0	159	No	
05:00 - 06:00	169	+	74	=	243	0	76	No	
22:00 - 23:00	85	+	142	=	227	0	127	No	
04:45 - 05:45	143	+	66	=	209	0	61	No	
22:15 - 23:15	62	+	125	=	187	0	113	No	
04:30 - 05:30	108	+	66	=	174	0	48	No	
22:30 - 23:30	57		106		163	0	90	No	

Traffic Signal Warrant Analysis

SB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 SB Ramps & 151st St.

Study Date : 10/10/2025

Warrant 1B - Interruption of Continuous Traffic

Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

Summary

14 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **630**

Veh/Hr Minor = **53**

Major Road 151st St.						Minor Road SB Ramps		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
16:30 - 17:30	908	+	741	=	1649	0	247	Yes
07:00 - 08:00	693	+	776	=	1469	0	235	Yes
15:30 - 16:30	719	+	717	=	1436	0	264	Yes
17:30 - 18:30	711	+	576	=	1287	0	277	Yes
14:30 - 15:30	519	+	607	=	1126	0	312	Yes
08:00 - 09:00	542	+	540	=	1082	0	238	Yes
18:30 - 19:30	362	+	410	=	772	0	341	Yes
13:30 - 14:30	345	+	427	=	772	0	259	Yes
11:30 - 12:30	336	+	432	=	768	0	252	Yes
12:30 - 13:30	364	+	368	=	732	0	287	Yes
09:00 - 10:00	376	+	351	=	727	0	218	Yes
06:00 - 07:00	374	+	264	=	638	0	172	Yes
10:30 - 11:30	301	+	335	=	636	0	276	Yes
19:30 - 20:30	263	+	368	=	631	0	304	Yes
10:15 - 11:15	284	+	322	=	606	0	268	No
10:00 - 11:00	299	+	285	=	584	0	269	No
05:45 - 06:45	306	+	184	=	490	0	117	No
20:30 - 21:30	170	+	298	=	468	0	232	No
20:45 - 21:45	152	+	274	=	426	0	219	No
05:30 - 06:30	245	+	131	=	376	0	91	No
21:00 - 22:00	139	+	228	=	367	0	214	No
21:15 - 22:15	106	+	200	=	306	0	190	No
05:15 - 06:15	202	+	101	=	303	0	78	No
21:30 - 22:30	94	+	175	=	269	0	187	No
21:45 - 22:45	90		154		244	0	159	No

Traffic Signal Warrant Analysis

SB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 SB Ramps & 151st St.

Study Date : 10/10/2025

Warrant 1C Combination of Warrants

Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

Summary

16 hours meet 1A minimums.
15 hours meet 1B minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70% applied
Warrant 1A 1B
Veh/Hr Major = **336 504**

Veh/Hr Minor = **84 42**

Major Road 151st St.						Minor Road SB Ramps				
Time	Major EB	+	Major WB	=	Total		Minor NB		Minor SB	Met1A?
16:30 - 17:30	908	+	741	=	1649		0		247	Yes
07:30 - 08:30	687	+	778	=	1465		0		255	Yes
15:30 - 16:30	719	+	717	=	1436		0		264	Yes
17:30 - 18:30	711	+	576	=	1287		0		277	Yes
14:30 - 15:30	519	+	607	=	1126		0		312	Yes
06:30 - 07:30	558	+	483	=	1041		0		216	Yes
08:30 - 09:30	415	+	405	=	820		0		234	Yes
18:30 - 19:30	362	+	410	=	772		0		341	Yes
13:30 - 14:30	345	+	427	=	772		0		259	Yes
11:30 - 12:30	336	+	432	=	768		0		252	Yes
12:30 - 13:30	364	+	368	=	732		0		287	Yes
09:30 - 10:30	332		309		641		0		221	Yes

Time	Major EB	+	Major WB	=	Total		Minor NB		Minor SB	Met1B?
17:00 - 18:00	920	+	694	=	1614		0		242	Yes
16:00 - 17:00	786	+	726	=	1512		0		245	Yes
07:00 - 08:00	693	+	776	=	1469		0		235	Yes
15:00 - 16:00	652	+	678	=	1330		0		292	Yes
08:00 - 09:00	542	+	540	=	1082		0		238	Yes
18:00 - 19:00	467	+	483	=	950		0		330	Yes
14:00 - 15:00	419	+	520	=	939		0		295	Yes
12:00 - 13:00	354	+	399	=	753		0		294	Yes
09:00 - 10:00	376	+	351	=	727		0		218	Yes
13:00 - 14:00	319	+	396	=	715		0		251	Yes
11:00 - 12:00	324	+	380	=	704		0		244	Yes
19:00 - 20:00	307		373		680		0		338	Yes

Traffic Signal Warrant Analysis

SB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 SB Ramps & 151st St.

Study Date : 10/10/2025

Warrant 2 - Four Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

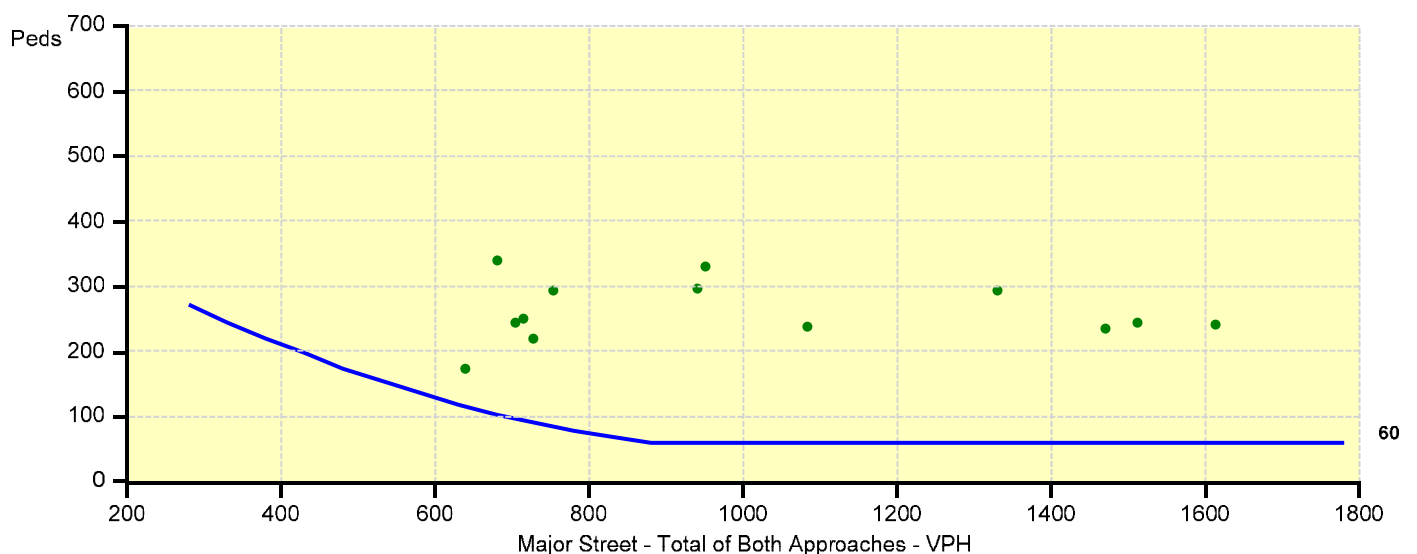
Summary

15 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Major Road 151st St.						Minor Road SB Ramps		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
17:00 - 18:00	920	+	694	=	1614	0	242	Yes
16:00 - 17:00	786	+	726	=	1512	0	245	Yes
07:00 - 08:00	693	+	776	=	1469	0	235	Yes
15:00 - 16:00	652	+	678	=	1330	0	292	Yes
08:00 - 09:00	542	+	540	=	1082	0	238	Yes
18:00 - 19:00	467	+	483	=	950	0	330	Yes
14:00 - 15:00	419	+	520	=	939	0	295	Yes
12:00 - 13:00	354	+	399	=	753	0	294	Yes
09:00 - 10:00	376	+	351	=	727	0	218	Yes
13:00 - 14:00	319	+	396	=	715	0	251	Yes
11:00 - 12:00	324	+	380	=	704	0	244	Yes
19:00 - 20:00	307		373		680	0	338	Yes



Traffic Signal Warrant Analysis

SB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 SB Ramps & 151st St.

Study Date : 10/10/2025

Warrant 3A - Peak Hour Delay

Description

Intended for sites where for one hour of the day minor street traffic suffers undue traffic delay entering or crossing the major street.

Summary

57 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Number of Minor Lanes =1

Volume and Delay Requirements

Veh/Hr All Approaches = **800**

Veh/Hr Minor = **100**

Total Delay (Veh-Hrs) = **4**

Major Road						Minor Road			
151st St.						SB Ramps			
Time	Total of All Approaches	Met?	Minor NB	Delay NB	Met?	Minor SB	Delay SB	Met?	Warrant Met?
16:30 - 17:30	1896	Yes	0	-	---	247	-	Yes	Yes
16:45 - 17:45	1887	Yes	0	-	---	241	-	Yes	Yes
17:00 - 18:00	1856	Yes	0	-	---	242	-	Yes	Yes
16:15 - 17:15	1849	Yes	0	-	---	245	-	Yes	Yes
07:15 - 08:15	1775	Yes	0	-	---	253	-	Yes	Yes
16:00 - 17:00	1757	Yes	0	-	---	245	-	Yes	Yes
17:15 - 18:15	1752	Yes	0	-	---	263	-	Yes	Yes
15:45 - 16:45	1743	Yes	0	-	---	253	-	Yes	Yes
07:30 - 08:30	1720	Yes	0	-	---	255	-	Yes	Yes
07:00 - 08:00	1704	Yes	0	-	---	235	-	Yes	Yes
15:30 - 16:30	1700	Yes	0	-	---	264	-	Yes	Yes
15:15 - 16:15	1667	Yes	0	-	---	277	-	Yes	Yes
15:00 - 16:00	1622	Yes	0	-	---	292	-	Yes	Yes
17:30 - 18:30	1564	Yes	0	-	---	277	-	Yes	Yes
07:45 - 08:45	1544	Yes	0	-	---	258	-	Yes	Yes
14:45 - 15:45	1521	Yes	0	-	---	310	-	Yes	Yes
06:45 - 07:45	1514	Yes	0	-	---	235	-	Yes	Yes
14:30 - 15:30	1438	Yes	0	-	---	312	-	Yes	Yes
17:45 - 18:45	1395	Yes	0	-	---	299	-	Yes	Yes
08:00 - 09:00	1320	Yes	0	-	---	238	-	Yes	Yes
14:15 - 15:15	1286	Yes	0	-	---	294	-	Yes	Yes
18:00 - 19:00	1280	Yes	0	-	---	330	-	Yes	Yes
06:30 - 07:30	1257	Yes	0	-	---	216	-	Yes	Yes
14:00 - 15:00	1234	Yes	0	-	---	295	-	Yes	Yes
18:15 - 19:15	1183	Yes	0	-	---	335	-	Yes	Yes

Traffic Signal Warrant Analysis

SB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 SB Ramps & 151st St.

Study Date : 10/10/2025

Warrant 3B - Peak Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

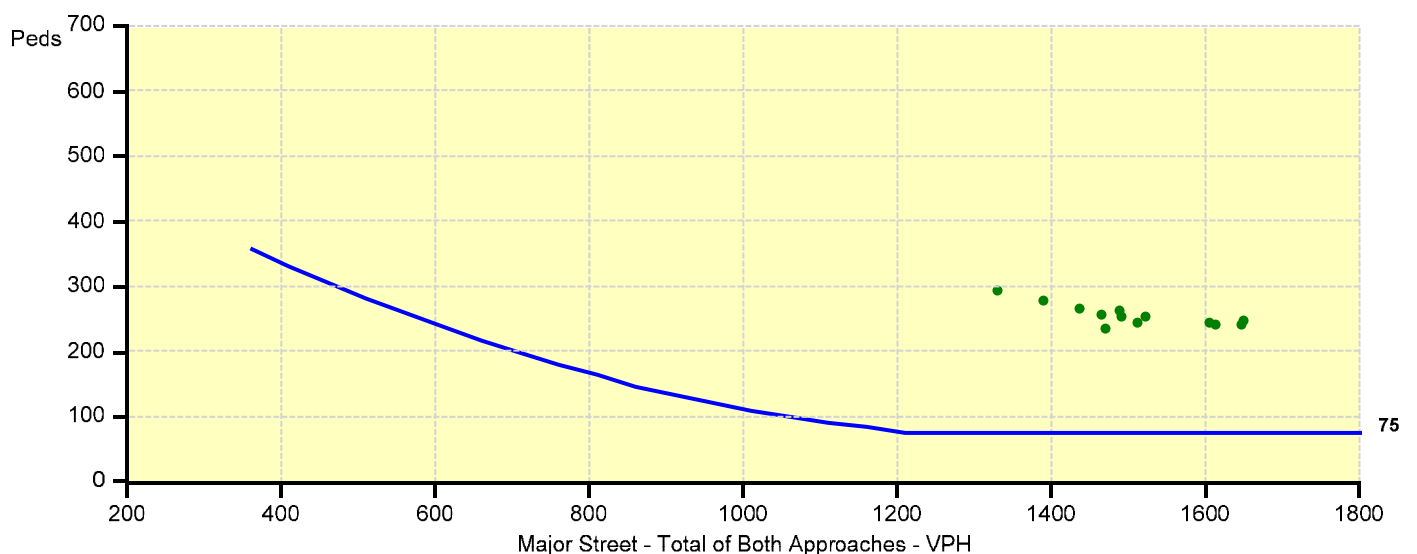
Summary

54 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Major Road 151st St.						Minor Road SB Ramps		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
16:30 - 17:30	908	+	741	=	1649	0	247	Yes
16:45 - 17:45	940	+	706	=	1646	0	241	Yes
17:00 - 18:00	920	+	694	=	1614	0	242	Yes
16:15 - 17:15	875	+	729	=	1604	0	245	Yes
07:15 - 08:15	710	+	812	=	1522	0	253	Yes
16:00 - 17:00	786	+	726	=	1512	0	245	Yes
15:45 - 16:45	750	+	740	=	1490	0	253	Yes
17:15 - 18:15	841	+	648	=	1489	0	263	Yes
07:00 - 08:00	693	+	776	=	1469	0	235	Yes
07:30 - 08:30	687	+	778	=	1465	0	255	Yes
15:30 - 16:30	719	+	717	=	1436	0	264	Yes
15:15 - 16:15	705	+	685	=	1390	0	277	Yes



Traffic Signal Warrant Analysis

NB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 NB Ramps & 151st St.

Study Date : 10/10/2025

Signal Warrants - Summary

Major Street Approaches

Eastbound: 151st St.

Number of Lanes : 2+

Total Approach Volume: 9,550

Westbound: 151st St.

Number of Lanes : 2+

Total Approach Volume: 10,607

Minor Street Approaches

Northbound: NB Ramps

Number of Lanes : 1

Total Approach Volume: 3,552

Southbound: NB Ramps

Number of Lanes : 1

Total Approach Volume: 0

Warrant Summary (Rural Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes..... Satisfied

Warrant 1A - Minimum Vehicular Volume..... Satisfied

Required volumes reached for 15 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic..... Satisfied

Required volumes reached for 16 hours, 8 are needed

Warrant 1C - Combination of Warrants..... Satisfied

Required 1A volumes reached for 16 hours, 8 are needed

Required 1B volumes reached for 16 hours, 8 are needed

Warrant 2 - Four Hour Volumes..... Satisfied

Number of hours (15) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour..... Satisfied

Warrant 3A - Peak Hour Delay..... Satisfied

Number of one hour periods (59) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes..... Satisfied

Volumes exceed minimums for at least one hour period.

Warrant 4 - Pedestrian Volumes..... Not Evaluated

Warrant 5 - School Crossing..... Not Evaluated

Warrant 6 - Coordinated Signal System..... Not Evaluated

Warrant 7 - Crash Experience..... Not Evaluated

Warrant 8 - Roadway Network..... Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing..... Not Evaluated

Traffic Signal Warrant Analysis

NB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 NB Ramps & 151st St.

Study Date : 10/10/2025

Warrant 1A - Minimum Volumes

Description

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

Summary

15 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **420**

Veh/Hr Minor = **105**

Major Road						Minor Road			
151st St.						NB Ramps			
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?	
07:15 - 08:15	730	+	1002	=	1732	381	0	Yes	
16:15 - 17:15	786	+	883	=	1669	344	0	Yes	
15:15 - 16:15	734	+	852	=	1586	270	0	Yes	
17:15 - 18:15	813	+	769	=	1582	346	0	Yes	
08:15 - 09:15	594	+	691	=	1285	269	0	Yes	
14:15 - 15:15	548	+	702	=	1250	217	0	Yes	
06:15 - 07:15	553	+	648	=	1201	188	0	Yes	
18:15 - 19:15	588	+	600	=	1188	149	0	Yes	
12:15 - 13:15	526	+	514	=	1040	148	0	Yes	
11:15 - 12:15	486	+	546	=	1032	176	0	Yes	
09:15 - 10:15	507	+	508	=	1015	164	0	Yes	
13:15 - 14:15	453	+	539	=	992	171	0	Yes	
19:15 - 20:15	506	+	455	=	961	126	0	Yes	
10:15 - 11:15	443	+	438	=	881	172	0	Yes	
05:15 - 06:15	247	+	257	=	504	108	0	Yes	
20:15 - 21:15	343	+	433	=	776	104	0	No	
20:30 - 21:30	317	+	403	=	720	91	0	No	
20:45 - 21:45	289	+	365	=	654	77	0	No	
21:00 - 22:00	269	+	303	=	572	71	0	No	
21:15 - 22:15	228	+	263	=	491	49	0	No	
21:30 - 22:30	217	+	255	=	472	46	0	No	
05:00 - 06:00	214	+	215	=	429	98	0	No	
21:45 - 22:45	195	+	221	=	416	43	0	No	
22:00 - 23:00	175	+	204	=	379	39	0	No	
04:45 - 05:45	183		185		368	87	0	No	

Traffic Signal Warrant Analysis

NB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 NB Ramps & 151st St.

Study Date : 10/10/2025

Warrant 1B - Interruption of Continuous Traffic

Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

Summary

16 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **630**

Veh/Hr Minor = **53**

Major Road						Minor Road			
151st St.						NB Ramps			
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?	
16:45 - 17:45	843	+	839	=	1682	390	0	Yes	
15:45 - 16:45	715	+	901	=	1616	309	0	Yes	
07:45 - 08:45	702	+	896	=	1598	332	0	Yes	
06:45 - 07:45	683	+	866	=	1549	333	0	Yes	
14:45 - 15:45	669	+	787	=	1456	225	0	Yes	
17:45 - 18:45	689	+	672	=	1361	226	0	Yes	
13:45 - 14:45	511	+	598	=	1109	216	0	Yes	
08:45 - 09:45	522	+	574	=	1096	181	0	Yes	
11:45 - 12:45	525	+	558	=	1083	172	0	Yes	
18:45 - 19:45	530	+	512	=	1042	126	0	Yes	
12:45 - 13:45	469	+	524	=	993	133	0	Yes	
10:45 - 11:45	447	+	486	=	933	174	0	Yes	
09:45 - 10:45	483	+	442	=	925	168	0	Yes	
19:45 - 20:45	415	+	448	=	863	116	0	Yes	
05:45 - 06:45	364	+	413	=	777	128	0	Yes	
20:45 - 21:45	289	+	365	=	654	77	0	Yes	
05:30 - 06:30	289	+	316	=	605	120	0	No	
05:15 - 06:15	247	+	257	=	504	108	0	No	
05:00 - 06:00	214	+	215	=	429	98	0	No	
21:45 - 22:45	195	+	221	=	416	43	0	No	
22:00 - 23:00	175	+	204	=	379	39	0	No	
04:45 - 05:45	183	+	185	=	368	87	0	No	
22:15 - 23:15	146	+	178	=	324	41	0	No	
04:30 - 05:30	140	+	162	=	302	65	0	No	
22:30 - 23:30	120		131		251	33	0	No	

Traffic Signal Warrant Analysis

NB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 NB Ramps & 151st St.

Study Date : 10/10/2025

Warrant 1C Combination of Warrants

Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

Summary

16 hours meet 1A minimums.
16 hours meet 1B minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70% applied
Warrant 1A 1B
Veh/Hr Major = **336 504**

Veh/Hr Minor = **84 42**

Major Road						Minor Road					
151st St.						NB Ramps					
Time	Major EB	+	Major WB	=	Total		Minor NB		Minor SB		Met1A?
16:45 - 17:45	843	+	839	=	1682		390		0		Yes
15:45 - 16:45	715	+	901	=	1616		309		0		Yes
07:45 - 08:45	702	+	896	=	1598		332		0		Yes
06:45 - 07:45	683	+	866	=	1549		333		0		Yes
14:45 - 15:45	669	+	787	=	1456		225		0		Yes
17:45 - 18:45	689	+	672	=	1361		226		0		Yes
13:45 - 14:45	511	+	598	=	1109		216		0		Yes
08:45 - 09:45	522	+	574	=	1096		181		0		Yes
11:45 - 12:45	525	+	558	=	1083		172		0		Yes
18:45 - 19:45	530	+	512	=	1042		126		0		Yes
12:45 - 13:45	469	+	524	=	993		133		0		Yes
10:45 - 11:45	447		486		933		174		0		Yes

Time	Major EB	+	Major WB	=	Total		Minor NB		Minor SB		Met1B?
07:15 - 08:15	730	+	1002	=	1732		381		0		Yes
16:15 - 17:15	786	+	883	=	1669		344		0		Yes
15:15 - 16:15	734	+	852	=	1586		270		0		Yes
17:15 - 18:15	813	+	769	=	1582		346		0		Yes
08:15 - 09:15	594	+	691	=	1285		269		0		Yes
14:15 - 15:15	548	+	702	=	1250		217		0		Yes
06:15 - 07:15	553	+	648	=	1201		188		0		Yes
18:15 - 19:15	588	+	600	=	1188		149		0		Yes
12:15 - 13:15	526	+	514	=	1040		148		0		Yes
11:15 - 12:15	486	+	546	=	1032		176		0		Yes
09:15 - 10:15	507	+	508	=	1015		164		0		Yes
13:15 - 14:15	453		539		992		171		0		Yes

Traffic Signal Warrant Analysis

NB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 NB Ramps & 151st St.

Study Date : 10/10/2025

Warrant 2 - Four Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

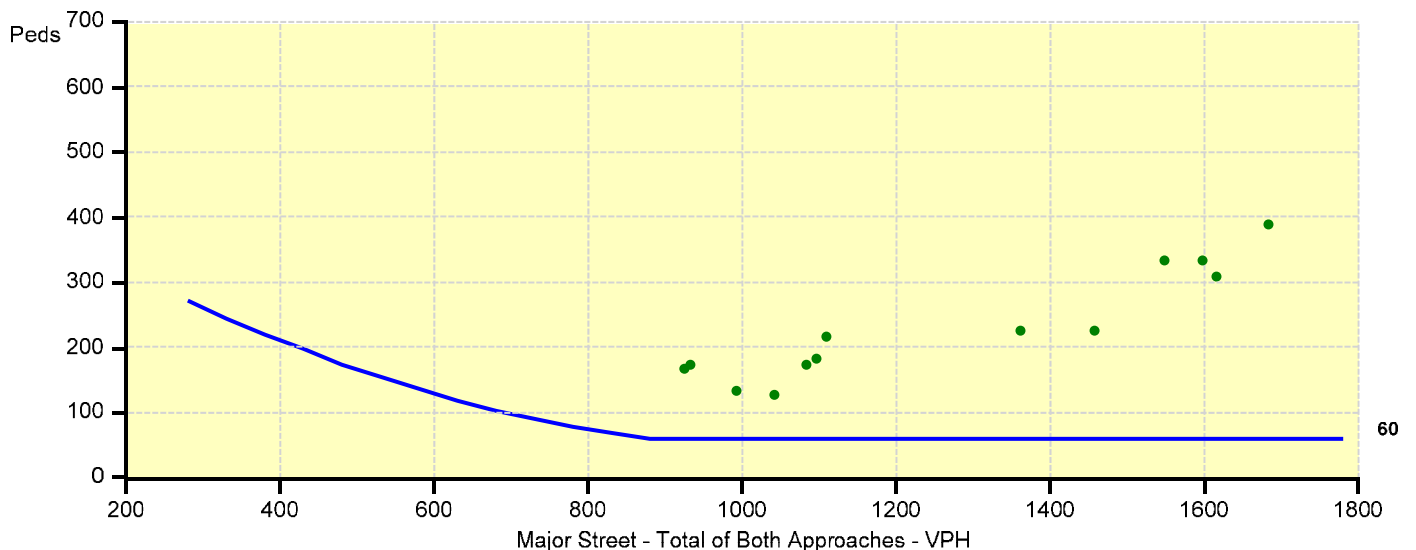
Summary

15 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Major Road 151st St.						Minor Road NB Ramps		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
16:45 - 17:45	843	+	839	=	1682	390	0	Yes
15:45 - 16:45	715	+	901	=	1616	309	0	Yes
07:45 - 08:45	702	+	896	=	1598	332	0	Yes
06:45 - 07:45	683	+	866	=	1549	333	0	Yes
14:45 - 15:45	669	+	787	=	1456	225	0	Yes
17:45 - 18:45	689	+	672	=	1361	226	0	Yes
13:45 - 14:45	511	+	598	=	1109	216	0	Yes
08:45 - 09:45	522	+	574	=	1096	181	0	Yes
11:45 - 12:45	525	+	558	=	1083	172	0	Yes
18:45 - 19:45	530	+	512	=	1042	126	0	Yes
12:45 - 13:45	469	+	524	=	993	133	0	Yes
10:45 - 11:45	447	+	486	=	933	174	0	Yes



Traffic Signal Warrant Analysis

NB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 NB Ramps & 151st St.

Study Date : 10/10/2025

Warrant 3A - Peak Hour Delay

Description

Intended for sites where for one hour of the day minor street traffic suffers undue traffic delay entering or crossing the major street.

Summary

60 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Number of Minor Lanes =1

Volume and Delay Requirements

Veh/Hr All Approaches = **800**

Veh/Hr Minor = **100**

Total Delay (Veh-Hrs) = **4**

Major Road						Minor Road			
151st St.						NB Ramps			
Time	Total of All Approaches	Met?	Minor NB	Delay NB	Met?	Minor SB	Delay SB	Met?	Warrant Met?
07:15 - 08:15	2113	Yes	381	-	Yes	0	-	---	Yes
16:30 - 17:30	2078	Yes	391	-	Yes	0	-	---	Yes
16:45 - 17:45	2072	Yes	390	-	Yes	0	-	---	Yes
07:00 - 08:00	2070	Yes	375	-	Yes	0	-	---	Yes
07:30 - 08:30	2057	Yes	369	-	Yes	0	-	---	Yes
17:00 - 18:00	2035	Yes	374	-	Yes	0	-	---	Yes
16:15 - 17:15	2013	Yes	344	-	Yes	0	-	---	Yes
16:00 - 17:00	1938	Yes	315	-	Yes	0	-	---	Yes
07:45 - 08:45	1930	Yes	332	-	Yes	0	-	---	Yes
17:15 - 18:15	1928	Yes	346	-	Yes	0	-	---	Yes
15:45 - 16:45	1925	Yes	309	-	Yes	0	-	---	Yes
06:45 - 07:45	1882	Yes	333	-	Yes	0	-	---	Yes
15:30 - 16:30	1872	Yes	284	-	Yes	0	-	---	Yes
15:15 - 16:15	1856	Yes	270	-	Yes	0	-	---	Yes
15:00 - 16:00	1784	Yes	263	-	Yes	0	-	---	Yes
17:30 - 18:30	1751	Yes	277	-	Yes	0	-	---	Yes
08:00 - 09:00	1697	Yes	286	-	Yes	0	-	---	Yes
14:45 - 15:45	1681	Yes	225	-	Yes	0	-	---	Yes
06:30 - 07:30	1653	Yes	255	-	Yes	0	-	---	Yes
14:30 - 15:30	1616	Yes	231	-	Yes	0	-	---	Yes
17:45 - 18:45	1587	Yes	226	-	Yes	0	-	---	Yes
08:15 - 09:15	1554	Yes	269	-	Yes	0	-	---	Yes
14:15 - 15:15	1467	Yes	217	-	Yes	0	-	---	Yes
18:00 - 19:00	1450	Yes	187	-	Yes	0	-	---	Yes
08:30 - 09:30	1413	Yes	227	-	Yes	0	-	---	Yes

Traffic Signal Warrant Analysis

NB Ramps & 151st St. - 2025 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2025 NB Ramps & 151st St.

Study Date : 10/10/2025

Warrant 3B - Peak Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

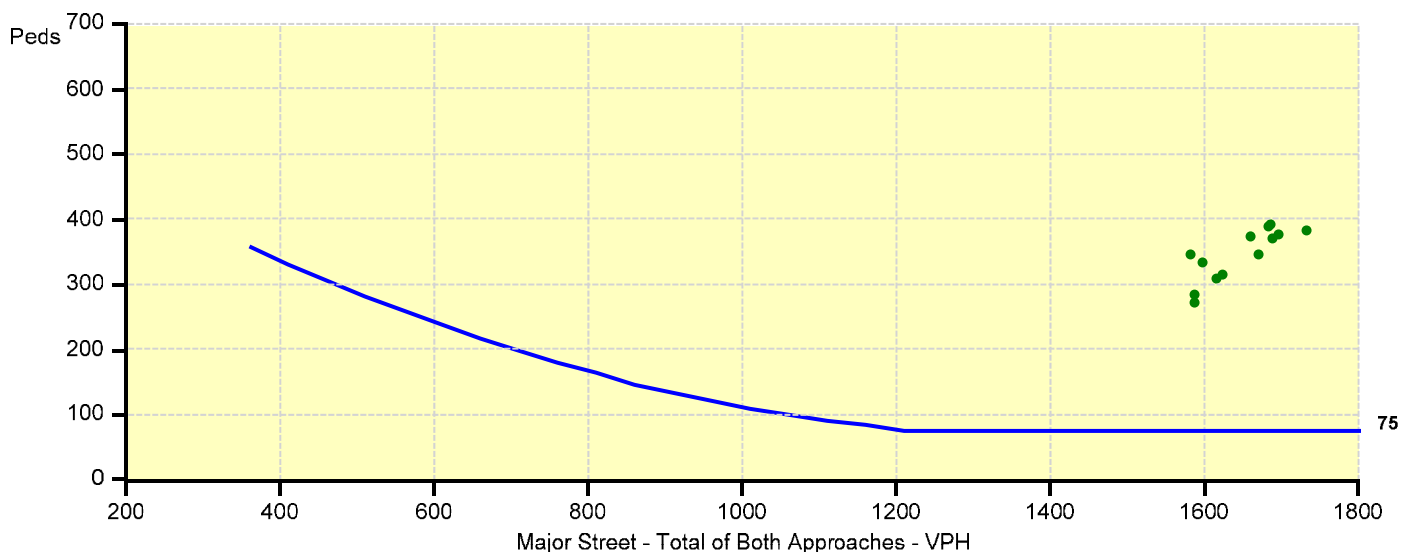
Summary

55 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Major Road 151st St.						Minor Road NB Ramps		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
07:15 - 08:15	730	+	1002	=	1732	381	0	Yes
07:00 - 08:00	705	+	990	=	1695	375	0	Yes
07:30 - 08:30	713	+	975	=	1688	369	0	Yes
16:30 - 17:30	811	+	876	=	1687	391	0	Yes
16:45 - 17:45	843	+	839	=	1682	390	0	Yes
16:15 - 17:15	786	+	883	=	1669	344	0	Yes
17:00 - 18:00	839	+	822	=	1661	374	0	Yes
16:00 - 17:00	734	+	889	=	1623	315	0	Yes
15:45 - 16:45	715	+	901	=	1616	309	0	Yes
07:45 - 08:45	702	+	896	=	1598	332	0	Yes
15:30 - 16:30	717	+	871	=	1588	284	0	Yes
15:15 - 16:15	734	+	852	=	1586	270	0	Yes



Traffic Signal Warrant Analysis

Broadway Ave. & 151st St. - 2022 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2022 Broadway Ave. & 151st St.

Study Date : 10/10/2025

Signal Warrants - Summary

Major Street Approaches

Eastbound: 151st St.

Number of Lanes : 2+

Total Approach Volume: 8,426

Westbound: 151st St.

Number of Lanes : 2+

Total Approach Volume: 7,691

Minor Street Approaches

Northbound: Broadway Ave.

Number of Lanes : 1

Total Approach Volume: 834

Southbound: Broadway Ave.

Number of Lanes : 1

Total Approach Volume: 2,545

Warrant Summary (Rural Values Apply)

Warrant 1 - Eight Hour Vehicular Volumes..... Satisfied

Warrant 1A - Minimum Vehicular Volume..... Satisfied

Required volumes reached for 14 hours, 8 are needed

Warrant 1B - Interruption of Continuous Traffic..... Satisfied

Required volumes reached for 14 hours, 8 are needed

Warrant 1C - Combination of Warrants..... Satisfied

Required 1A volumes reached for 15 hours, 8 are needed

Required 1B volumes reached for 15 hours, 8 are needed

Warrant 2 - Four Hour Volumes..... Satisfied

Number of hours (14) volumes exceed minimum >= minimum required (4).

Warrant 3 - Peak Hour..... Satisfied

Warrant 3A - Peak Hour Delay..... Satisfied

Number of one hour periods (50) volumes exceed minimum >= required (1). Delay data not evaluated.

Warrant 3B - Peak Hour Volumes..... Satisfied

Volumes exceed minimums for at least one hour period.

Warrant 4 - Pedestrian Volumes..... Not Evaluated

Warrant 5 - School Crossing..... Not Evaluated

Warrant 6 - Coordinated Signal System..... Not Evaluated

Warrant 7 - Crash Experience..... Not Evaluated

Warrant 8 - Roadway Network..... Not Evaluated

Warrant 9 - Intersection Near a Grade Crossing..... Not Evaluated

Traffic Signal Warrant Analysis

Broadway Ave. & 151st St. - 2022 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2022 Broadway Ave. & 151st St.

Study Date : 10/10/2025

Warrant 1A - Minimum Volumes

Description

Intended for sites where the volume of intersecting traffic is the principal reason for consideration of a signal installation.

Summary

14 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **420**

Veh/Hr Minor = **105**

Major Road 151st St.						Minor Road Broadway Ave.		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
07:30 - 08:30	911	+	747	=	1658	49	140	Yes
16:15 - 17:15	822	+	622	=	1444	50	207	Yes
17:15 - 18:15	786	+	567	=	1353	37	199	Yes
15:15 - 16:15	705	+	577	=	1282	57	229	Yes
06:30 - 07:30	578	+	544	=	1122	56	107	Yes
14:15 - 15:15	537	+	564	=	1101	64	181	Yes
18:15 - 19:15	438	+	480	=	918	39	159	Yes
08:30 - 09:30	461	+	438	=	899	46	140	Yes
11:15 - 12:15	428	+	416	=	844	54	155	Yes
13:15 - 14:15	439	+	385	=	824	42	164	Yes
12:15 - 13:15	392	+	392	=	784	54	176	Yes
10:15 - 11:15	356	+	360	=	716	70	105	Yes
19:15 - 20:15	326	+	381	=	707	25	192	Yes
20:15 - 21:15	248	+	278	=	526	27	133	Yes
06:15 - 07:15	446	+	469	=	915	45	93	No
06:00 - 07:00	363	+	386	=	749	44	79	No
09:45 - 10:45	377	+	355	=	732	54	102	No
09:30 - 10:30	377	+	352	=	729	44	85	No
10:00 - 11:00	347	+	342	=	689	63	95	No
05:45 - 06:45	264	+	320	=	584	27	59	No
05:30 - 06:30	196	+	245	=	441	21	38	No
05:15 - 06:15	166	+	174	=	340	18	29	No
05:00 - 06:00	146	+	150	=	296	14	19	No
21:15 - 22:15	148	+	138	=	286	16	102	No
21:30 - 22:30	136		140		276	14	80	No

Traffic Signal Warrant Analysis

Broadway Ave. & 151st St. - 2022 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2022 Broadway Ave. & 151st St.

Study Date : 10/10/2025

Warrant 1B - Interruption of Continuous Traffic

Description

Intended for sites where the volume of the major street is so heavy that traffic on the minor street suffers excessive delay or hazard.

Summary

14 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70 % applied
Veh/Hr Major = **630**

Veh/Hr Minor = **53**

Major Road 151st St.						Minor Road Broadway Ave.		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
07:00 - 08:00	918	+	714	=	1632	48	122	Yes
17:00 - 18:00	863	+	593	=	1456	43	212	Yes
16:00 - 17:00	766	+	617	=	1383	49	199	Yes
15:00 - 16:00	660	+	567	=	1227	66	234	Yes
08:00 - 09:00	576	+	588	=	1164	52	143	Yes
14:00 - 15:00	527	+	526	=	1053	53	171	Yes
18:00 - 19:00	510	+	505	=	1015	40	170	Yes
12:00 - 13:00	412	+	420	=	832	52	184	Yes
13:00 - 14:00	430	+	362	=	792	48	147	Yes
09:00 - 10:00	411	+	378	=	789	38	115	Yes
11:00 - 12:00	396	+	391	=	787	58	146	Yes
19:00 - 20:00	346	+	418	=	764	29	188	Yes
06:00 - 07:00	363	+	386	=	749	44	79	Yes
10:00 - 11:00	347	+	342	=	689	63	95	Yes
05:45 - 06:45	264	+	320	=	584	27	59	No
20:00 - 21:00	245	+	295	=	540	28	151	No
20:15 - 21:15	248	+	278	=	526	27	133	No
20:30 - 21:30	228	+	244	=	472	22	125	No
05:30 - 06:30	196	+	245	=	441	21	38	No
20:45 - 21:45	205	+	204	=	409	16	116	No
05:15 - 06:15	166	+	174	=	340	18	29	No
21:00 - 22:00	178	+	157	=	335	14	103	No
05:00 - 06:00	146	+	150	=	296	14	19	No
21:15 - 22:15	148	+	138	=	286	16	102	No
21:30 - 22:30	136		140		276	14	80	No

Traffic Signal Warrant Analysis

Broadway Ave. & 151st St. - 2022 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2022 Broadway Ave. & 151st St.

Study Date : 10/10/2025

Warrant 1C Combination of Warrants

Description

Intended for sites where the traffic volumes don't meet individual warrants but where Warrants 1A and 1B are both met to 80% of their stated values.

Summary

15 hours meet 1A minimums.
15 hours meet 1B minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Volume Requirements

Rural Factor of 70% applied
Warrant 1A 1B
Veh/Hr Major = **336 504**

Veh/Hr Minor = **84 42**

Major Road 151st St.						Minor Road Broadway Ave.				
Time	Major EB	+	Major WB	=	Total	Minor NB		Minor SB		Met1A?
07:15 - 08:15	959	+	777	=	1736	53		132		Yes
16:15 - 17:15	822	+	622	=	1444	50		207		Yes
17:15 - 18:15	786	+	567	=	1353	37		199		Yes
15:15 - 16:15	705	+	577	=	1282	57		229		Yes
14:15 - 15:15	537	+	564	=	1101	64		181		Yes
08:15 - 09:15	510	+	494	=	1004	47		154		Yes
18:15 - 19:15	438	+	480	=	918	39		159		Yes
06:15 - 07:15	446	+	469	=	915	45		93		Yes
11:15 - 12:15	428	+	416	=	844	54		155		Yes
13:15 - 14:15	439	+	385	=	824	42		164		Yes
12:15 - 13:15	392	+	392	=	784	54		176		Yes
09:15 - 10:15	390		349		739	43		87		Yes

Time	Major EB	+	Major WB	=	Total	Minor NB		Minor SB		Met1B?
16:45 - 17:45	905	+	618	=	1523	46		215		Yes
06:45 - 07:45	797	+	609	=	1406	58		111		Yes
07:45 - 08:45	712	+	692	=	1404	52		151		Yes
15:45 - 16:45	722	+	615	=	1337	51		222		Yes
14:45 - 15:45	621	+	585	=	1206	63		199		Yes
17:45 - 18:45	580	+	523	=	1103	33		186		Yes
13:45 - 14:45	501	+	455	=	956	50		167		Yes
11:45 - 12:45	419	+	405	=	824	48		178		Yes
08:45 - 09:45	421	+	393	=	814	40		115		Yes
12:45 - 13:45	412	+	388	=	800	53		153		Yes
18:45 - 19:45	365	+	432	=	797	40		176		Yes
10:45 - 11:45	372		373		745	67		124		Yes

Traffic Signal Warrant Analysis

Broadway Ave. & 151st St. - 2022 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2022 Broadway Ave. & 151st St.

Study Date : 10/10/2025

Warrant 2 - Four Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during any four hours of the day is the principal reason for consideration of a signal installation.

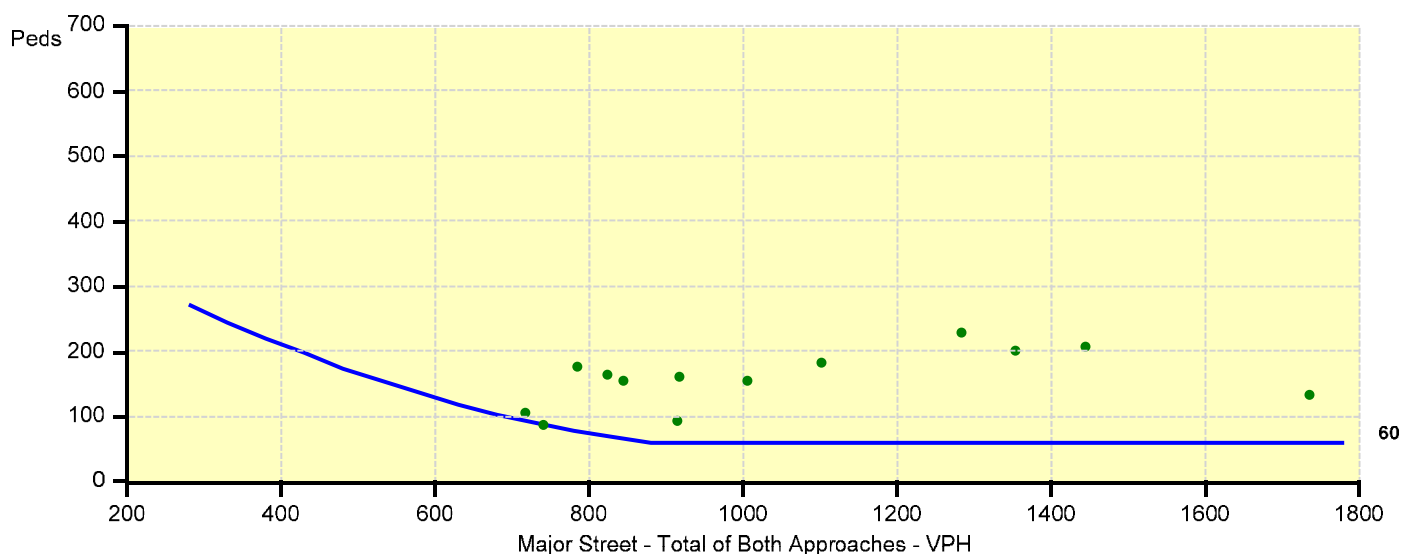
Summary

14 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Major Road 151st St.						Minor Road Broadway Ave.		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
07:15 - 08:15	959	+	777	=	1736	53	132	Yes
16:15 - 17:15	822	+	622	=	1444	50	207	Yes
17:15 - 18:15	786	+	567	=	1353	37	199	Yes
15:15 - 16:15	705	+	577	=	1282	57	229	Yes
14:15 - 15:15	537	+	564	=	1101	64	181	Yes
08:15 - 09:15	510	+	494	=	1004	47	154	Yes
18:15 - 19:15	438	+	480	=	918	39	159	Yes
06:15 - 07:15	446	+	469	=	915	45	93	Yes
11:15 - 12:15	428	+	416	=	844	54	155	Yes
13:15 - 14:15	439	+	385	=	824	42	164	Yes
12:15 - 13:15	392	+	392	=	784	54	176	Yes
09:15 - 10:15	390		349		739	43	87	Yes



Traffic Signal Warrant Analysis

Broadway Ave. & 151st St. - 2022 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2022 Broadway Ave. & 151st St.

Study Date : 10/10/2025

Warrant 3A - Peak Hour Delay

Description

Intended for sites where for one hour of the day minor street traffic suffers undue traffic delay entering or crossing the major street.

Summary

55 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Number of Minor Lanes =1

Volume and Delay Requirements

Veh/Hr All Approaches = **800**
Veh/Hr Minor = **100**
Total Delay (Veh-Hrs) = **4**

Major Road						Minor Road			
151st St.						Broadway Ave.			
Time	Total of All Approaches	Met?	Minor NB	Delay NB	Met?	Minor SB	Delay SB	Met?	Warrant Met?
07:15 - 08:15	1921	Yes	53	-	---	132	-	Yes	Yes
07:30 - 08:30	1847	Yes	49	-	---	140	-	Yes	Yes
07:00 - 08:00	1802	Yes	48	-	---	122	-	Yes	Yes
16:45 - 17:45	1784	Yes	46	-	---	215	-	Yes	Yes
16:30 - 17:30	1740	Yes	49	-	---	200	-	Yes	Yes
17:00 - 18:00	1711	Yes	43	-	---	212	-	Yes	Yes
16:15 - 17:15	1701	Yes	50	-	---	207	-	Yes	Yes
15:30 - 16:30	1636	Yes	68	-	---	224	-	Yes	Yes
16:00 - 17:00	1631	Yes	49	-	---	199	-	Yes	Yes
15:45 - 16:45	1610	Yes	51	-	---	222	-	Yes	Yes
07:45 - 08:45	1607	Yes	52	-	---	151	-	Yes	Yes
17:15 - 18:15	1589	Yes	37	-	---	199	-	Yes	Yes
06:45 - 07:45	1575	Yes	58	-	---	111	-	Yes	Yes
15:15 - 16:15	1568	Yes	57	-	---	229	-	Yes	Yes
15:00 - 16:00	1527	Yes	66	-	---	234	-	Yes	Yes
14:45 - 15:45	1468	Yes	63	-	---	199	-	Yes	Yes
17:30 - 18:30	1465	Yes	32	-	---	205	-	Yes	Yes
14:30 - 15:30	1385	Yes	52	-	---	192	-	Yes	Yes
08:00 - 09:00	1359	Yes	52	-	---	143	-	Yes	Yes
14:15 - 15:15	1346	Yes	64	-	---	181	-	Yes	Yes
17:45 - 18:45	1322	Yes	33	-	---	186	-	Yes	Yes
06:30 - 07:30	1285	Yes	56	-	---	107	-	Yes	Yes
14:00 - 15:00	1277	Yes	53	-	---	171	-	Yes	Yes
18:00 - 19:00	1225	Yes	40	-	---	170	-	Yes	Yes
08:15 - 09:15	1205	Yes	47	-	---	154	-	Yes	Yes

Traffic Signal Warrant Analysis

Broadway Ave. & 151st St. - 2022 Traffic - Glenpool, Ok

Traffic Engineering Consultants, Inc.

Study Name: 2022 Broadway Ave. & 151st St.

Study Date : 10/10/2025

Warrant 3B - Peak Hour Volumes

Description

Intended for sites where the volume of intersecting traffic during one hour of the day is the principal reason for consideration of a signal installation.

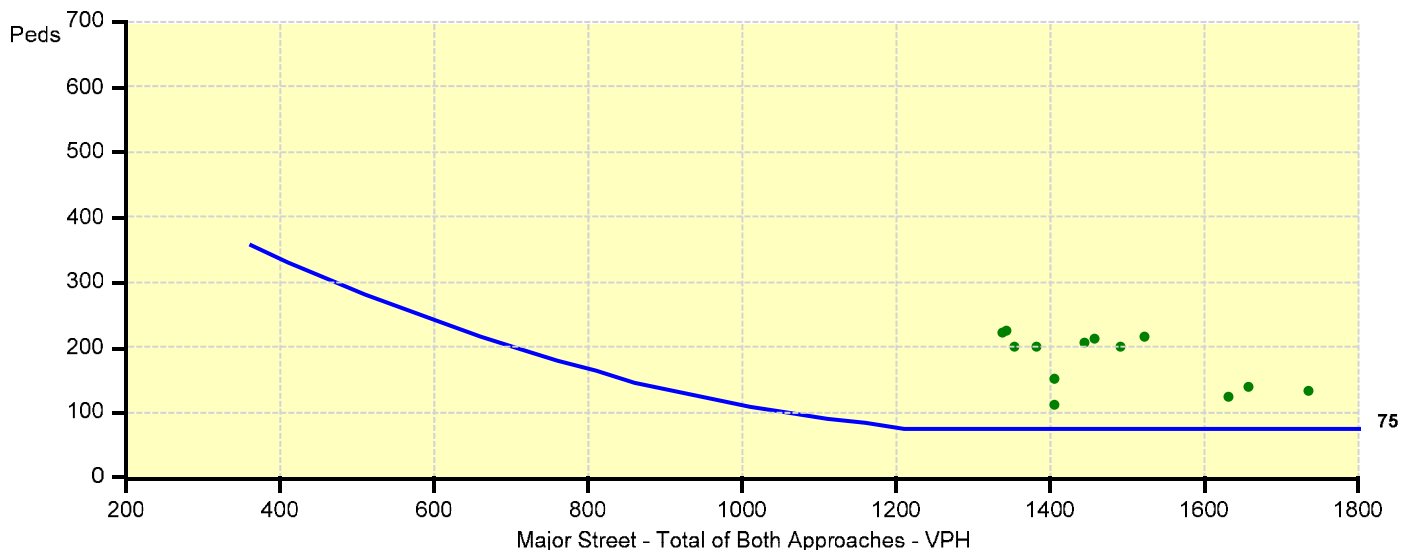
Summary

39 one hour periods meet minimums.
Warrant IS met.

Site Data Required

Rural Settings Apply = **True**
Number of Major Lanes = **2 or more**
Number of Minor Lanes = **1**

Major Road 151st St.						Minor Road Broadway Ave.		
Time	Major EB	+	Major WB	=	Total	Minor NB	Minor SB	Met?
07:15 - 08:15	959	+	777	=	1736	53	132	Yes
07:30 - 08:30	911	+	747	=	1658	49	140	Yes
07:00 - 08:00	918	+	714	=	1632	48	122	Yes
16:45 - 17:45	905	+	618	=	1523	46	215	Yes
16:30 - 17:30	897	+	594	=	1491	49	200	Yes
17:00 - 18:00	863	+	593	=	1456	43	212	Yes
16:15 - 17:15	822	+	622	=	1444	50	207	Yes
06:45 - 07:45	797	+	609	=	1406	58	111	Yes
07:45 - 08:45	712	+	692	=	1404	52	151	Yes
16:00 - 17:00	766	+	617	=	1383	49	199	Yes
17:15 - 18:15	786	+	567	=	1353	37	199	Yes
15:30 - 16:30	710	+	634	=	1344	68	224	Yes



ATTACHMENT E

EXISTING RESULTS

Intersection								
Int Delay, s/veh	10.5							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	1	5	635	45	545	30	110	25
Future Vol, veh/h	1	5	635	45	545	30	110	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	Yield
Storage Length	-	265	-	200	-	-	0	50
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	50	38	96	56	81	67	82	72
Heavy Vehicles, %	0	0	4	4	4	3	2	0
Mvmt Flow	2	13	661	80	673	45	134	35
Major/Minor	Major1		Major2		Minor2			
Conflicting Flow All	718	718	0	661	-	0	1217	359
Stage 1	-	-	-	-	-	-	856	-
Stage 2	-	-	-	-	-	-	361	-
Critical Hdwy	6.4	4.1	-	6.48	-	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.5	2.2	-	2.54	-	-	3.52	3.3
Pot Cap-1 Maneuver	511	893	-	539	-	-	173	644
Stage 1	-	-	-	-	-	-	377	-
Stage 2	-	-	-	-	-	-	676	-
Platoon blocked, %			-		-	-		
Mov Cap-1 Maneuver	803	803	-	539	-	-	145	644
Mov Cap-2 Maneuver	-	-	-	-	-	-	145	-
Stage 1	-	-	-	-	-	-	369	-
Stage 2	-	-	-	-	-	-	575	-
Approach	EB		WB		SB			
HCM Ctrl Dly, s/v	0.21		1.29		95.03			
HCM LOS	F							
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	SBLn2	
Capacity (veh/h)	803	-	539	-	-	145	644	
HCM Lane V/C Ratio	0.019	-	0.149	-	-	0.928	0.054	
HCM Ctrl Dly (s/v)	9.6	-	12.8	-	-	116.8	10.9	
HCM Lane LOS	A	-	B	-	-	F	B	
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-	6.5	0.2	

Intersection												
Int Delay, s/veh	319.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑						↑↑	
Traffic Vol, veh/h	0	675	70	255	500	0	0	0	0	155	0	120
Future Vol, veh/h	0	675	70	255	500	0	0	0	0	155	0	120
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	91	90	79	85	92	92	92	92	68	92	63
Heavy Vehicles, %	2	4	7	4	3	2	2	2	2	12	0	9
Mvmt Flow	0	742	78	323	588	0	0	0	0	228	0	190

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	820	0	0	1605	2053	294
Stage 1	-	-	-	-	-	-	1234	1234	-
Stage 2	-	-	-	-	-	-	371	820	-
Critical Hdwy	-	-	-	4.18	-	-	7.04	6.5	7.08
Critical Hdwy Stg 1	-	-	-	-	-	-	6.04	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.04	5.5	-
Follow-up Hdwy	-	-	-	2.24	-	-	3.62	4	3.39
Pot Cap-1 Maneuver	0	-	-	792	-	0	~ 87	56	682
Stage 1	0	-	-	-	-	0	~ 219	251	-
Stage 2	0	-	-	-	-	0	639	392	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	792	-	-	~ 51	0	682
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 51	0	-
Stage 1	-	-	-	-	-	-	~ 219	0	-
Stage 2	-	-	-	-	-	-	379	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	4.48	\$ 1632.89
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	792	-	95
HCM Lane V/C Ratio	-	-	0.407	-	4.427
HCM Ctrl Dly (s/v)	-	-	12.6	\$ 1632.9	
HCM Lane LOS	-	-	B	-	F
HCM 95th %tile Q(veh)	-	-	2	-	44

Notes	
~: Volume exceeds capacity	\$. Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	9.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	90	730	0	0	695	250	60	5	275	0	0	0
Future Vol, veh/h	90	730	0	0	695	250	60	5	275	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Yield	-	-	None
Storage Length	0	-	-	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	94	92	92	85	80	75	50	80	92	92	92
Heavy Vehicles, %	14	4	2	2	3	4	10	50	3	2	2	2
Mvmt Flow	134	777	0	0	818	313	80	10	344	0	0	0

Major/Minor	Major1		Major2			Minor1			
Conflicting Flow All	818	0	-	-	-	0	1454	1863	388
Stage 1	-	-	-	-	-	-	1045	1045	-
Stage 2	-	-	-	-	-	-	409	818	-
Critical Hdwy	4.38	-	-	-	-	-	7	7.5	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6	6.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6	6.5	-
Follow-up Hdwy	2.34	-	-	-	-	-	3.6	4.5	3.33
Pot Cap-1 Maneuver	733	-	0	0	-	-	112	43	607
Stage 1	-	-	0	0	-	-	282	217	-
Stage 2	-	-	0	0	-	-	616	292	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	733	-	-	-	-	-	92	0	607
Mov Cap-2 Maneuver	-	-	-	-	-	-	92	0	-
Stage 1	-	-	-	-	-	-	231	0	-
Stage 2	-	-	-	-	-	-	616	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	1.62	0	48.91
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	483	733	-	-	-
HCM Lane V/C Ratio	0.898	0.183	-	-	-
HCM Ctrl Dly (s/v)	48.9	11	-	-	-
HCM Lane LOS	E	B	-	-	-
HCM 95th %tile Q(veh)	10	0.7	-	-	-

HCM Unsignalized Intersection Capacity Analysis 20: S Broadway St & 151st St

2025 Existing AM
US 75 & 151st Analysis

																					
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR									
Lane Configurations																					
Traffic Volume (veh/h)	240	685	65	30	635	85	35	10	15	20	5	105									
Future Volume (Veh/h)	240	685	65	30	635	85	35	10	15	20	5	105									
Sign Control	Free			Free			Stop			Stop											
Grade	0%			0%			0%			0%											
Peak Hour Factor	0.65	0.73	0.68	0.75	0.88	0.87	0.73	0.88	0.82	0.82	0.38	0.88									
Hourly flow rate (vph)	369	938	96	40	722	98	48	11	18	24	13	119									
Pedestrians																					
Lane Width (ft)																					
Walking Speed (ft/s)																					
Percent Blockage																					
Right turn flare (veh)	9																				
Median type	Raised			Raised																	
Median storage veh	1			1																	
Upstream signal (ft)																					
pX, platoon unblocked																					
vC, conflicting volume	820				1034				2243	2576	469	2073	2623	410							
vC1, stage 1 conf vol							1676	1676				851	851								
vC2, stage 2 conf vol							567	900				1222	1772								
vCu, unblocked vol	820				1034				2243	2576	469	2073	2623	410							
tC, single (s)	4.2				4.2				7.6	6.5	6.9	7.6	6.5	7.0							
tC, 2 stage (s)							6.6	5.5				6.6	5.5								
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3							
p0 queue free %	54				94				0	17	97	34	56	80							
cM capacity (veh/h)	798				662				8	13	546	36	30	588							
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2	SB 3									
Volume Total	369	469	469	96	40	481	339	48	29	24	13	119									
Volume Left	369	0	0	0	40	0	0	48	0	24	0	0									
Volume Right	0	0	0	96	0	0	98	0	18	0	0	119									
cSH	798	1700	1700	1700	662	1700	1700	8	35	36	30	588									
Volume to Capacity	0.46	0.28	0.28	0.06	0.06	0.28	0.20	6.33	0.83	0.66	0.44	0.20									
Queue Length 95th (ft)	62	0	0	0	5	0	0	Err	74	58	35	19									
Control Delay (s/veh)	13.3	0.0	0.0	0.0	10.8	0.0	0.0	Err	220.9	214.4	198.7	12.7									
Lane LOS	B				B				F	F	F	B									
Approach Delay (s/veh)	3.5				0.5				6316.4	59.2											
Approach LOS							F			F											
Intersection Summary																					
Average Delay	200.7																				
Intersection Capacity Utilization	52.2%			ICU Level of Service					A												
Analysis Period (min)	15																				

Intersection							
Int Delay, s/veh	8.1						
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	30	875	50	435	55	95	20
Future Vol, veh/h	30	875	50	435	55	95	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	Yield
Storage Length	265	-	200	-	-	0	50
Veh in Median Storage, #	-	0	-	0	-	0	-
Grade, %	-	0	-	0	-	0	-
Peak Hour Factor	52	95	76	86	78	84	48
Heavy Vehicles, %	0	3	0	3	0	0	5
Mvmt Flow	58	921	66	506	71	113	42
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	576	0	921	-	0	1249	288
Stage 1	-	-	-	-	-	673	-
Stage 2	-	-	-	-	-	576	-
Critical Hdwy	4.1	-	6.4	-	-	6.8	7
Critical Hdwy Stg 1	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	2.5	-	-	3.5	3.35
Pot Cap-1 Maneuver	1007	-	379	-	-	168	700
Stage 1	-	-	-	-	-	474	-
Stage 2	-	-	-	-	-	531	-
Platoon blocked, %		-		-	-		
Mov Cap-1 Maneuver	1007	-	379	-	-	131	700
Mov Cap-2 Maneuver	-	-	-	-	-	131	-
Stage 1	-	-	-	-	-	447	-
Stage 2	-	-	-	-	-	439	-
Approach	EB		WB		SB		
HCM Ctrl Dly, s/v	0.52		1.69			83.05	
HCM LOS						F	
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1007	-	379	-	-	131	700
HCM Lane V/C Ratio	0.057	-	0.174	-	-	0.864	0.06
HCM Ctrl Dly (s/v)	8.8	-	16.5	-	-	109.8	10.5
HCM Lane LOS	A	-	C	-	-	F	B
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-	5.5	0.2

Intersection												
Int Delay, s/veh	167.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑						↑↑	
Traffic Vol, veh/h	0	800	170	270	415	0	0	0	0	110	0	125
Future Vol, veh/h	0	800	170	270	415	0	0	0	0	110	0	125
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	90	84	84	90	92	92	92	92	70	92	72
Heavy Vehicles, %	2	2	6	4	3	2	2	2	2	7	2	4
Mvmt Flow	0	889	202	321	461	0	0	0	0	157	0	174

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	1091	0	0	1548	2195	231
Stage 1	-	-	-	-	-	-	1104	1104	-
Stage 2	-	-	-	-	-	-	444	1091	-
Critical Hdwy	-	-	-	4.18	-	-	6.94	6.54	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	5.94	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.94	5.54	-
Follow-up Hdwy	-	-	-	2.24	-	-	3.57	4.02	3.34
Pot Cap-1 Maneuver	0	-	-	624	-	0	~ 100	45	766
Stage 1	0	-	-	-	-	0	268	285	-
Stage 2	0	-	-	-	-	0	599	289	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	624	-	-	~ 48	0	766
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 48	0	-
Stage 1	-	-	-	-	-	-	268	0	-
Stage 2	-	-	-	-	-	-	290	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	6.88	\$ 1102.43
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	624	-	102
HCM Lane V/C Ratio	-	-	0.515	-	3.252
HCM Ctrl Dly (s/v)	-	-	16.8	\$ 1102.4	
HCM Lane LOS	-	-	C	-	F
HCM 95th %tile Q(veh)	-	-	3	-	32.5

Notes	
~: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	105	805	0	0	635	190	50	5	290	0	0	0
Future Vol, veh/h	105	805	0	0	635	190	50	5	290	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Yield	-	-	None
Storage Length	0	-	-	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	91	92	92	89	90	72	50	84	92	92	92
Heavy Vehicles, %	5	2	2	2	3	6	0	0	0	2	2	2
Mvmt Flow	113	885	0	0	713	211	69	10	345	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	713	0	- - - 0 1467 1824 442
Stage 1	-	-	- - - 1110 1110 -
Stage 2	-	-	- - - 357 713 -
Critical Hdwy	4.2	-	- - - 6.8 6.5 6.9
Critical Hdwy Stg 1	-	-	- - - 5.8 5.5 -
Critical Hdwy Stg 2	-	-	- - - 5.8 5.5 -
Follow-up Hdwy	2.25	-	- - - 3.5 4 3.3
Pot Cap-1 Maneuver	863	- 0 0	- - 121 78 568
Stage 1	-	- 0 0	- - 281 287 -
Stage 2	-	- 0 0	- - 685 438 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	863	- - -	- 105 0 568
Mov Cap-2 Maneuver	-	- - -	- 105 0 -
Stage 1	-	- - -	- 244 0 -
Stage 2	-	- - -	- 685 0 -

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	1.11	0	24.94
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	593	863	-	-	-
HCM Lane V/C Ratio	0.717	0.131	-	-	-
HCM Ctrl Dly (s/v)	24.9	9.8	-	-	-
HCM Lane LOS	C	A	-	-	-
HCM 95th %tile Q(veh)	5.9	0.4	-	-	-

HCM Unsignalized Intersection Capacity Analysis
20: S Broadway St & 151st St

2025 Existing PM
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 							
Traffic Volume (veh/h)	155	745	40	15	530	80	35	5	10	55	5	165
Future Volume (Veh/h)	155	745	40	15	530	80	35	5	10	55	5	165
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.91	0.91	0.73	0.50	0.91	0.75	0.80	0.50	0.83	0.76	0.25	0.84
Hourly flow rate (vph)	170	819	55	30	582	107	44	10	12	72	20	196
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)											9	
Median type	Raised				Raised							
Median storage veh)	1				1							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	689			874			1716	1908	410	1456	1910	345
vC1, stage 1 conf vol							1159	1159		696	696	
vC2, stage 2 conf vol							557	749		761	1214	
vCu, unblocked vol	689			874			1716	1908	410	1456	1910	345
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	81			96			48	92	98	57	85	70
cM capacity (veh/h)	908			781			85	129	597	169	135	654
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	170	410	410	55	30	388	301	44	22	72	20	196
Volume Left	170	0	0	0	30	0	0	44	0	72	0	0
Volume Right	0	0	0	55	0	0	107	0	12	0	0	196
cSH	908	1700	1700	1700	781	1700	1700	85	284	169	135	654
Volume to Capacity	0.19	0.24	0.24	0.03	0.04	0.23	0.18	0.52	0.08	0.43	0.15	0.30
Queue Length 95th (ft)	17	0	0	0	3	0	0	56	6	48	13	31
Control Delay (s/veh)	9.9	0.0	0.0	0.0	9.8	0.0	0.0	85.8	22.1	41.1	36.4	12.8
Lane LOS	A				A			F	C	E	E	B
Approach Delay (s/veh)	1.6				0.4			64.5		21.5		
Approach LOS								F		C		
Intersection Summary												
Average Delay			5.9									
Intersection Capacity Utilization			45.5%		ICU Level of Service					A		
Analysis Period (min)			15									

Intersection								
Int Delay, s/veh	8.1							
Movement	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Vol, veh/h	1	5	745	50	635	30	110	25
Future Vol, veh/h	1	5	745	50	635	30	110	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	Yield
Storage Length	-	265	-	200	-	-	0	50
Veh in Median Storage, #	-	-	0	-	0	-	0	-
Grade, %	-	-	0	-	0	-	0	-
Peak Hour Factor	85	85	95	85	95	85	85	85
Heavy Vehicles, %	0	0	4	4	4	3	2	0
Mvmt Flow	1	6	784	59	668	35	129	29
Major/Minor	Major1		Major2		Minor2			
Conflicting Flow All	704	704	0	784	-	0	1210	352
Stage 1	-	-	-	-	-	-	804	-
Stage 2	-	-	-	-	-	-	406	-
Critical Hdwy	6.4	4.1	-	6.48	-	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.5	2.2	-	2.54	-	-	3.52	3.3
Pot Cap-1 Maneuver	521	903	-	450	-	-	175	650
Stage 1	-	-	-	-	-	-	401	-
Stage 2	-	-	-	-	-	-	641	-
Platoon blocked, %			-		-	-		
Mov Cap-1 Maneuver	795	795	-	450	-	-	151	650
Mov Cap-2 Maneuver	-	-	-	-	-	-	151	-
Stage 1	-	-	-	-	-	-	397	-
Stage 2	-	-	-	-	-	-	557	-
Approach	EB		WB		SB			
HCM Ctrl Dly, s/v	0.09		1.1		81.93			
HCM LOS					F			
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	SBLn2	
Capacity (veh/h)	795	-	450	-	-	151	650	
HCM Lane V/C Ratio	0.009	-	0.131	-	-	0.858	0.045	
HCM Ctrl Dly (s/v)	9.6	-	14.2	-	-	98.1	10.8	
HCM Lane LOS	A	-	B	-	-	F	B	
HCM 95th %tile Q(veh)	0	-	0.4	-	-	5.8	0.1	

Intersection												
Int Delay, s/veh	203.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑						↑↑	
Traffic Vol, veh/h	0	775	80	295	575	0	0	0	0	170	0	140
Future Vol, veh/h	0	775	80	295	575	0	0	0	0	170	0	140
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	4	7	4	3	2	2	2	2	12	0	9
Mvmt Flow	0	816	84	311	605	0	0	0	0	179	0	147

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	900	0	0	1634	2126	303
Stage 1	-	-	-	-	-	-	1226	1226	-
Stage 2	-	-	-	-	-	-	408	900	-
Critical Hdwy	-	-	-	4.18	-	-	7.04	6.5	7.08
Critical Hdwy Stg 1	-	-	-	-	-	-	6.04	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.04	5.5	-
Follow-up Hdwy	-	-	-	2.24	-	-	3.62	4	3.39
Pot Cap-1 Maneuver	0	-	-	738	-	0	~ 83	50	673
Stage 1	0	-	-	-	-	0	221	253	-
Stage 2	0	-	-	-	-	0	612	360	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	738	-	-	~ 48	0	673
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 48	0	-
Stage 1	-	-	-	-	-	-	221	0	-
Stage 2	-	-	-	-	-	-	354	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	4.53	\$ 1326.02
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	738	-	88
HCM Lane V/C Ratio	-	-	0.421	-	3.725
HCM Ctrl Dly (s/v)	-	-	13.4	-	\$ 1326
HCM Lane LOS	-	-	B	-	F
HCM 95th %tile Q(veh)	-	-	2.1	-	33.5

Notes	
~: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	8.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	105	840	0	0	800	285	70	5	315	0	0	0
Future Vol, veh/h	105	840	0	0	800	285	70	5	315	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Yield	-	-	None
Storage Length	0	-	-	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	92	92	95	95	95	95	95	92	92	92
Heavy Vehicles, %	14	4	2	2	3	4	10	50	3	2	2	2
Mvmt Flow	111	884	0	0	842	300	74	5	332	0	0	0

Major/Minor	Major1		Major2		Minor1					
Conflicting Flow All	842	0	-	-	-	0	1526	1947	442	
Stage 1	-	-	-	-	-	-	1105	1105	-	
Stage 2	-	-	-	-	-	-	421	842	-	
Critical Hdwy	4.38	-	-	-	-	-	7	7.5	6.96	
Critical Hdwy Stg 1	-	-	-	-	-	-	6	6.5	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6	6.5	-	
Follow-up Hdwy	2.34	-	-	-	-	-	3.6	4.5	3.33	
Pot Cap-1 Maneuver	717	-	0	0	-	-	100	37	560	
Stage 1	-	-	0	0	-	-	262	201	-	
Stage 2	-	-	0	0	-	-	607	283	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	717	-	-	-	-	-	85	0	560	
Mov Cap-2 Maneuver	-	-	-	-	-	-	85	0	-	
Stage 1	-	-	-	-	-	-	222	0	-	
Stage 2	-	-	-	-	-	-	607	0	-	

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	1.21	0	48.51
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	463	717	-	-	-
HCM Lane V/C Ratio	0.887	0.154	-	-	-
HCM Ctrl Dly (s/v)	48.5	10.9	-	-	-
HCM Lane LOS	E	B	-	-	-
HCM 95th %tile Q(veh)	9.6	0.5	-	-	-

Intersection												
Int Delay, s/veh	65.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰	↰	↰	↰↰		↰	↰	↰	↰	↰	↰
Traffic Vol, veh/h	240	835	80	40	890	115	50	15	20	25	5	145
Future Vol, veh/h	240	835	80	40	890	115	50	15	20	25	5	145
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	425	-	280	425	-	-	285	-	220	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	95	90	90	95	90	90	90	90	90	90	90
Heavy Vehicles, %	3	4	3	3	2	1	3	0	0	4	0	3
Mvmt Flow	267	879	89	44	937	128	56	17	22	28	6	161

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1065	0	0	968	0	0	1972	2566	439	2071	2591	532
Stage 1	-	-	-	-	-	-	1412	1412	-	1090	1090	-
Stage 2	-	-	-	-	-	-	560	1154	-	981	1501	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.56	6.5	6.9	7.58	6.5	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.5	-	6.58	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.5	-	6.58	5.5	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4	3.3	3.54	4	3.33
Pot Cap-1 Maneuver	644	-	-	701	-	-	~ 37	26	571	30	26	489
Stage 1	-	-	-	-	-	-	144	206	-	226	294	-
Stage 2	-	-	-	-	-	-	478	274	-	264	187	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	644	-	-	701	-	-	~ 10	~ 15	571	-	14	489
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 10	~ 15	-	-	14	-
Stage 1	-	-	-	-	-	-	84	121	-	212	275	-
Stage 2	-	-	-	-	-	-	294	257	-	128	109	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	3.13	0.42	\$ 1771.66	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	10	15	571	644	-	-	701	-	-	-	14	489
HCM Lane V/C Ratio	5.603	1.146	0.039	0.414	-	-	0.063	-	-	-	0.396	0.329
HCM Ctrl Dly (s/v)	\$ 2813.9	\$ 644.2	11.6	14.5	-	-	10.5	-	-	-	\$ 379.6	15.9
HCM Lane LOS	F	F	B	B	-	-	B	-	-	-	F	C
HCM 95th %tile Q(veh)	8.2	2.6	0.1	2	-	-	0.2	-	-	-	1	1.4

Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s										
+: Computation Not Defined		*: All major volume in platoon										

Intersection							
Int Delay, s/veh	10						
Movement	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Vol, veh/h	30	1020	60	505	55	95	20
Future Vol, veh/h	30	1020	60	505	55	95	20
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	-	None	-	Yield
Storage Length	265	-	200	-	-	0	50
Veh in Median Storage, #	-	0	-	0	-	0	-
Grade, %	-	0	-	0	-	0	-
Peak Hour Factor	85	95	85	95	85	85	85
Heavy Vehicles, %	0	3	0	3	0	0	5
Mvmt Flow	35	1074	71	532	65	112	24
Major/Minor	Major1		Major2		Minor2		
Conflicting Flow All	596	0	1074	-	0	1313	298
Stage 1	-	-	-	-	-	705	-
Stage 2	-	-	-	-	-	607	-
Critical Hdwy	4.1	-	6.4	-	-	6.8	7
Critical Hdwy Stg 1	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.2	-	2.5	-	-	3.5	3.35
Pot Cap-1 Maneuver	990	-	303	-	-	153	689
Stage 1	-	-	-	-	-	456	-
Stage 2	-	-	-	-	-	512	-
Platoon blocked, %		-		-	-		
Mov Cap-1 Maneuver	990	-	303	-	-	113	689
Mov Cap-2 Maneuver	-	-	-	-	-	113	-
Stage 1	-	-	-	-	-	440	-
Stage 2	-	-	-	-	-	393	-
Approach	EB		WB		SB		
HCM Ctrl Dly, s/v	0.28		2.17		129		
HCM LOS	F						
Minor Lane/Major Mvmt	EBL	EBT	WBU	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	990	-	303	-	-	113	689
HCM Lane V/C Ratio	0.036	-	0.233	-	-	0.99	0.034
HCM Ctrl Dly (s/v)	8.8	-	20.5	-	-	154	10.4
HCM Lane LOS	A	-	C	-	-	F	B
HCM 95th %tile Q(veh)	0.1	-	0.9	-	-	6.4	0.1

Intersection												
Int Delay, s/veh	161.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑						↑↑	
Traffic Vol, veh/h	0	920	195	315	475	0	0	0	0	125	0	145
Future Vol, veh/h	0	920	195	315	475	0	0	0	0	125	0	145
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	92	92	92	95	95	95
Heavy Vehicles, %	2	2	6	4	3	2	2	2	2	7	2	4
Mvmt Flow	0	968	205	332	500	0	0	0	0	132	0	153

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	1174	0	0	1647	2337	250
Stage 1	-	-	-	-	-	-	1163	1163	-
Stage 2	-	-	-	-	-	-	484	1174	-
Critical Hdwy	-	-	-	4.18	-	-	6.94	6.54	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	5.94	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.94	5.54	-
Follow-up Hdwy	-	-	-	2.24	-	-	3.57	4.02	3.34
Pot Cap-1 Maneuver	0	-	-	580	-	0	~ 85	36	744
Stage 1	0	-	-	-	-	0	249	267	-
Stage 2	0	-	-	-	-	0	571	264	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	580	-	-	~ 37	0	744
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 37	0	-
Stage 1	-	-	-	-	-	-	249	0	-
Stage 2	-	-	-	-	-	-	244	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	7.65	\$ 1278.92
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	580	-	79
HCM Lane V/C Ratio	-	-	0.572	-	3.596
HCM Ctrl Dly (s/v)	-	-	19.2	-	\$ 1278.9
HCM Lane LOS	-	-	C	-	F
HCM 95th %tile Q(veh)	-	-	3.6	-	29.3

Notes	
~: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	6.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	120	925	0	0	730	220	60	5	335	0	0	0
Future Vol, veh/h	120	925	0	0	730	220	60	5	335	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Yield	-	-	None
Storage Length	0	-	-	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	92	92	92
Heavy Vehicles, %	5	2	2	2	3	6	0	0	0	2	2	2
Mvmt Flow	126	974	0	0	768	232	63	5	353	0	0	0

Major/Minor	Major1		Major2		Minor1		
Conflicting Flow All	768	0	-	-	-	0	1611 1995 487
Stage 1	-	-	-	-	-	-	1226 1226 -
Stage 2	-	-	-	-	-	-	384 768 -
Critical Hdwy	4.2	-	-	-	-	-	6.8 6.5 6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8 5.5 -
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8 5.5 -
Follow-up Hdwy	2.25	-	-	-	-	-	3.5 4 3.3
Pot Cap-1 Maneuver	822	-	0	0	-	-	97 61 532
Stage 1	-	-	0	0	-	-	244 253 -
Stage 2	-	-	0	0	-	-	664 414 -
Platoon blocked, %	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	822	-	-	-	-	-	82 0 532
Mov Cap-2 Maneuver	-	-	-	-	-	-	82 0 -
Stage 1	-	-	-	-	-	-	207 0 -
Stage 2	-	-	-	-	-	-	664 0 -

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	1.17	0	34.88
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	521	822	-	-	-
HCM Lane V/C Ratio	0.808	0.154	-	-	-
HCM Ctrl Dly (s/v)	34.9	10.2	-	-	-
HCM Lane LOS	D	B	-	-	-
HCM 95th %tile Q(veh)	7.8	0.5	-	-	-

Intersection												
Int Delay, s/veh	55.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰	↰	↰	↰↰		↰	↰	↰	↰	↰	↰
Traffic Vol, veh/h	155	1050	55	20	690	105	45	5	15	75	5	215
Future Vol, veh/h	155	1050	55	20	690	105	45	5	15	75	5	215
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	425	-	280	425	-	-	285	-	220	0	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	95	90	90	95	90	90	90	90	90	90	90
Heavy Vehicles, %	1	1	0	0	2	2	0	0	0	0	0	1
Mvmt Flow	172	1105	61	22	726	117	50	6	17	83	6	239

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	843	0	0	1166	0	0	1860	2337	553	1729	2340	421
Stage 1	-	-	-	-	-	-	1450	1450	-	829	829	-
Stage 2	-	-	-	-	-	-	410	887	-	900	1511	-
Critical Hdwy	4.12	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.21	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.31
Pot Cap-1 Maneuver	795	-	-	606	-	-	~ 46	37	482	~ 58	37	584
Stage 1	-	-	-	-	-	-	140	198	-	335	388	-
Stage 2	-	-	-	-	-	-	595	365	-	304	185	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	795	-	-	606	-	-	~ 17	28	482	~ 36	28	584
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 17	28	-	~ 36	28	-
Stage 1	-	-	-	-	-	-	110	155	-	323	374	-
Stage 2	-	-	-	-	-	-	333	351	-	222	145	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.39	0.29	\$ 920.86	230.9
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	NBLn3	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	17	28	482	795	-	-	606	-	-	36	28	584
HCM Lane V/C Ratio	2.886	0.198	0.035	0.217	-	-	0.037	-	-	2.343	0.199	0.409
HCM Ctrl Dly (s/v)	\$ 1307.8	162.9	12.7	10.8	-	-	11.2	-	-	\$ 853.2	163.6	15.4
HCM Lane LOS	F	F	B	B	-	-	B	-	-	F	F	C
HCM 95th %tile Q(veh)	6.8	0.6	0.1	0.8	-	-	0.1	-	-	9.3	0.6	2

Notes												
~: Volume exceeds capacity				\$: Delay exceeds 300s								
+: Computation Not Defined				*: All major volume in platoon								

Intersection

Int Delay, s/veh 283.1

Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations														
Traffic Vol, veh/h	1	7	755	59	50	145	631	30	61	11	208	110	15	28
Future Vol, veh/h	1	7	755	59	50	145	631	30	61	11	208	110	15	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	-	None	-	-	-	None	-	-	Yield	-	-	Yield
Storage Length	-	265	-	-	-	200	-	-	-	-	50	-	-	50
Veh in Median Storage, #	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	95	92	85	92	95	85	85	85	85	85	85	85
Heavy Vehicles, %	0	0	4	2	4	2	4	3	2	2	2	2	2	0
Mvmt Flow	1	8	795	64	59	158	664	35	72	13	245	129	18	33

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	700	700	0	0	859	859	0	0	1619	1978	429	1537
Stage 1	-	-	-	-	-	-	-	-	846	846	-	1115
Stage 2	-	-	-	-	-	-	-	-	774	1132	-	423
Critical Hdwy	6.4	4.1	-	-	6.48	4.14	-	-	7.54	6.54	6.94	7.54
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	6.54	5.54	-	6.54
Follow-up Hdwy	2.5	2.2	-	-	2.54	2.22	-	-	3.52	4.02	3.32	3.52
Pot Cap-1 Maneuver	524	907	-	-	403	778	-	-	~ 69	61	574	~ 79
Stage 1	-	-	-	-	-	-	-	-	323	377	-	222
Stage 2	-	-	-	-	-	-	-	-	357	276	-	579
Platoon blocked, %			-	-			-	-				
Mov Cap-1 Maneuver	822	822	-	-	473	473	-	-	~ 21	33	574	~ 18
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	~ 21	33	-	~ 18
Stage 1	-	-	-	-	-	-	-	-	320	372	-	~ 120
Stage 2	-	-	-	-	-	-	-	-	163	150	-	317

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.1	4.45	\$ 426.7	\$ 2803.11
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	22	574	822	-	-	473	-	-	19	652
HCM Lane V/C Ratio	3.794	0.426	0.011	-	-	0.457	-	-	7.734	0.051
HCM Ctrl Dly (s/v)	\$ 1613.6	15.9	9.4	-	-	18.9	-	-	\$ 3428.6	10.8
HCM Lane LOS	F	C	A	-	-	C	-	-	F	B
HCM 95th %tile Q(veh)	10.8	2.1	0	-	-	2.4	-	-	18.9	0.2

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s
+: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	369.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑						↑↑	
Traffic Vol, veh/h	0	964	109	295	646	0	0	0	0	170	0	211
Future Vol, veh/h	0	964	109	295	646	0	0	0	0	170	0	211
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	4	7	4	3	2	2	2	2	12	0	9
Mvmt Flow	0	1015	115	311	680	0	0	0	0	179	0	222

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	1129	0	0	1808	2431	340
Stage 1	-	-	-	-	-	-	1301	1301	-
Stage 2	-	-	-	-	-	-	507	1129	-
Critical Hdwy	-	-	-	4.18	-	-	7.04	6.5	7.08
Critical Hdwy Stg 1	-	-	-	-	-	-	6.04	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.04	5.5	-
Follow-up Hdwy	-	-	-	2.24	-	-	3.62	4	3.39
Pot Cap-1 Maneuver	0	-	-	603	-	0	~ 63	32	636
Stage 1	0	-	-	-	-	0	201	233	-
Stage 2	0	-	-	-	-	0	542	281	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	603	-	-	~ 30	0	636
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 30	0	-
Stage 1	-	-	-	-	-	-	201	0	-
Stage 2	-	-	-	-	-	-	263	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	5.37	\$ 2311.62
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	603	-	68
HCM Lane V/C Ratio	-	-	0.515	-	5.871
HCM Ctrl Dly (s/v)	-	-	17.1	\$ 2311.6	
HCM Lane LOS	-	-	C	-	F
HCM 95th %tile Q(veh)	-	-	2.9	-	44.9

Notes	
~: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	154.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↰			↰↰	↰		↰				
Traffic Vol, veh/h	244	890	0	0	841	285	100	5	315	0	0	0
Future Vol, veh/h	244	890	0	0	841	285	100	5	315	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Yield	-	-	None
Storage Length	0	-	-	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	92	92	95	95	95	95	95	92	92	92
Heavy Vehicles, %	14	4	2	2	3	4	10	50	3	2	2	2
Mvmt Flow	257	937	0	0	885	300	105	5	332	0	0	0

Major/Minor	Major1		Major2		Minor1					
Conflicting Flow All	885	0	-	-	-	0	1893	2336	468	
Stage 1	-	-	-	-	-	-	1451	1451	-	
Stage 2	-	-	-	-	-	-	443	885	-	
Critical Hdwy	4.38	-	-	-	-	-	7	7.5	6.96	
Critical Hdwy Stg 1	-	-	-	-	-	-	6	6.5	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6	6.5	-	
Follow-up Hdwy	2.34	-	-	-	-	-	3.6	4.5	3.33	
Pot Cap-1 Maneuver	689	-	0	0	-	-	~ 56	19	539	
Stage 1	-	-	0	0	-	-	169	126	-	
Stage 2	-	-	0	0	-	-	592	267	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	689	-	-	-	-	-	~ 35	0	539	
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 35	0	-	
Stage 1	-	-	-	-	-	-	106	0	-	
Stage 2	-	-	-	-	-	-	592	0	-	

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	2.86	0	\$ 976.01
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	146	689	-	-	-
HCM Lane V/C Ratio	3.024	0.373	-	-	-
HCM Ctrl Dly (s/v)	\$ 976	13.3	-	-	-
HCM Lane LOS	F	B	-	-	-
HCM 95th %tile Q(veh)	41	1.7	-	-	-

Notes	
~: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

HCM Unsignalized Intersection Capacity Analysis
20: S Broadway St & 151st St

2030 Existing Total AM
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	875	85	40	920	115	55	15	20	25	5	151
Future Volume (Veh/h)	245	875	85	40	920	115	55	15	20	25	5	151
Sign Control	Free			Free			Stop			Stop		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.90	0.95	0.90	0.90	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	272	921	94	44	968	128	61	17	22	28	6	168
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)	9											
Median type	Raised			Raised								
Median storage veh	1			1								
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1096			1015			2208	2649	461	2144	2679	548
vC1, stage 1 conf vol							1465	1465		1120	1120	
vC2, stage 2 conf vol							743	1184		1024	1559	
vCu, unblocked vol	1096			1015			2208	2649	461	2144	2679	548
tC, single (s)	4.2			4.2			7.6	6.5	6.9	7.6	6.5	7.0
tC, 2 stage (s)							6.6	5.5		6.6	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	57			93			0	0	96	41	87	65
cM capacity (veh/h)	627			673			9	12	553	48	45	478
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	272	461	461	94	44	645	451	61	39	28	6	168
Volume Left	272	0	0	0	44	0	0	61	0	28	0	0
Volume Right	0	0	0	94	0	0	128	0	22	0	0	168
cSH	627	1700	1700	1700	673	1700	1700	9	28	48	45	478
Volume to Capacity	0.43	0.27	0.27	0.06	0.07	0.38	0.27	6.82	1.37	0.59	0.13	0.35
Queue Length 95th (ft)	55	0	0	0	5	0	0	Err	114	56	11	39
Control Delay (s/veh)	15.1	0.0	0.0	0.0	10.7	0.0	0.0	Err	360.4	157.5	98.1	16.6
Lane LOS	C				B			F	F	F	F	C
Approach Delay (s/veh)	3.2				0.4			6239.9		38.5		
Approach LOS								F		E		
Intersection Summary												
Average Delay	233.2											
Intersection Capacity Utilization	62.4%			ICU Level of Service					B			
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

1: 151st St & Yukon Ave.

2030 Existing Total PM

US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	35	1049	109	60	248	545	55	90	23	404	95	28
Future Volume (Veh/h)	35	1049	109	60	248	545	55	90	23	404	95	28
Sign Control	Free				Free				Stop		Stop	
Grade	0%				0%				0%		0%	
Peak Hour Factor	0.85	0.95	0.85	0.85	0.85	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Hourly flow rate (vph)	41	1104	128	0	292	574	65	106	27	475	112	33
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	Raised						Raised					
Median storage veh)	1						1					
Upstream signal (ft)												
pX, platoon unblocked				0.00								
vC, conflicting volume	639			0	1232			2138	2473	616	2313	2505
vC1, stage 1 conf vol							1250		1250	1191		1191
vC2, stage 2 conf vol							888		1223	1123		1314
vCu, unblocked vol	639			0	1232			2138	2473	616	2313	2505
tC, single (s)	4.1			0.0	4.1			7.5	6.5	6.9	7.5	6.5
tC, 2 stage (s)							6.5		5.5	6.5		5.5
tF (s)	2.2			0.0	2.2			3.5	4.0	3.3	3.5	4.0
p0 queue free %	96			0	48			0	54	0	0	0
cM capacity (veh/h)	955			0	561			42	58	433	0	13
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1			
Volume Total	41	736	496	292	383	256	133	475	174			
Volume Left	41	0	0	292	0	0	106	0	112			
Volume Right	0	0	128	0	0	65	0	475	29			
cSH	955	1700	1700	561	1700	1700	44	433	0			
Volume to Capacity	0.04	0.43	0.29	0.52	0.23	0.15	3.00	1.10	9942.11			
Queue Length 95th (ft)	3	0	0	75	0	0	Err	405	Err			
Control Delay (s/veh)	8.9	0.0	0.0	18.2	0.0	0.0	Err	102.4	Err			
Lane LOS	A			C			F	F	F			
Approach Delay (s/veh)	0.3			5.7			2267.3	Err				
Approach LOS							F	F				
Intersection Summary												
Average Delay	1046.2											
Intersection Capacity Utilization	94.6%			ICU Level of Service					F			
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
1: 151st St & Yukon Ave.

2030 Existing Total PM
US 75 & 151st Analysis

Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	25
Future Volume (Veh/h)	25
Sign Control	
Grade	
Peak Hour Factor	0.85
Hourly flow rate (vph)	29
Pedestrians	
Lane Width (ft)	
Walking Speed (ft/s)	
Percent Blockage	
Right turn flare (veh)	2
Median type	
Median storage veh)	
Upstream signal (ft)	
pX, platoon unblocked	
vC, conflicting volume	320
vC1, stage 1 conf vol	
vC2, stage 2 conf vol	
vCu, unblocked vol	320
tC, single (s)	7.0
tC, 2 stage (s)	
tF (s)	3.4
p0 queue free %	96
cM capacity (veh/h)	667
Direction, Lane #	

Intersection												
Int Delay, s/veh	1214.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑		↑	↑↑						↑↑	
Traffic Vol, veh/h	0	1297	251	315	619	0	0	0	0	125	0	289
Future Vol, veh/h	0	1297	251	315	619	0	0	0	0	125	0	289
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	92	92	92	95	95	95
Heavy Vehicles, %	2	2	6	4	3	2	2	2	2	7	2	4
Mvmt Flow	0	1365	264	332	652	0	0	0	0	132	0	304

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	0	1629	0	0	1997	2944	326
Stage 1	-	-	-	-	-	-	1315	1315	-
Stage 2	-	-	-	-	-	-	683	1629	-
Critical Hdwy	-	-	-	4.18	-	-	6.94	6.54	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	5.94	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.94	5.54	-
Follow-up Hdwy	-	-	-	2.24	-	-	3.57	4.02	3.34
Pot Cap-1 Maneuver	0	-	-	386	-	0	~ 49	15	664
Stage 1	0	-	-	-	-	0	206	226	-
Stage 2	0	-	-	-	-	0	450	158	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	386	-	-	~ 7	0	664
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 7	0	-
Stage 1	-	-	-	-	-	-	206	0	-
Stage 2	-	-	-	-	-	-	~ 63	0	-

Approach	EB	WB	SB
HCM Ctrl Dly, s/v	0	17.1	\$ 8457.32
HCM LOS			F

Minor Lane/Major Mvmt	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	-	386	-	23
HCM Lane V/C Ratio	-	-	0.86	-	19.071
HCM Ctrl Dly (s/v)	-	-	50.7	-	\$ 8457.3
HCM Lane LOS	-	-	F	-	F
HCM 95th %tile Q(veh)	-	-	8.3	-	54.6

Notes	
~: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Intersection												
Int Delay, s/veh	586.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↱	↱↱			↱↱	↱		↱				
Traffic Vol, veh/h	395	1027	0	0	815	220	119	5	335	0	0	0
Future Vol, veh/h	395	1027	0	0	815	220	119	5	335	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Yield	-	-	None
Storage Length	0	-	-	-	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	92	92	92
Heavy Vehicles, %	5	2	2	2	3	6	0	0	0	2	2	2
Mvmt Flow	416	1081	0	0	858	232	125	5	353	0	0	0

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	858	0	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.2	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.25	-	-
Pot Cap-1 Maneuver	760	-	0
Stage 1	-	-	0
Stage 2	-	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	760	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	4.25	0	\$ 3715.44
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	54	760	-	-	-
HCM Lane V/C Ratio	8.934	0.547	-	-	-
HCM Ctrl Dly (s/v)	\$ 3715.4	15.3	-	-	-
HCM Lane LOS	F	C	-	-	-
HCM 95th %tile Q(veh)	56.8	3.4	-	-	-

Notes	
~: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

HCM Unsignalized Intersection Capacity Analysis
20: S Broadway St & 151st St

2030 Existing Total PM
US 75 & 151st Analysis

															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR			
Lane Configurations															
Traffic Volume (veh/h)	165	1135	62	20	760	105	52	5	15	75	5	223			
Future Volume (Veh/h)	165	1135	62	20	760	105	52	5	15	75	5	223			
Sign Control	Free				Free				Stop		Stop				
Grade	0%				0%				0%		0%				
Peak Hour Factor	0.90	0.95	0.90	0.90	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90			
Hourly flow rate (vph)	183	1195	69	22	800	117	58	6	17	83	6	248			
Pedestrians															
Lane Width (ft)															
Walking Speed (ft/s)															
Percent Blockage															
Right turn flare (veh)	9														
Median type	Raised			Raised											
Median storage veh	1			1											
Upstream signal (ft)															
pX, platoon unblocked															
vC, conflicting volume	917				1264				2256	2522	598	1878	2533	459	
vC1, stage 1 conf vol							1561	1561				903	903		
vC2, stage 2 conf vol							695	961				975	1630		
vCu, unblocked vol	917				1264				2256	2522	598	1878	2533	459	
tC, single (s)	4.1				4.1				7.5	6.5	6.9	7.5	6.5	6.9	
tC, 2 stage (s)							6.5	5.5				6.5	5.5		
tF (s)	2.2				2.2				3.5	4.0	3.3	3.5	4.0	3.3	
p0 queue free %	75				96				0	92	96	25	92	55	
cM capacity (veh/h)	746				557				22	72	451	110	77	552	
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	NB 2	SB 1	SB 2	SB 3			
Volume Total	183	598	598	69	22	533	384	58	23	83	6	248			
Volume Left	183	0	0	0	22	0	0	58	0	83	0	0			
Volume Right	0	0	0	69	0	0	117	0	17	0	0	248			
cSH	746	1700	1700	1700	557	1700	1700	22	274	110	77	552			
Volume to Capacity	0.25	0.35	0.35	0.04	0.04	0.31	0.23	2.68	0.08	0.75	0.08	0.45			
Queue Length 95th (ft)	24	0	0	0	3	0	0	187	7	103	6	58			
Control Delay (s/veh)	11.4	0.0	0.0	0.0	11.7	0.0	0.0	1137.8	25.5	100.6	55.8	16.7			
Lane LOS	B				B			F		D		F	C		
Approach Delay (s/veh)	1.4				0.3			821.9		38.1					
Approach LOS							F			E					
Intersection Summary															
Average Delay	29.2														
Intersection Capacity Utilization	55.5%			ICU Level of Service			B								
Analysis Period (min)	15														

ATTACHMENT F

SIGNALIZED RESULTS

HCM 7th Signalized Intersection Summary
1: Yukon Ave. & 151st St

2025 Total AM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	1	5	635	0	45	0	545	30	0	0	0	110
Future Volume (veh/h)	1	5	635	0	45	0	545	30	0	0	0	110
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1900	1841	1870		1870	1841	1856	1870	1870	1870	1870
Adj Flow Rate, veh/h		6	668	0		0	574	35	0	0	0	129
Peak Hour Factor		0.85	0.95	0.92		0.92	0.95	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %		0	4	2		2	4	3	2	2	2	2
Cap, veh/h		14	1943	0		2	1648	100	590	623	0	460
Arrive On Green		0.01	0.56	0.00		0.00	0.65	0.65	0.00	0.00	0.00	0.33
Sat Flow, veh/h		1810	3589	0		1781	3349	204	1781	1870	0	1163
Grp Volume(v), veh/h		6	668	0		0	299	310	0	0	0	158
Grp Sat Flow(s),veh/h/ln		1810	1749	0		1781	1749	1804	1781	1870	0	1451
Q Serve(g_s), s		0.3	9.4	0.0		0.0	6.9	6.9	0.0	0.0	0.0	6.8
Cycle Q Clear(g_c), s		0.3	9.4	0.0		0.0	6.9	6.9	0.0	0.0	0.0	7.2
Prop In Lane		1.00		0.00		1.00		0.11	1.00		0.00	0.82
Lane Grp Cap(c), veh/h		14	1943	0		2	861	888	590	623	0	556
V/C Ratio(X)		0.43	0.34	0.00		0.00	0.35	0.35	0.00	0.00	0.00	0.28
Avail Cap(c_a), veh/h		201	1943	0		435	861	888	786	623	0	556
HCM Platoon Ratio		1.00	1.00	1.00		1.33	1.33	1.33	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		0.00	0.98	0.98	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh		44.5	11.0	0.0		0.0	9.1	9.1	0.0	0.0	0.0	22.4
Incr Delay (d2), s/veh		19.4	0.5	0.0		0.0	1.1	1.1	0.0	0.0	0.0	1.3
Initial Q Delay(d3), s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.2	3.3	0.0		0.0	2.4	2.4	0.0	0.0	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		63.8	11.5	0.0		0.0	10.2	10.1	0.0	0.0	0.0	23.7
LnGrp LOS		E	B				B	B				C
Approach Vol, veh/h			674				609			0		
Approach Delay, s/veh			11.9				10.2			0.0		
Approach LOS			B				B					
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	55.0	0.0	35.0	5.7	49.3		35.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	22.0	23.0	10.0	15.0	10.0	35.0		30.0				
Max Q Clear Time (g_c+l1), s	0.0	11.4	0.0	9.2	2.3	8.9		0.0				
Green Ext Time (p_c), s	0.0	3.2	0.0	0.3	0.0	3.4		0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			12.5									
HCM 7th LOS			B									
Notes												
User approved ignoring U-Turning movement.												

HCM 7th Signalized Intersection Summary
1: Yukon Ave. & 151st St

2025 Total AM - Signals Existing
US 75 & 151st Analysis



Movement	SBT	SBR
Lane Configurations	+	
Traffic Volume (veh/h)	0	25
Future Volume (veh/h)	0	25
Initial Q (Qb), veh	0	0
Lane Width Adj.	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1900
Adj Flow Rate, veh/h	0	29
Peak Hour Factor	0.85	0.85
Percent Heavy Veh, %	2	0
Cap, veh/h	7	89
Arrive On Green	0.00	0.33
Sat Flow, veh/h	22	266
Grp Volume(v), veh/h	0	0
Grp Sat Flow(s),veh/h/ln	0	0
Q Serve(g_s), s	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0
Prop In Lane		0.18
Lane Grp Cap(c), veh/h	0	0
V/C Ratio(X)	0.00	0.00
Avail Cap(c_a), veh/h	0	0
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d), s/veh	0.0	0.0
LnGrp LOS		
Approach Vol, veh/h	158	
Approach Delay, s/veh	23.7	
Approach LOS	C	
Timer - Assigned Phs		

HCM Signalized Intersection Capacity Analysis 18: US-75 SB Ramps & 151st St

2025 Total AM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	675	70	255	500	0	0	0	0	155	0	120
Future Volume (vph)	0	675	70	255	500	0	0	0	0	155	0	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.95		1.00	0.95						1.00	
Frt		0.99		1.00	1.00						0.94	
Flt Protected		1.00		0.95	1.00						0.97	
Satd. Flow (prot)		3413		1736	3505						1571	
Flt Permitted		1.00		0.95	1.00						0.97	
Satd. Flow (perm)		3413		1736	3505						1571	
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)	0	711	74	268	526	0	0	0	0	163	0	126
RTOR Reduction (vph)	0	9	0	0	0	0	0	0	0	0	149	0
Lane Group Flow (vph)	0	776	0	268	526	0	0	0	0	0	140	0
Heavy Vehicles (%)	2%	4%	7%	4%	3%	2%	2%	2%	2%	12%	0%	9%
Turn Type		NA		Prot	NA					Perm	NA	
Protected Phases		2		1	2 1						4 12	
Permitted Phases										4 12		
Actuated Green, G (s)		20.0		30.0	55.0						25.0	
Effective Green, g (s)		20.0		30.0	55.0						25.0	
Actuated g/C Ratio		0.22		0.33	0.61						0.28	
Clearance Time (s)		5.0		5.0								
Vehicle Extension (s)		3.0		3.0								
Lane Grp Cap (vph)		758		578	2141						436	
v/s Ratio Prot		c0.23		c0.15	0.15							
v/s Ratio Perm											0.09	
v/c Ratio		1.02		0.46	0.25						0.32	
Uniform Delay, d1		35.0		23.7	8.0						25.8	
Progression Factor		0.71		0.11	0.26						1.00	
Incremental Delay, d2		36.9		0.9	0.1						0.4	
Delay (s)		61.7		3.5	2.2						26.2	
Level of Service		E		A	A						C	
Approach Delay (s/veh)		61.7			2.7			0.0			26.2	
Approach LOS		E			A			A			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			31.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			63.5%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: US-75 NB Ramps & 151st St

2025 Total AM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Traffic Volume (vph)	90	730	0	0	698	250	60	5	275	0	0	0
Future Volume (vph)	90	730	0	0	698	250	60	5	275	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0				
Lane Util. Factor	1.00	0.95			0.95	1.00		1.00				
Frt	1.00	1.00			1.00	0.85		0.89				
Flt Protected	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (prot)	1583	3471			3505	1553		1599				
Flt Permitted	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (perm)	1583	3471			3505	1553		1599				
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	95	768	0	0	735	263	63	5	289	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	160	0	152	0	0	0	0
Lane Group Flow (vph)	95	768	0	0	735	103	0	205	0	0	0	0
Heavy Vehicles (%)	14%	4%	2%	2%	3%	4%	10%	50%	3%	2%	2%	2%
Turn Type	Prot	NA			NA	Perm	Perm	NA				
Protected Phases	5	5 6			6			8 16				
Permitted Phases						6	8 16					
Actuated Green, G (s)	30.0	55.0			20.0	20.0		25.0				
Effective Green, g (s)	30.0	55.0			20.0	20.0		25.0				
Actuated g/C Ratio	0.33	0.61			0.22	0.22		0.28				
Clearance Time (s)	5.0				5.0	5.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	527	2121			778	345		444				
v/s Ratio Prot	0.06	c0.22			c0.21							
v/s Ratio Perm						0.07		0.13				
v/c Ratio	0.18	0.36			0.94	0.30		0.46				
Uniform Delay, d1	21.3	8.7			34.5	29.2		26.9				
Progression Factor	0.04	0.50			0.52	0.15		1.00				
Incremental Delay, d2	0.1	0.0			18.1	0.4		0.8				
Delay (s)	1.0	4.4			36.1	4.8		27.7				
Level of Service	A	A			D	A		C				
Approach Delay (s/veh)		4.1			27.8			27.7			0.0	
Approach LOS		A			C			C			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			18.6									
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			90.0						20.0			
Intersection Capacity Utilization			63.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary
20: S Broadway St & 151st St

2025 Total AM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	685	65	30	635	85	35	10	15	20	5	105
Future Volume (veh/h)	240	685	65	30	635	85	35	10	15	20	5	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1841	1856	1856	1870	1885	1856	1900	1900	1841	1900	1856
Adj Flow Rate, veh/h	267	721	72	33	668	94	39	11	17	22	6	117
Peak Hour Factor	0.90	0.95	0.90	0.90	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	4	3	3	2	1	3	0	0	4	0	3
Cap, veh/h	305	1907	857	55	1263	178	61	338	286	41	317	262
Arrive On Green	0.17	0.55	0.55	0.03	0.40	0.40	0.03	0.18	0.18	0.02	0.17	0.17
Sat Flow, veh/h	1767	3497	1572	1767	3128	440	1767	1900	1610	1753	1900	1572
Grp Volume(v), veh/h	267	721	72	33	379	383	39	11	17	22	6	117
Grp Sat Flow(s),veh/h/ln	1767	1749	1572	1767	1777	1791	1767	1900	1610	1753	1900	1572
Q Serve(g_s), s	13.3	10.6	2.0	1.7	14.6	14.6	2.0	0.4	0.8	1.1	0.2	6.0
Cycle Q Clear(g_c), s	13.3	10.6	2.0	1.7	14.6	14.6	2.0	0.4	0.8	1.1	0.2	6.0
Prop In Lane	1.00		1.00	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	305	1907	857	55	717	723	61	338	286	41	317	262
V/C Ratio(X)	0.87	0.38	0.08	0.60	0.53	0.53	0.64	0.03	0.06	0.53	0.02	0.45
Avail Cap(c_a), veh/h	393	1907	857	196	717	723	196	338	286	195	317	262
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)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	11.7	9.8	43.0	20.3	20.3	42.9	30.6	30.7	43.5	31.3	33.8
Incr Delay (d2), s/veh	15.2	0.5	0.2	10.0	2.8	2.8	10.5	0.2	0.4	10.3	0.1	5.4
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	6.5	3.5	0.7	0.8	5.8	5.9	1.0	0.2	0.3	0.6	0.1	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.5	12.3	9.9	53.0	23.1	23.1	53.4	30.8	31.1	53.8	31.5	39.2
LnGrp LOS	D	B	A	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h	1060			795			67			145		
Approach Delay, s/veh	22.0			24.4			44.0			41.1		
Approach LOS	C			C			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.8	54.1	8.1	20.0	20.5	41.3	7.1	21.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	10.0	35.0	10.0	15.0	20.0	25.0	10.0	15.0				
Max Q Clear Time (g_c+I1), s	3.7	12.6	4.0	8.0	15.3	16.6	3.1	2.8				
Green Ext Time (p_c), s	0.0	4.5	0.0	0.2	0.3	2.6	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	24.9											
HCM 7th LOS	C											

HCM 7th Signalized Intersection Summary
1: Yukon Ave. & 151st St

2025 Total PM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	30	875	0	50	0	435	55	0	0	0	95	0
Future Volume (veh/h)	30	875	0	50	0	435	55	0	0	0	95	0
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1856	1870		1870	1856	1900	1870	1870	1870	1900	1870
Adj Flow Rate, veh/h	35	921	0		0	458	65	0	0	0	112	0
Peak Hour Factor	0.85	0.95	0.85		0.85	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	3	2		2	3	0	2	2	2	0	2
Cap, veh/h	59	1959	0		2	1450	205	592	623	0	464	7
Arrive On Green	0.03	0.56	0.00		0.00	0.62	0.62	0.00	0.00	0.00	0.33	0.00
Sat Flow, veh/h	1810	3618	0		1781	3102	438	1781	1870	0	1173	21
Grp Volume(v), veh/h	35	921	0		0	259	264	0	0	0	136	0
Grp Sat Flow(s),veh/h/ln	1810	1763	0		1781	1763	1777	1781	1870	0	1450	0
Q Serve(g_s), s	1.7	14.1	0.0		0.0	6.2	6.3	0.0	0.0	0.0	5.7	0.0
Cycle Q Clear(g_c), s	1.7	14.1	0.0		0.0	6.2	6.3	0.0	0.0	0.0	6.1	0.0
Prop In Lane	1.00		0.00		1.00		0.25	1.00		0.00	0.82	
Lane Grp Cap(c), veh/h	59	1959	0		2	824	831	592	623	0	556	0
V/C Ratio(X)	0.60	0.47	0.00		0.00	0.31	0.32	0.00	0.00	0.00	0.24	0.00
Avail Cap(c_a), veh/h	201	1959	0		376	824	831	788	623	0	556	0
HCM Platoon Ratio	1.00	1.00	1.00		1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00		0.00	0.99	0.99	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	43.0	12.0	0.0		0.0	10.2	10.2	0.0	0.0	0.0	22.0	0.0
Incr Delay (d2), s/veh	9.3	0.8	0.0		0.0	1.0	1.0	0.0	0.0	0.0	1.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	4.9	0.0		0.0	2.2	2.3	0.0	0.0	0.0	2.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.3	12.8	0.0		0.0	11.2	11.2	0.0	0.0	0.0	23.0	0.0
LnGrp LOS	D	B				B	B				C	
Approach Vol, veh/h	956			523			0			136		
Approach Delay, s/veh	14.3			11.2			0.0			23.0		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	0.0	55.0	0.0	35.0	7.9	47.1	35.0					
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0					
Max Green Setting (Gmax), s	19.0	26.0	10.0	15.0	10.0	35.0	30.0					
Max Q Clear Time (g_c+l1), s	0.0	16.1	0.0	8.1	3.7	8.3	0.0					
Green Ext Time (p_c), s	0.0	4.1	0.0	0.3	0.0	2.9	0.0					
Intersection Summary												
HCM 7th Control Delay, s/veh	14.0											
HCM 7th LOS	B											
Notes												
User approved ignoring U-Turning movement.												

HCM 7th Signalized Intersection Summary
1: Yukon Ave. & 151st St

2025 Total PM - Signals Existing
US 75 & 151st Analysis



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	20
Future Volume (veh/h)	20
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1826
Adj Flow Rate, veh/h	24
Peak Hour Factor	0.85
Percent Heavy Veh, %	5
Cap, veh/h	85
Arrive On Green	0.33
Sat Flow, veh/h	256
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	0
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.18
Lane Grp Cap(c), veh/h	0
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	0
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	0.0
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM Signalized Intersection Capacity Analysis

18: US-75 SB Ramps & 151st St

2025 Total PM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	800	170	270	415	0	0	0	0	110	0	125
Future Volume (vph)	0	800	170	270	415	0	0	0	0	110	0	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.95		1.00	0.95						1.00	
Frt		0.97		1.00	1.00						0.93	
Flt Protected		1.00		0.95	1.00						0.98	
Satd. Flow (prot)		3423		1736	3505						1635	
Flt Permitted		1.00		0.95	1.00						0.98	
Satd. Flow (perm)		3423		1736	3505						1635	
Peak-hour factor, PHF	0.92	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	0	842	179	284	437	0	0	0	0	116	0	132
RTOR Reduction (vph)	0	20	0	0	0	0	0	0	0	0	149	0
Lane Group Flow (vph)	0	1001	0	284	437	0	0	0	0	0	99	0
Heavy Vehicles (%)	2%	2%	6%	4%	3%	2%	2%	2%	2%	7%	2%	4%
Turn Type		NA		Prot	NA					Perm	NA	
Protected Phases		2		1	2 1						4 12	
Permitted Phases										4 12		
Actuated Green, G (s)		24.0		26.0	55.0						25.0	
Effective Green, g (s)		24.0		26.0	55.0						25.0	
Actuated g/C Ratio		0.27		0.29	0.61						0.28	
Clearance Time (s)		5.0		5.0								
Vehicle Extension (s)		3.0		3.0								
Lane Grp Cap (vph)		912		501	2141						454	
v/s Ratio Prot		c0.29		c0.16	0.12							
v/s Ratio Perm											0.06	
v/c Ratio		1.10		0.57	0.20						0.22	
Uniform Delay, d1		33.0		27.2	7.8						25.0	
Progression Factor		0.82		0.16	0.30						1.00	
Incremental Delay, d2		57.6		0.4	0.0						0.2	
Delay (s)		84.7		4.9	2.3						25.2	
Level of Service		F		A	A						C	
Approach Delay (s/veh)		84.7			3.3			0.0			25.2	
Approach LOS		F			A			A			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			47.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			68.8%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: US-75 NB Ramps & 151st St

2025 Total PM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Traffic Volume (vph)	105	805	0	0	635	190	50	5	290	0	0	0
Future Volume (vph)	105	805	0	0	635	190	50	5	290	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0				
Lane Util. Factor	1.00	0.95			0.95	1.00		1.00				
Frt	1.00	1.00			1.00	0.85		0.89				
Flt Protected	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (prot)	1719	3539			3505	1524		1672				
Flt Permitted	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (perm)	1719	3539			3505	1524		1672				
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	111	847	0	0	668	200	53	5	305	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	164	0	128	0	0	0	0
Lane Group Flow (vph)	111	847	0	0	668	36	0	235	0	0	0	0
Heavy Vehicles (%)	5%	2%	2%	2%	3%	6%	0%	0%	0%	2%	2%	2%
Turn Type	Prot	NA			NA	Perm	Perm	NA				
Protected Phases	5	5 6			6			8 16				
Permitted Phases						6	8 16					
Actuated Green, G (s)	34.0	55.0			16.0	16.0		25.0				
Effective Green, g (s)	34.0	55.0			16.0	16.0		25.0				
Actuated g/C Ratio	0.38	0.61			0.18	0.18		0.28				
Clearance Time (s)	5.0				5.0	5.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	649	2162			623	270		464				
v/s Ratio Prot	0.06	c0.24			c0.19							
v/s Ratio Perm						0.02		0.14				
v/c Ratio	0.17	0.39			1.07	0.13		0.51				
Uniform Delay, d1	18.6	8.9			37.0	31.2		27.3				
Progression Factor	0.06	0.41			0.63	0.23		1.00				
Incremental Delay, d2	0.1	0.0			56.0	0.2		0.9				
Delay (s)	1.1	3.7			79.4	7.4		28.2				
Level of Service	A	A			E	A		C				
Approach Delay (s/veh)		3.4			62.8			28.2			0.0	
Approach LOS		A			E			C			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			31.1									
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			90.0						20.0			
Intersection Capacity Utilization			68.8%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary
20: S Broadway St & 151st St

2025 Total PM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	745	40	15	530	80	35	5	10	55	5	105
Future Volume (veh/h)	155	745	40	15	530	80	35	5	10	55	5	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1870	1870	1900	1900	1900	1900	1900	1885
Adj Flow Rate, veh/h	172	784	44	17	558	89	39	6	11	61	6	117
Peak Hour Factor	0.90	0.95	0.90	0.90	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	0	0	2	2	0	0	0	0	0	1
Cap, veh/h	209	1963	882	35	1385	220	63	317	268	79	334	281
Arrive On Green	0.12	0.55	0.55	0.02	0.45	0.45	0.03	0.17	0.17	0.04	0.18	0.18
Sat Flow, veh/h	1795	3582	1610	1810	3071	488	1810	1900	1610	1810	1900	1598
Grp Volume(v), veh/h	172	784	44	17	322	325	39	6	11	61	6	117
Grp Sat Flow(s),veh/h/ln	1795	1791	1610	1810	1777	1782	1810	1900	1610	1810	1900	1598
Q Serve(g_s), s	8.4	11.4	1.1	0.8	10.9	11.0	1.9	0.2	0.5	3.0	0.2	5.9
Cycle Q Clear(g_c), s	8.4	11.4	1.1	0.8	10.9	11.0	1.9	0.2	0.5	3.0	0.2	5.9
Prop In Lane	1.00		1.00	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	209	1963	882	35	801	804	63	317	268	79	334	281
V/C Ratio(X)	0.82	0.40	0.05	0.49	0.40	0.40	0.62	0.02	0.04	0.77	0.02	0.42
Avail Cap(c_a), veh/h	319	1963	882	201	801	804	201	317	268	201	334	281
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)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.9	11.8	9.5	43.7	16.6	16.6	42.9	31.3	31.5	42.6	30.7	33.0
Incr Delay (d2), s/veh	9.3	0.6	0.1	10.2	1.5	1.5	9.7	0.1	0.3	14.4	0.1	4.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	3.8	0.4	0.5	4.2	4.2	1.0	0.1	0.2	1.7	0.1	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	48.1	12.3	9.5	53.9	18.1	18.1	52.6	31.5	31.8	56.9	30.8	37.5
LnGrp LOS	D	B	A	D	B	B	D	C	C	E	C	D
Approach Vol, veh/h	1000			664			56			184		
Approach Delay, s/veh	18.4			19.0			46.2			43.7		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.7	54.3	8.1	20.8	15.5	45.6	8.9	20.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	10.0	35.0	10.0	15.0	16.0	29.0	10.0	15.0				
Max Q Clear Time (g_c+I1), s	2.8	13.4	3.9	7.9	10.4	13.0	5.0	2.5				
Green Ext Time (p_c), s	0.0	4.8	0.0	0.2	0.2	3.0	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	21.9											
HCM 7th LOS	C											

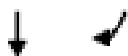
HCM 7th Signalized Intersection Summary
1: Yukon Ave. & 151st St

2025 Total AM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	1	5	635	0	45	0	545	30	0	0	0	110
Future Volume (veh/h)	1	5	635	0	45	0	545	30	0	0	0	110
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1900	1841	1870		1870	1841	1856	1870	1870	1870	1870
Adj Flow Rate, veh/h		6	668	0		0	574	35	0	0	0	129
Peak Hour Factor		0.85	0.95	0.92		0.92	0.95	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %		0	4	2		2	4	3	2	2	2	2
Cap, veh/h		14	1749	0		2	1439	88	663	701	0	518
Arrive On Green		0.01	0.50	0.00		0.00	0.86	0.86	0.00	0.00	0.00	0.38
Sat Flow, veh/h		1810	3589	0		1781	3349	204	1781	1870	0	1163
Grp Volume(v), veh/h		6	668	0		0	299	310	0	0	0	158
Grp Sat Flow(s),veh/h/ln		1810	1749	0		1781	1749	1804	1781	1870	0	1451
Q Serve(g_s), s		0.3	9.4	0.0		0.0	2.9	2.9	0.0	0.0	0.0	5.6
Cycle Q Clear(g_c), s		0.3	9.4	0.0		0.0	2.9	2.9	0.0	0.0	0.0	6.0
Prop In Lane		1.00		0.00		1.00		0.11	1.00		0.00	0.82
Lane Grp Cap(c), veh/h		14	1749	0		2	751	775	663	701	0	626
V/C Ratio(X)		0.43	0.38	0.00		0.00	0.40	0.40	0.00	0.00	0.00	0.25
Avail Cap(c_a), veh/h		226	1749	0		356	751	775	883	701	0	626
HCM Platoon Ratio		1.00	1.00	1.00		2.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	0.00		0.00	0.97	0.97	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh		39.5	12.4	0.0		0.0	3.4	3.4	0.0	0.0	0.0	17.5
Incr Delay (d2), s/veh		19.0	0.6	0.0		0.0	1.5	1.5	0.0	0.0	0.0	1.0
Initial Q Delay(d3), s/veh		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln		0.2	3.3	0.0		0.0	1.0	1.0	0.0	0.0	0.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		58.5	13.0	0.0		0.0	4.9	4.9	0.0	0.0	0.0	18.4
LnGrp LOS		E	B				A	A				B
Approach Vol, veh/h			674				609			0		
Approach Delay, s/veh			13.4				4.9			0.0		
Approach LOS			B				A					
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	45.0	0.0	35.0	5.6	39.4		35.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	16.0	19.0	10.0	15.0	10.0	25.0		30.0				
Max Q Clear Time (g_c+l1), s	0.0	11.4	0.0	8.0	2.3	4.9		0.0				
Green Ext Time (p_c), s	0.0	2.4	0.0	0.4	0.0	3.2		0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh			10.4									
HCM 7th LOS			B									
Notes												
User approved ignoring U-Turning movement.												

HCM 7th Signalized Intersection Summary
1: Yukon Ave. & 151st St

2025 Total AM - Signals Modified
US 75 & 151st Analysis



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	0	25
Future Volume (veh/h)	0	25
Initial Q (Qb), veh	0	0
Lane Width Adj.	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1900
Adj Flow Rate, veh/h	0	29
Peak Hour Factor	0.85	0.85
Percent Heavy Veh, %	2	0
Cap, veh/h	8	100
Arrive On Green	0.00	0.38
Sat Flow, veh/h	22	266
Grp Volume(v), veh/h	0	0
Grp Sat Flow(s), veh/h/ln	0	0
Q Serve(g_s), s	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0
Prop In Lane		0.18
Lane Grp Cap(c), veh/h	0	0
V/C Ratio(X)	0.00	0.00
Avail Cap(c_a), veh/h	0	0
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d), s/veh	0.0	0.0
LnGrp LOS		
Approach Vol, veh/h	158	
Approach Delay, s/veh	18.4	
Approach LOS	B	
Timer - Assigned Phs		

HCM Signalized Intersection Capacity Analysis

18: US-75 SB Ramps & 151st St

2025 Total AM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	675	70	255	500	0	0	0	0	155	0	120
Future Volume (vph)	0	675	70	255	500	0	0	0	0	155	0	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0					5.0	5.0	
Lane Util. Factor		0.91	1.00	1.00	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		4988	1509	1736	3505					1612	1482	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		4988	1509	1736	3505					1612	1482	
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)	0	711	74	268	526	0	0	0	0	163	0	126
RTOR Reduction (vph)	0	0	60	0	0	0	0	0	0	0	87	0
Lane Group Flow (vph)	0	711	14	268	526	0	0	0	0	163	39	0
Heavy Vehicles (%)	2%	4%	7%	4%	3%	2%	2%	2%	2%	12%	0%	9%
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	2						4	12
Permitted Phases			2							4	12	
Actuated Green, G (s)		15.0	15.0	25.0	45.0					25.0	25.0	
Effective Green, g (s)		15.0	15.0	25.0	45.0					25.0	25.0	
Actuated g/C Ratio		0.19	0.19	0.31	0.56					0.31	0.31	
Clearance Time (s)		5.0	5.0	5.0								
Vehicle Extension (s)		3.0	3.0	3.0								
Lane Grp Cap (vph)		935	282	542	1971					503	463	
v/s Ratio Prot		c0.14		c0.15	0.15						0.03	
v/s Ratio Perm			0.01							c0.10		
v/c Ratio		0.76	0.05	0.49	0.27					0.32	0.09	
Uniform Delay, d1		30.8	26.7	22.4	9.0					21.0	19.4	
Progression Factor		1.10	1.00	0.20	0.34					1.00	1.00	
Incremental Delay, d2		5.3	0.3	1.9	0.2					0.4	0.1	
Delay (s)		39.2	27.0	6.4	3.3					21.4	19.5	
Level of Service		D	C	A	A					C	B	
Approach Delay (s/veh)		38.0			4.3			0.0			20.6	
Approach LOS		D			A			A			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			21.0			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			50.2%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: US-75 NB Ramps & 151st St

2025 Total AM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			  			 				
Traffic Volume (vph)	90	730	0	0	698	250	60	5	275	0	0	0
Future Volume (vph)	90	730	0	0	698	250	60	5	275	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0	5.0	5.0				
Lane Util. Factor	1.00	0.95			0.91	1.00	1.00	1.00				
Frt	1.00	1.00			1.00	0.85	1.00	0.85				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1583	3471			5036	1553	1641	1561				
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	1583	3471			5036	1553	1641	1561				
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	95	768	0	0	735	263	63	5	289	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	214	0	125	0	0	0	0
Lane Group Flow (vph)	95	768	0	0	735	49	63	169	0	0	0	0
Heavy Vehicles (%)	14%	4%	2%	2%	3%	4%	10%	50%	3%	2%	2%	2%
Turn Type	Prot	NA			NA	Perm	Perm	NA				
Protected Phases	5	5 6			6			8 16				
Permitted Phases						6	8 16					
Actuated Green, G (s)	25.0	45.0			15.0	15.0	25.0	25.0				
Effective Green, g (s)	25.0	45.0			15.0	15.0	25.0	25.0				
Actuated g/C Ratio	0.31	0.56			0.19	0.19	0.31	0.31				
Clearance Time (s)	5.0				5.0	5.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	494	1952			944	291	512	487				
v/s Ratio Prot	0.06	c0.22			c0.15			c0.11				
v/s Ratio Perm						0.03	0.04					
v/c Ratio	0.19	0.39			0.78	0.17	0.12	0.35				
Uniform Delay, d1	20.1	9.8			30.9	27.3	19.7	21.2				
Progression Factor	0.06	0.41			0.68	0.63	1.00	1.00				
Incremental Delay, d2	0.6	0.1			3.3	0.2	0.1	0.4				
Delay (s)	1.8	4.2			24.2	17.4	19.8	21.6				
Level of Service	A	A			C	B	B	C				
Approach Delay (s/veh)		3.9			22.4			21.3			0.0	
Approach LOS		A			C			C			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			15.0			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			50.2%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary
20: S Broadway St & 151st St

2025 Total AM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (veh/h)	240	685	65	30	635	85	35	10	15	20	5	105
Future Volume (veh/h)	240	685	65	30	635	85	35	10	15	20	5	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1841	1856	1856	1870	1885	1856	1900	1900	1841	1900	1856
Adj Flow Rate, veh/h	267	721	72	33	668	94	39	11	17	22	6	117
Peak Hour Factor	0.90	0.95	0.90	0.90	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	4	3	3	2	1	3	0	0	4	0	3
Cap, veh/h	307	1727	776	57	1103	155	387	379	321	387	356	295
Arrive On Green	0.17	0.49	0.49	0.03	0.35	0.35	0.04	0.20	0.20	0.02	0.19	0.19
Sat Flow, veh/h	1767	3497	1572	1767	3128	440	1767	1900	1610	1753	1900	1572
Grp Volume(v), veh/h	267	721	72	33	379	383	39	11	17	22	6	117
Grp Sat Flow(s),veh/h/ln	1767	1749	1572	1767	1777	1791	1767	1900	1610	1753	1900	1572
Q Serve(g_s), s	11.8	10.5	1.9	1.5	14.0	14.1	1.4	0.4	0.7	0.8	0.2	5.2
Cycle Q Clear(g_c), s	11.8	10.5	1.9	1.5	14.0	14.1	1.4	0.4	0.7	0.8	0.2	5.2
Prop In Lane	1.00		1.00	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	307	1727	776	57	626	631	387	379	321	387	356	295
V/C Ratio(X)	0.87	0.42	0.09	0.57	0.61	0.61	0.10	0.03	0.05	0.06	0.02	0.40
Avail Cap(c_a), veh/h	353	1727	776	221	626	631	544	379	321	564	356	295
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)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	12.9	10.7	38.2	21.3	21.3	24.6	25.8	25.9	25.2	26.5	28.5
Incr Delay (d2), s/veh	17.3	0.7	0.2	8.8	4.3	4.3	0.1	0.1	0.3	0.1	0.1	4.0
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	6.0	3.5	0.7	0.7	5.7	5.8	0.6	0.2	0.3	0.3	0.1	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.5	13.6	11.0	46.9	25.6	25.6	24.8	25.9	26.2	25.2	26.6	32.5
LnGrp LOS	D	B	B	D	C	C	C	C	C	C	C	C
Approach Vol, veh/h	1060			795			67			145		
Approach Delay, s/veh	22.5			26.5			25.3			31.1		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.6	44.5	7.9	20.0	18.9	33.2	6.9	21.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	10.0	25.0	10.0	15.0	16.0	19.0	10.0	15.0				
Max Q Clear Time (g_c+l1), s	3.5	12.5	3.4	7.2	13.8	16.1	2.8	2.7				
Green Ext Time (p_c), s	0.0	3.6	0.0	0.2	0.2	1.2	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	24.7											
HCM 7th LOS	C											

HCM 7th Signalized Intersection Summary

1: Yukon Ave. & 151st St

2025 Total PM - Signals Modified

US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	30	875	0	50	0	435	55	0	0	0	95	0
Future Volume (veh/h)	30	875	0	50	0	435	55	0	0	0	95	0
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1856	1870		1870	1856	1900	1870	1870	1870	1900	1870
Adj Flow Rate, veh/h	35	921	0		0	458	65	0	0	0	112	0
Peak Hour Factor	0.85	0.95	0.85		0.85	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	3	2		2	3	0	2	2	2	0	2
Cap, veh/h	61	1763	0		2	1252	177	665	701	0	522	8
Arrive On Green	0.03	0.50	0.00		0.00	0.13	0.13	0.00	0.00	0.00	0.38	0.00
Sat Flow, veh/h	1810	3618	0		1781	3102	438	1781	1870	0	1173	21
Grp Volume(v), veh/h	35	921	0		0	259	264	0	0	0	136	0
Grp Sat Flow(s),veh/h/ln	1810	1763	0		1781	1763	1777	1781	1870	0	1450	0
Q Serve(g_s), s	1.5	14.1	0.0		0.0	10.7	10.8	0.0	0.0	0.0	4.6	0.0
Cycle Q Clear(g_c), s	1.5	14.1	0.0		0.0	10.7	10.8	0.0	0.0	0.0	5.1	0.0
Prop In Lane	1.00		0.00		1.00		0.25	1.00		0.00	0.82	
Lane Grp Cap(c), veh/h	61	1763	0		2	712	717	665	701	0	626	0
V/C Ratio(X)	0.57	0.52	0.00		0.00	0.36	0.37	0.00	0.00	0.00	0.22	0.00
Avail Cap(c_a), veh/h	226	1763	0		223	712	717	886	701	0	626	0
HCM Platoon Ratio	1.00	1.00	1.00		0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00		0.00	0.99	0.99	0.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	38.1	13.5	0.0		0.0	25.3	25.4	0.0	0.0	0.0	17.2	0.0
Incr Delay (d2), s/veh	8.2	1.1	0.0		0.0	1.4	1.4	0.0	0.0	0.0	0.8	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
%ile BackOfQ(50%),veh/ln	0.8	5.0	0.0		0.0	4.9	5.0	0.0	0.0	0.0	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	46.3	14.6	0.0		0.0	26.7	26.8	0.0	0.0	0.0	18.0	0.0
LnGrp LOS	D	B				C	C				B	
Approach Vol, veh/h	956			523			0			136		
Approach Delay, s/veh	15.8			26.8			0.0			18.0		
Approach LOS	B			C						B		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	0.0	45.0	0.0	35.0	7.7	37.3	35.0					
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0					
Max Green Setting (Gmax), s	10.0	25.0	10.0	15.0	10.0	25.0	30.0					
Max Q Clear Time (g_c+I1), s	0.0	16.1	0.0	7.1	3.5	12.8	0.0					
Green Ext Time (p_c), s	0.0	3.8	0.0	0.4	0.0	2.2	0.0					
Intersection Summary												
HCM 7th Control Delay, s/veh	19.5											
HCM 7th LOS	B											
Notes												
User approved ignoring U-Turning movement.												

11/14/2025

T-2909H

Traffic Engineering Consultants, Inc.

Queues
1: Yukon Ave. & 151st St

2030 Total AM - Signals Modified
US 75 & 151st Analysis

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	9	859	212	699	72	13	245	180
v/c Ratio	0.06	0.71	0.59	0.42	0.14	0.02	0.28	0.48
Control Delay (s/veh)	38.4	29.0	63.6	6.5	19.0	17.7	9.7	33.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.4	29.0	63.6	6.5	19.0	17.7	9.7	33.4
Queue Length 50th (ft)	5	226	58	27	27	5	55	85
Queue Length 95th (ft)	18	298	95	261	52	16	91	148
Internal Link Dist (ft)		804		856		558		323
Turn Bay Length (ft)	265		200				200	
Base Capacity (vph)	211	1210	381	1655	531	703	884	376
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.71	0.56	0.42	0.14	0.02	0.28	0.48
Intersection Summary								

HCM Signalized Intersection Capacity Analysis 18: US-75 SB Ramps & 151st St

2025 Total PM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 							
Traffic Volume (vph)	0	800	170	270	415	0	0	0	0	110	0	125
Future Volume (vph)	0	800	170	270	415	0	0	0	0	110	0	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0					5.0	5.0	
Lane Util. Factor		0.91	1.00	1.00	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		5085	1524	1736	3505					1687	1553	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		5085	1524	1736	3505					1687	1553	
Peak-hour factor, PHF	0.92	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	0	842	179	284	437	0	0	0	0	116	0	132
RTOR Reduction (vph)	0	0	145	0	0	0	0	0	0	0	94	0
Lane Group Flow (vph)	0	842	34	284	437	0	0	0	0	116	38	0
Heavy Vehicles (%)	2%	2%	6%	4%	3%	2%	2%	2%	2%	7%	2%	4%
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	2						4	12
Permitted Phases			2							4	12	
Actuated Green, G (s)		15.0	15.0	27.0	47.0					23.0	23.0	
Effective Green, g (s)		15.0	15.0	27.0	47.0					23.0	23.0	
Actuated g/C Ratio		0.19	0.19	0.34	0.59					0.29	0.29	
Clearance Time (s)		5.0	5.0	5.0								
Vehicle Extension (s)		3.0	3.0	3.0								
Lane Grp Cap (vph)		953	285	585	2059					485	446	
v/s Ratio Prot		c0.17		c0.16	0.12						0.02	
v/s Ratio Perm			0.02							c0.07		
v/c Ratio		0.88	0.12	0.49	0.21					0.24	0.09	
Uniform Delay, d1		31.6	27.0	21.0	7.8					21.8	20.8	
Progression Factor		0.74	1.35	0.16	0.14					1.00	1.00	
Incremental Delay, d2		10.8	0.8	2.0	0.2					0.3	0.1	
Delay (s)		34.2	37.1	5.4	1.3					22.1	20.9	
Level of Service		C	D	A	A					C	C	
Approach Delay (s/veh)		34.7			2.9			0.0			21.4	
Approach LOS		C			A			A			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			21.6			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)				20.0		
Intersection Capacity Utilization			50.7%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: US-75 NB Ramps & 151st St

2025 Total PM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			   							
Traffic Volume (vph)	105	805	0	0	635	190	50	5	290	0	0	0
Future Volume (vph)	105	805	0	0	635	190	50	5	290	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0	5.0	5.0				
Lane Util. Factor	1.00	0.95			0.91	1.00	1.00	1.00				
Frt	1.00	1.00			1.00	0.85	1.00	0.85				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1719	3539			5036	1524	1805	1620				
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	1719	3539			5036	1524	1805	1620				
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	111	847	0	0	668	200	53	5	305	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	163	0	117	0	0	0	0
Lane Group Flow (vph)	111	847	0	0	668	38	53	193	0	0	0	0
Heavy Vehicles (%)	5%	2%	2%	2%	3%	6%	0%	0%	0%	2%	2%	2%
Turn Type	Prot	NA			NA	Perm	Perm	NA				
Protected Phases	5	5 6			6			8 16				
Permitted Phases						6	8 16					
Actuated Green, G (s)	27.0	47.0			15.0	15.0	23.0	23.0				
Effective Green, g (s)	27.0	47.0			15.0	15.0	23.0	23.0				
Actuated g/C Ratio	0.34	0.59			0.19	0.19	0.29	0.29				
Clearance Time (s)	5.0				5.0	5.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	580	2079			944	285	518	465				
v/s Ratio Prot	0.06	c0.24			c0.13			c0.12				
v/s Ratio Perm						0.02	0.03					
v/c Ratio	0.19	0.41			0.71	0.13	0.10	0.42				
Uniform Delay, d1	18.8	8.9			30.4	27.1	20.9	23.1				
Progression Factor	0.02	0.39			0.62	0.49	1.00	1.00				
Incremental Delay, d2	0.3	0.1			2.2	0.2	0.1	0.6				
Delay (s)	0.6	3.6			21.2	13.4	21.0	23.7				
Level of Service	A	A			C	B	C	C				
Approach Delay (s/veh)		3.2			19.4			23.3			0.0	
Approach LOS		A			B			C			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			13.0									
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			80.0									
Intersection Capacity Utilization			50.7%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary
20: S Broadway St & 151st St

2025 Total PM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (veh/h)	155	745	40	15	530	80	35	5	10	55	5	105
Future Volume (veh/h)	155	745	40	15	530	80	35	5	10	55	5	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1870	1870	1900	1900	1900	1900	1900	1885
Adj Flow Rate, veh/h	172	784	44	17	558	89	39	6	11	61	6	117
Peak Hour Factor	0.90	0.95	0.90	0.90	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	0	0	2	2	0	0	0	0	0	1
Cap, veh/h	212	1778	799	36	1222	194	397	356	302	436	376	316
Arrive On Green	0.12	0.50	0.50	0.02	0.40	0.40	0.04	0.19	0.19	0.05	0.20	0.20
Sat Flow, veh/h	1795	3582	1610	1810	3071	488	1810	1900	1610	1810	1900	1598
Grp Volume(v), veh/h	172	784	44	17	322	325	39	6	11	61	6	117
Grp Sat Flow(s),veh/h/ln	1795	1791	1610	1810	1777	1782	1810	1900	1610	1810	1900	1598
Q Serve(g_s), s	7.5	11.3	1.1	0.7	10.7	10.7	1.4	0.2	0.4	2.1	0.2	5.1
Cycle Q Clear(g_c), s	7.5	11.3	1.1	0.7	10.7	10.7	1.4	0.2	0.4	2.1	0.2	5.1
Prop In Lane	1.00		1.00	1.00		0.27	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	1778	799	36	707	709	397	356	302	436	376	316
V/C Ratio(X)	0.81	0.44	0.06	0.48	0.46	0.46	0.10	0.02	0.04	0.14	0.02	0.37
Avail Cap(c_a), veh/h	337	1778	799	226	707	709	558	356	302	578	376	316
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)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	13.0	10.4	38.8	17.7	17.7	24.6	26.5	26.6	24.3	25.8	27.8
Incr Delay (d2), s/veh	7.2	0.7	0.1	9.6	2.1	2.1	0.1	0.1	0.2	0.1	0.1	3.3
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	3.4	3.8	0.4	0.4	4.1	4.1	0.6	0.1	0.2	0.9	0.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	41.6	13.7	10.5	48.4	19.8	19.9	24.7	26.6	26.8	24.4	25.9	31.1
LnGrp LOS	D	B	B	D	B	B	C	C	C	C	C	C
Approach Vol, veh/h	1000			664			56			184		
Approach Delay, s/veh	18.4			20.6			25.3			28.7		
Approach LOS	B			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.6	44.7	7.9	20.8	14.5	36.8	8.7	20.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	10.0	25.0	10.0	15.0	15.0	20.0	10.0	15.0				
Max Q Clear Time (g_c+l1), s	2.7	13.3	3.4	7.1	9.5	12.7	4.1	2.4				
Green Ext Time (p_c), s	0.0	3.7	0.0	0.2	0.2	2.0	0.0	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	20.3											
HCM 7th LOS	C											

HCM 7th Signalized Intersection Summary

1: Yukon Ave. & 151st St

2030 Total AM - Signals Existing

US 75 & 151st Analysis

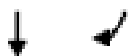
												
Movement	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (veh/h)	1	7	755	59	50	145	631	30	61	11	208	110
Future Volume (veh/h)	1	7	755	59	50	145	631	30	61	11	208	110
Initial Q (Qb), veh		0	0	0		0	0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		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
Work Zone On Approach		No				No				No		
Adj Sat Flow, veh/h/ln		1900	1841	1870		1870	1841	1856	1870	1870	1870	1870
Adj Flow Rate, veh/h		8	795	64		158	664	35	72	13	245	129
Peak Hour Factor		0.85	0.95	0.92		0.92	0.95	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %		0	4	2		2	4	3	2	2	2	2
Cap, veh/h		18	1697	137		191	2079	110	382	20	379	145
Arrive On Green		0.01	0.52	0.52		0.07	0.41	0.41	0.05	0.25	0.25	0.16
Sat Flow, veh/h		1810	3278	264		1781	3379	178	1781	80	1517	573
Grp Volume(v), veh/h		8	424	435		158	343	356	72	0	258	180
Grp Sat Flow(s), veh/h/ln		1810	1749	1793		1781	1749	1809	1781	0	1597	826
Q Serve(g_s), s		0.5	18.5	18.5		10.5	15.9	16.0	3.9	0.0	17.3	12.7
Cycle Q Clear(g_c), s		0.5	18.5	18.5		10.5	15.9	16.0	3.9	0.0	17.3	19.6
Prop In Lane		1.00		0.15		1.00		0.10	1.00		0.95	0.72
Lane Grp Cap(c), veh/h		18	905	928		191	1076	1113	382	0	399	186
V/C Ratio(X)		0.45	0.47	0.47		0.83	0.32	0.32	0.19	0.00	0.65	0.97
Avail Cap(c_a), veh/h		151	905	928		802	1076	1113	450	0	399	186
HCM Platoon Ratio		1.00	1.00	1.00		0.67	0.67	0.67	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00		0.97	0.97	0.97	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh		59.1	18.4	18.4		54.6	18.3	18.3	37.6	0.0	40.3	55.0
Incr Delay (d2), s/veh		17.1	1.7	1.7		8.5	0.8	0.7	0.2	0.0	7.8	57.8
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
%ile BackOfQ(50%),veh/ln		0.3	7.4	7.6		5.2	7.0	7.3	1.7	0.0	7.7	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		76.2	20.2	20.1		63.1	19.0	19.0	37.8	0.0	48.1	112.7
LnGrp LOS		E	C	C		E	B	B	D		D	F
Approach Vol, veh/h			867				857			330		
Approach Delay, s/veh			20.7				27.1			45.8		
Approach LOS			C				C			D		
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	17.9	67.1	10.4	24.6	6.2	78.8		35.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	54.0	21.0	10.0	15.0	10.0	65.0		30.0				
Max Q Clear Time (g_c+l1), s	12.5	20.5	5.9	21.6	2.5	18.0		19.3				
Green Ext Time (p_c), s	0.4	0.3	0.0	0.0	0.0	4.3		1.1				
Intersection Summary												
HCM 7th Control Delay, s/veh			34.3									
HCM 7th LOS			C									
Notes												
User approved ignoring U-Turning movement.												

11/14/2025
T-2909H

Traffic Engineering Consultants, Inc.

HCM 7th Signalized Intersection Summary
1: Yukon Ave. & 151st St

2030 Total AM - Signals Existing
US 75 & 151st Analysis



Movement	SBT	SBR
Lane Configurations		
Traffic Volume (veh/h)	15	28
Future Volume (veh/h)	15	28
Initial Q (Qb), veh	0	0
Lane Width Adj.	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00
Parking Bus, Adj	1.00	1.00
Work Zone On Approach	No	
Adj Sat Flow, veh/h/ln	1870	1900
Adj Flow Rate, veh/h	18	33
Peak Hour Factor	0.85	0.85
Percent Heavy Veh, %	2	0
Cap, veh/h	16	25
Arrive On Green	0.16	0.16
Sat Flow, veh/h	101	151
Grp Volume(v), veh/h	0	0
Grp Sat Flow(s), veh/h/ln	0	0
Q Serve(g_s), s	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0
Prop In Lane		0.18
Lane Grp Cap(c), veh/h	0	0
V/C Ratio(X)	0.00	0.00
Avail Cap(c_a), veh/h	0	0
HCM Platoon Ratio	1.00	1.00
Upstream Filter(I)	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0
Unsig. Movement Delay, s/veh		
LnGrp Delay(d), s/veh	0.0	0.0
LnGrp LOS		
Approach Vol, veh/h	180	
Approach Delay, s/veh	112.7	
Approach LOS	F	
Timer - Assigned Phs		

HCM Signalized Intersection Capacity Analysis 18: US-75 SB Ramps & 151st St

2030 Total AM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	964	109	295	646	0	0	0	0	170	0	211
Future Volume (vph)	0	964	109	295	646	0	0	0	0	170	0	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.95		1.00	0.95						1.00	
Frt		0.98		1.00	1.00						0.93	
Flt Protected		1.00		0.95	1.00						0.98	
Satd. Flow (prot)		3408		1736	3505						1558	
Flt Permitted		1.00		0.95	1.00						0.98	
Satd. Flow (perm)		3408		1736	3505						1558	
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)	0	1015	115	311	680	0	0	0	0	179	0	222
RTOR Reduction (vph)	0	7	0	0	0	0	0	0	0	0	125	0
Lane Group Flow (vph)	0	1123	0	311	680	0	0	0	0	0	276	0
Heavy Vehicles (%)	2%	4%	7%	4%	3%	2%	2%	2%	2%	12%	0%	9%
Turn Type		NA		Prot	NA					Perm	NA	
Protected Phases		2		1	2 1						4 12	
Permitted Phases										4 12		
Actuated Green, G (s)		40.0		42.0	87.0						23.0	
Effective Green, g (s)		40.0		42.0	87.0						23.0	
Actuated g/C Ratio		0.33		0.35	0.73						0.19	
Clearance Time (s)		5.0		5.0								
Vehicle Extension (s)		3.0		3.0								
Lane Grp Cap (vph)		1136		607	2541						298	
v/s Ratio Prot		c0.33		c0.18	0.19							
v/s Ratio Perm											0.18	
v/c Ratio		0.99		0.51	0.27						0.93	
Uniform Delay, d1		39.8		30.9	5.6						47.7	
Progression Factor		0.38		0.03	0.10						1.00	
Incremental Delay, d2		5.7		0.3	0.0						32.9	
Delay (s)		20.8		1.3	0.6						80.6	
Level of Service		C		A	A						F	
Approach Delay (s/veh)		20.8			0.8			0.0			80.6	
Approach LOS		C			A			A			F	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			22.5			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			81.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary
20: S Broadway St & 151st St

2030 Total AM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (veh/h)	245	875	85	40	920	115	55	15	20	25	5	151
Future Volume (veh/h)	245	875	85	40	920	115	55	15	20	25	5	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1841	1856	1856	1870	1885	1856	1900	1900	1841	1900	1856
Adj Flow Rate, veh/h	272	921	94	44	968	128	61	17	22	28	6	168
Peak Hour Factor	0.90	0.95	0.90	0.90	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	4	3	3	2	1	3	0	0	4	0	3
Cap, veh/h	303	2210	994	57	1554	205	78	274	232	44	238	197
Arrive On Green	0.17	0.63	0.63	0.03	0.49	0.49	0.04	0.14	0.14	0.03	0.13	0.13
Sat Flow, veh/h	1767	3497	1572	1767	3155	417	1767	1900	1610	1753	1900	1572
Grp Volume(v), veh/h	272	921	94	44	545	551	61	17	22	28	6	168
Grp Sat Flow(s),veh/h/ln	1767	1749	1572	1767	1777	1795	1767	1900	1610	1753	1900	1572
Q Serve(g_s), s	18.1	15.8	2.8	3.0	26.9	27.0	4.1	0.9	1.4	1.9	0.3	12.6
Cycle Q Clear(g_c), s	18.1	15.8	2.8	3.0	26.9	27.0	4.1	0.9	1.4	1.9	0.3	12.6
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	303	2210	994	57	875	885	78	274	232	44	238	197
V/C Ratio(X)	0.90	0.42	0.09	0.78	0.62	0.62	0.78	0.06	0.09	0.63	0.03	0.85
Avail Cap(c_a), veh/h	412	2210	994	147	875	885	147	274	232	146	238	197
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)	0.93	0.93	0.93	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	11.0	8.6	57.7	22.3	22.3	56.7	44.3	44.6	57.9	46.1	51.4
Incr Delay (d2), s/veh	16.8	0.5	0.2	19.9	3.3	3.3	15.0	0.4	0.8	13.9	0.2	35.1
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	9.0	5.3	1.0	1.6	10.9	11.0	2.2	0.5	0.6	1.0	0.2	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	65.5	11.6	8.8	77.6	25.6	25.6	71.8	44.8	45.4	71.8	46.3	86.5
LnGrp LOS	E	B	A	E	C	C	E	D	D	E	D	F
Approach Vol, veh/h	1287			1140			100			202		
Approach Delay, s/veh	22.8			27.6			61.4			83.3		
Approach LOS	C			C			E			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.8	80.8	10.3	20.0	25.5	64.1	8.0	22.3				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	10.0	65.0	10.0	15.0	28.0	47.0	10.0	15.0				
Max Q Clear Time (g_c+I1), s	5.0	17.8	6.1	14.6	20.1	29.0	3.9	3.4				
Green Ext Time (p_c), s	0.0	7.0	0.0	0.0	0.5	6.0	0.0	0.1				
Intersection Summary												
HCM 7th Control Delay, s/veh	30.7											
HCM 7th LOS	C											

HCM 7th Signalized Intersection Summary
1: Yukon Ave. & 151st St

2030 Total PM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	35	1049	109	60	248	545	55	90	23	404	95	28
Future Volume (veh/h)	35	1049	109	60	248	545	55	90	23	404	95	28
Initial Q (Qb), veh	0	0	0		0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach	No				No				No			No
Adj Sat Flow, veh/h/ln	1900	1856	1870		1870	1856	1900	1870	1870	1870	1900	1870
Adj Flow Rate, veh/h	41	1104	128		292	574	65	106	27	475	112	33
Peak Hour Factor	0.85	0.95	0.85		0.85	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	3	2		2	3	0	2	2	2	0	2
Cap, veh/h	54	1244	144		318	1723	195	442	27	477	47	13
Arrive On Green	0.03	0.39	0.39		0.36	1.00	1.00	0.06	0.32	0.32	0.22	0.22
Sat Flow, veh/h	1810	3183	369		1781	3193	361	1781	86	1512	6	61
Grp Volume(v), veh/h	41	611	621		292	316	323	106	0	502	174	0
Grp Sat Flow(s),veh/h/ln	1810	1763	1789		1781	1763	1791	1781	0	1598	80	0
Q Serve(g_s), s	2.9	42.0	42.1		20.4	0.0	0.0	5.8	0.0	40.8	0.2	0.0
Cycle Q Clear(g_c), s	2.9	42.0	42.1		20.4	0.0	0.0	5.8	0.0	40.8	28.3	0.0
Prop In Lane	1.00		0.21		1.00		0.20	1.00		0.95	0.64	
Lane Grp Cap(c), veh/h	54	689	699		318	951	966	442	0	504	63	0
V/C Ratio(X)	0.76	0.89	0.89		0.92	0.33	0.33	0.24	0.00	1.00	2.76	0.00
Avail Cap(c_a), veh/h	139	689	699		658	951	966	473	0	504	63	0
HCM Platoon Ratio	1.00	1.00	1.00		2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00		0.98	0.98	0.98	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.6	36.9	37.0		40.9	0.0	0.0	34.6	0.0	44.4	58.2	0.0
Incr Delay (d2), s/veh	19.6	15.6	15.7		10.5	0.9	0.9	0.3	0.0	39.1	835.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	20.2	20.6		7.9	0.2	0.2	2.6	0.0	21.4	16.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	82.2	52.5	52.6		51.4	0.9	0.9	34.9	0.0	83.5	893.7	0.0
LnGrp LOS	F	D	D		D	A	A	C		F	F	
Approach Vol, veh/h	1273				931				608			174
Approach Delay, s/veh	53.5				16.8				75.0			893.7
Approach LOS	D				B				E			F
Timer - Assigned Phs												
Phs Duration (G+Y+Rc), s	28.2	55.8	12.7	33.3	8.9	75.1	46.0					
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0					
Max Green Setting (Gmax), s	48.0	26.0	10.0	26.0	10.0	64.0	41.0					
Max Q Clear Time (g_c+l1), s	22.4	44.1	7.8	30.3	4.9	2.0	42.8					
Green Ext Time (p_c), s	0.8	0.0	0.0	0.0	0.0	3.9	0.0					
Intersection Summary												
HCM 7th Control Delay, s/veh	95.4											
HCM 7th LOS	F											
Notes												
User approved ignoring U-Turning movement.												

HCM 7th Signalized Intersection Summary
1: Yukon Ave. & 151st St

2030 Total PM - Signals Existing
US 75 & 151st Analysis



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	25
Future Volume (veh/h)	25
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1826
Adj Flow Rate, veh/h	29
Peak Hour Factor	0.85
Percent Heavy Veh, %	5
Cap, veh/h	3
Arrive On Green	0.22
Sat Flow, veh/h	13
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	0
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.17
Lane Grp Cap(c), veh/h	0
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	0
HCM Platoon Ratio	1.00
Upstream Filter(l)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	0.0
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM Signalized Intersection Capacity Analysis 18: US-75 SB Ramps & 151st St

2030 Total PM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1297	251	315	619	0	0	0	0	125	0	289
Future Volume (vph)	0	1297	251	315	619	0	0	0	0	125	0	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0		5.0	5.0						5.0	
Lane Util. Factor		0.95		1.00	0.95						1.00	
Frt		0.98		1.00	1.00						0.91	
Flt Protected		1.00		0.95	1.00						0.99	
Satd. Flow (prot)		3431		1736	3505						1616	
Flt Permitted		1.00		0.95	1.00						0.99	
Satd. Flow (perm)		3431		1736	3505						1616	
Peak-hour factor, PHF	0.92	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	0	1365	264	332	652	0	0	0	0	132	0	304
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	116	0
Lane Group Flow (vph)	0	1617	0	332	652	0	0	0	0	0	321	0
Heavy Vehicles (%)	2%	2%	6%	4%	3%	2%	2%	2%	2%	7%	2%	4%
Turn Type		NA		Prot	NA					Perm	NA	
Protected Phases		2		1	2 1						4 12	
Permitted Phases										4 12		
Actuated Green, G (s)		53.0		37.0	95.0						25.0	
Effective Green, g (s)		53.0		37.0	95.0						25.0	
Actuated g/C Ratio		0.41		0.28	0.73						0.19	
Clearance Time (s)		5.0		5.0								
Vehicle Extension (s)		3.0		3.0								
Lane Grp Cap (vph)		1398		494	2561						310	
v/s Ratio Prot		0.47		0.19	0.19							
v/s Ratio Perm											0.20	
v/c Ratio		1.16		0.67	0.25						1.03	
Uniform Delay, d1		38.5		41.1	5.8						52.5	
Progression Factor		0.54		0.10	0.30						1.00	
Incremental Delay, d2		71.2		0.7	0.0						60.2	
Delay (s)		91.9		4.8	1.8						112.7	
Level of Service		F		A	A						F	
Approach Delay (s/veh)		91.9			2.8			0.0			112.7	
Approach LOS		F			A			A			F	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			66.1			HCM 2000 Level of Service				E		
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			130.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			98.5%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: US-75 NB Ramps & 151st St

2030 Total PM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Traffic Volume (vph)	395	1027	0	0	815	220	119	5	335	0	0	0
Future Volume (vph)	395	1027	0	0	815	220	119	5	335	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		5.0				
Lane Util. Factor	1.00	0.95			0.95	1.00		1.00				
Frt	1.00	1.00			1.00	0.85		0.90				
Flt Protected	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (prot)	1719	3539			3505	1524		1691				
Flt Permitted	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (perm)	1719	3539			3505	1524		1691				
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	416	1081	0	0	858	232	125	5	353	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	113	0	75	0	0	0	0
Lane Group Flow (vph)	416	1081	0	0	858	119	0	408	0	0	0	0
Heavy Vehicles (%)	5%	2%	2%	2%	3%	6%	0%	0%	0%	2%	2%	2%
Turn Type	Prot	NA			NA	Perm	Perm	NA				
Protected Phases	5	5 6			6			8 16				
Permitted Phases						6	8 16					
Actuated Green, G (s)	63.0	95.0			27.0	27.0		25.0				
Effective Green, g (s)	63.0	95.0			27.0	27.0		25.0				
Actuated g/C Ratio	0.48	0.73			0.21	0.21		0.19				
Clearance Time (s)	5.0				5.0	5.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	833	2586			727	316		325				
v/s Ratio Prot	c0.24	0.31			c0.24							
v/s Ratio Perm						0.08		0.24				
v/c Ratio	0.50	0.42			1.18	0.38		1.26				
Uniform Delay, d1	22.8	6.8			51.5	44.3		52.5				
Progression Factor	0.03	0.13			0.70	0.41		1.00				
Incremental Delay, d2	0.2	0.0			93.1	0.6		137.5				
Delay (s)	1.0	0.9			128.9	18.7		190.0				
Level of Service	A	A			F	B		F				
Approach Delay (s/veh)		0.9			105.5			190.0			0.0	
Approach LOS		A			F			F			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			67.8									
HCM 2000 Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			130.0						20.0			
Intersection Capacity Utilization			98.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary
20: S Broadway St & 151st St

2030 Total PM - Signals Existing
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	1135	62	20	760	105	52	5	15	75	5	223
Future Volume (veh/h)	165	1135	62	20	760	105	52	5	15	75	5	223
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1870	1870	1900	1900	1900	1900	1900	1885
Adj Flow Rate, veh/h	183	1195	69	22	800	117	58	6	17	83	6	248
Peak Hour Factor	0.90	0.95	0.90	0.90	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	0	0	2	2	0	0	0	0	0	1
Cap, veh/h	211	2228	1001	38	1634	239	75	275	233	105	307	258
Arrive On Green	0.12	0.62	0.62	0.02	0.53	0.53	0.04	0.14	0.14	0.06	0.16	0.16
Sat Flow, veh/h	1795	3582	1610	1810	3110	455	1810	1900	1610	1810	1900	1598
Grp Volume(v), veh/h	183	1195	69	22	457	460	58	6	17	83	6	248
Grp Sat Flow(s),veh/h/ln	1795	1791	1610	1810	1777	1788	1810	1900	1610	1810	1900	1598
Q Serve(g_s), s	13.0	24.6	2.2	1.6	21.4	21.4	4.1	0.4	1.2	5.9	0.3	20.0
Cycle Q Clear(g_c), s	13.0	24.6	2.2	1.6	21.4	21.4	4.1	0.4	1.2	5.9	0.3	20.0
Prop In Lane	1.00		1.00	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	211	2228	1001	38	933	940	75	275	233	105	307	258
V/C Ratio(X)	0.87	0.54	0.07	0.58	0.49	0.49	0.77	0.02	0.07	0.79	0.02	0.96
Avail Cap(c_a), veh/h	345	2228	1001	139	933	940	153	275	233	195	307	258
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)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	13.9	9.7	63.1	19.7	19.7	61.7	47.7	48.0	60.4	45.8	54.1
Incr Delay (d2), s/veh	11.1	0.8	0.1	13.0	1.8	1.8	15.2	0.1	0.6	12.2	0.1	46.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	8.9	0.8	0.8	8.6	8.6	2.2	0.2	0.5	3.1	0.2	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	67.4	14.8	9.8	76.1	21.6	21.5	76.9	47.8	48.6	72.6	46.0	100.9
LnGrp LOS	E	B	A	E	C	C	E	D	D	E	D	F
Approach Vol, veh/h	1447			939			81			337		
Approach Delay, s/veh	21.2			22.8			68.8			93.0		
Approach LOS	C			C			E			F		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	85.9	10.4	26.0	20.3	73.3	12.6	23.8				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	10.0	68.0	11.0	21.0	25.0	53.0	14.0	18.0				
Max Q Clear Time (g_c+I1), s	3.6	26.6	6.1	22.0	15.0	23.4	7.9	3.2				
Green Ext Time (p_c), s	0.0	9.8	0.0	0.0	0.3	5.4	0.1	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	31.7											
HCM 7th LOS	C											

HCM 7th Signalized Intersection Summary
1: Yukon Ave. & 151st St

2030 Total AM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (veh/h)	1	7	755	59	195	631	30	61	11	208	110	15
Future Volume (veh/h)	1	7	755	59	195	631	30	61	11	208	110	15
Initial Q (Qb), veh		0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		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
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln		1900	1841	1870	1870	1841	1856	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h		8	795	64	212	664	35	72	13	245	129	18
Peak Hour Factor		0.85	0.95	0.92	0.92	0.95	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %		0	4	2	2	4	3	2	2	2	2	2
Cap, veh/h		18	1224	99	284	1505	79	566	707	729	305	46
Arrive On Green		0.01	0.37	0.37	0.16	0.89	0.89	0.05	0.38	0.38	0.28	0.28
Sat Flow, veh/h		1810	3278	264	3456	3379	178	1781	1870	1585	859	167
Grp Volume(v), veh/h		8	424	435	212	343	356	72	13	245	180	0
Grp Sat Flow(s),veh/h/ln		1810	1749	1793	1728	1749	1809	1781	1870	1585	1256	0
Q Serve(g_s), s		0.4	18.1	18.1	5.3	3.2	3.2	2.5	0.4	8.9	9.9	0.0
Cycle Q Clear(g_c), s		0.4	18.1	18.1	5.3	3.2	3.2	2.5	0.4	8.9	10.7	0.0
Prop In Lane		1.00		0.15	1.00		0.10	1.00		1.00	0.72	
Lane Grp Cap(c), veh/h		18	653	670	284	779	806	566	707	729	415	0
V/C Ratio(X)		0.44	0.65	0.65	0.75	0.44	0.44	0.13	0.02	0.34	0.43	0.00
Avail Cap(c_a), veh/h		201	653	670	384	779	806	682	707	729	415	0
HCM Platoon Ratio		1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)		1.00	1.00	1.00	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh		44.3	23.3	23.3	36.7	2.9	2.9	20.2	17.5	15.5	27.3	0.0
Incr Delay (d2), s/veh		15.7	5.0	4.8	5.1	1.7	1.7	0.1	0.0	1.2	3.3	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
%ile BackOfQ(50%),veh/ln		0.2	7.7	7.8	2.2	1.1	1.1	1.0	0.2	3.3	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh		60.0	28.3	28.2	41.8	4.6	4.6	20.3	17.6	16.8	30.6	0.0
LnGrp LOS		E	C	C	D	A	A	C	B	B	C	
Approach Vol, veh/h			867			911			330			180
Approach Delay, s/veh			28.5			13.3			17.6			30.6
Approach LOS			C			B			B			C
Timer - Assigned Phs	1	2	3	4	5	6		8				
Phs Duration (G+Y+Rc), s	12.4	38.6	9.2	29.8	5.9	45.1		39.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	10.0	31.0	10.0	19.0	10.0	31.0		34.0				
Max Q Clear Time (g_c+l1), s	7.3	20.1	4.5	12.7	2.4	5.2		10.9				
Green Ext Time (p_c), s	0.2	3.7	0.1	0.5	0.0	4.0		0.9				
Intersection Summary												
HCM 7th Control Delay, s/veh			21.0									
HCM 7th LOS			C									
Notes												
User approved ignoring U-Turning movement.												

HCM 7th Signalized Intersection Summary
1: Yukon Ave. & 151st St

2030 Total AM - Signals Modified
US 75 & 151st Analysis



Movement	SBR
Lane Configurations	
Traffic Volume (veh/h)	28
Future Volume (veh/h)	28
Initial Q (Qb), veh	0
Lane Width Adj.	1.00
Ped-Bike Adj(A_pbT)	1.00
Parking Bus, Adj	1.00
Work Zone On Approach	
Adj Sat Flow, veh/h/ln	1900
Adj Flow Rate, veh/h	33
Peak Hour Factor	0.85
Percent Heavy Veh, %	0
Cap, veh/h	64
Arrive On Green	0.28
Sat Flow, veh/h	230
Grp Volume(v), veh/h	0
Grp Sat Flow(s),veh/h/ln	0
Q Serve(g_s), s	0.0
Cycle Q Clear(g_c), s	0.0
Prop In Lane	0.18
Lane Grp Cap(c), veh/h	0
V/C Ratio(X)	0.00
Avail Cap(c_a), veh/h	0
HCM Platoon Ratio	1.00
Upstream Filter(I)	0.00
Uniform Delay (d), s/veh	0.0
Incr Delay (d2), s/veh	0.0
Initial Q Delay(d3), s/veh	0.0
%ile BackOfQ(50%),veh/ln	0.0
Unsig. Movement Delay, s/veh	
LnGrp Delay(d), s/veh	0.0
LnGrp LOS	
Approach Vol, veh/h	
Approach Delay, s/veh	
Approach LOS	
Timer - Assigned Phs	

HCM Signalized Intersection Capacity Analysis

18: US-75 SB Ramps & 151st St

2030 Total AM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 							
Traffic Volume (vph)	0	964	109	295	646	0	0	0	0	170	0	211
Future Volume (vph)	0	964	109	295	646	0	0	0	0	170	0	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0					5.0	5.0	
Lane Util. Factor		0.91	1.00	1.00	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		4988	1509	1736	3505					1612	1482	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		4988	1509	1736	3505					1612	1482	
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)	0	1015	115	311	680	0	0	0	0	179	0	222
RTOR Reduction (vph)	0	0	87	0	0	0	0	0	0	0	160	0
Lane Group Flow (vph)	0	1015	28	311	680	0	0	0	0	179	62	0
Heavy Vehicles (%)	2%	4%	7%	4%	3%	2%	2%	2%	2%	12%	0%	9%
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	2						4	12
Permitted Phases			2							4	12	
Actuated Green, G (s)		22.0	22.0	28.0	55.0					25.0	25.0	
Effective Green, g (s)		22.0	22.0	28.0	55.0					25.0	25.0	
Actuated g/C Ratio		0.24	0.24	0.31	0.61					0.28	0.28	
Clearance Time (s)		5.0	5.0	5.0								
Vehicle Extension (s)		3.0	3.0	3.0								
Lane Grp Cap (vph)		1219	368	540	2141					447	411	
v/s Ratio Prot		c0.20		c0.18	0.19						0.04	
v/s Ratio Perm			0.02							c0.11		
v/c Ratio		0.83	0.08	0.58	0.32					0.40	0.15	
Uniform Delay, d1		32.3	26.2	26.0	8.4					26.4	24.5	
Progression Factor		0.47	1.00	0.18	0.38					1.00	1.00	
Incremental Delay, d2		0.7	0.0	2.0	0.2					0.6	0.2	
Delay (s)		15.7	26.2	6.8	3.5					27.0	24.7	
Level of Service		B	C	A	A					C	C	
Approach Delay (s/veh)		16.8			4.5			0.0			25.7	
Approach LOS		B			A			A			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			13.4			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)				20.0		
Intersection Capacity Utilization			63.4%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: US-75 NB Ramps & 151st St

2030 Total AM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			  							
Traffic Volume (vph)	244	890	0	0	841	285	100	5	315	0	0	0
Future Volume (vph)	244	890	0	0	841	285	100	5	315	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0	5.0	5.0				
Lane Util. Factor	1.00	0.95			0.91	1.00	1.00	1.00				
Frt	1.00	1.00			1.00	0.85	1.00	0.85				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1583	3471			5036	1553	1641	1561				
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	1583	3471			5036	1553	1641	1561				
Peak-hour factor, PHF	0.95	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	257	937	0	0	885	300	105	5	332	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	240	0	105	0	0	0	0
Lane Group Flow (vph)	257	937	0	0	885	60	105	232	0	0	0	0
Heavy Vehicles (%)	14%	4%	2%	2%	3%	4%	10%	50%	3%	2%	2%	2%
Turn Type	Prot	NA			NA	Perm	Perm	NA				
Protected Phases	5	5 6			6			8 16				
Permitted Phases						6	8 16					
Actuated Green, G (s)	32.0	55.0			18.0	18.0	25.0	25.0				
Effective Green, g (s)	32.0	55.0			18.0	18.0	25.0	25.0				
Actuated g/C Ratio	0.36	0.61			0.20	0.20	0.28	0.28				
Clearance Time (s)	5.0				5.0	5.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	562	2121			1007	310	455	433				
v/s Ratio Prot	c0.16	c0.27			c0.18			c0.15				
v/s Ratio Perm						0.04	0.06					
v/c Ratio	0.46	0.44			0.88	0.19	0.23	0.54				
Uniform Delay, d1	22.3	9.3			34.9	30.0	25.1	27.6				
Progression Factor	0.11	0.36			0.42	0.58	1.00	1.00				
Incremental Delay, d2	1.4	0.1			5.2	0.2	0.3	1.3				
Delay (s)	3.9	3.4			19.7	17.6	25.3	28.9				
Level of Service	A	A			B	B	C	C				
Approach Delay (s/veh)		3.5			19.2			28.0			0.0	
Approach LOS		A			B			C			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			14.0									
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			90.0									
Intersection Capacity Utilization			63.4%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary
20: S Broadway St & 151st St

2030 Total AM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	875	85	40	920	115	55	15	20	25	5	151
Future Volume (veh/h)	245	875	85	40	920	115	55	15	20	25	5	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1856	1841	1856	1856	1870	1885	1856	1900	1900	1841	1900	1856
Adj Flow Rate, veh/h	272	921	94	44	968	128	61	17	22	28	6	168
Peak Hour Factor	0.90	0.95	0.90	0.90	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	3	4	3	3	2	1	3	0	0	4	0	3
Cap, veh/h	295	1856	834	65	1265	167	354	346	293	353	317	262
Arrive On Green	0.17	0.53	0.53	0.04	0.40	0.40	0.04	0.18	0.18	0.03	0.17	0.17
Sat Flow, veh/h	1767	3497	1572	1767	3155	417	1767	1900	1610	1753	1900	1572
Grp Volume(v), veh/h	272	921	94	44	545	551	61	17	22	28	6	168
Grp Sat Flow(s),veh/h/ln	1767	1749	1572	1767	1777	1795	1767	1900	1610	1753	1900	1572
Q Serve(g_s), s	13.6	15.1	2.7	2.2	23.9	23.9	2.5	0.7	1.0	1.2	0.2	9.0
Cycle Q Clear(g_c), s	13.6	15.1	2.7	2.2	23.9	23.9	2.5	0.7	1.0	1.2	0.2	9.0
Prop In Lane	1.00		1.00	1.00		0.23	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	295	1856	834	65	712	720	354	346	293	353	317	262
V/C Ratio(X)	0.92	0.50	0.11	0.67	0.76	0.77	0.17	0.05	0.08	0.08	0.02	0.64
Avail Cap(c_a), veh/h	295	1856	834	196	712	720	473	346	293	499	317	262
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)	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.9	13.5	10.5	42.8	23.3	23.3	29.1	30.4	30.5	29.7	31.3	35.0
Incr Delay (d2), s/veh	30.8	0.9	0.2	11.3	7.7	7.6	0.2	0.3	0.5	0.1	0.1	11.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	5.0	1.0	1.1	10.1	10.2	1.1	0.3	0.4	0.5	0.1	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	67.8	14.3	10.8	54.1	31.0	30.9	29.3	30.6	31.0	29.8	31.5	46.4
LnGrp LOS	E	B	B	D	C	C	C	C	C	C	C	D
Approach Vol, veh/h	1287			1140			100			202		
Approach Delay, s/veh	25.4			31.8			29.9			43.7		
Approach LOS	C			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.3	52.8	8.9	20.0	20.0	41.1	7.5	21.4				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	10.0	35.0	10.0	15.0	15.0	30.0	10.0	15.0				
Max Q Clear Time (g_c+l1), s	4.2	17.1	4.5	11.0	15.6	25.9	3.2	3.0				
Green Ext Time (p_c), s	0.0	5.6	0.0	0.2	0.0	2.3	0.0	0.1				
Intersection Summary												
HCM 7th Control Delay, s/veh	29.6											
HCM 7th LOS	C											

HCM 7th Signalized Intersection Summary

1: Yukon Ave. & 151st St

2030 Total PM - Signals Modified

US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	1049	109	308	545	55	90	23	404	95	28	25
Future Volume (veh/h)	35	1049	109	308	545	55	90	23	404	95	28	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1900	1856	1870	1870	1856	1900	1870	1870	1870	1900	1870	1826
Adj Flow Rate, veh/h	41	1104	128	362	574	65	106	27	475	112	33	29
Peak Hour Factor	0.85	0.95	0.85	0.85	0.95	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh, %	0	3	2	2	3	0	2	2	2	0	2	5
Cap, veh/h	64	1238	143	384	1483	168	490	623	704	207	60	40
Arrive On Green	0.04	0.39	0.39	0.22	0.93	0.93	0.06	0.33	0.33	0.22	0.22	0.22
Sat Flow, veh/h	1810	3183	369	3456	3193	361	1781	1870	1585	656	280	187
Grp Volume(v), veh/h	41	611	621	362	316	323	106	27	475	174	0	0
Grp Sat Flow(s),veh/h/ln	1810	1763	1789	1728	1763	1791	1781	1870	1585	1124	0	0
Q Serve(g_s), s	2.0	29.2	29.3	9.3	1.8	1.8	4.0	0.9	21.4	11.5	0.0	0.0
Cycle Q Clear(g_c), s	2.0	29.2	29.3	9.3	1.8	1.8	4.0	0.9	21.4	12.6	0.0	0.0
Prop In Lane	1.00		0.21	1.00		0.20	1.00		1.00	0.64		0.17
Lane Grp Cap(c), veh/h	64	686	696	384	819	832	490	623	704	307	0	0
V/C Ratio(X)	0.64	0.89	0.89	0.94	0.39	0.39	0.22	0.04	0.67	0.57	0.00	0.00
Avail Cap(c_a), veh/h	201	686	696	384	819	832	577	623	704	307	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	42.8	25.7	25.7	34.7	1.8	1.8	23.4	20.3	19.8	32.4	0.0	0.0
Incr Delay (d2), s/veh	9.9	16.1	16.2	31.0	1.3	1.3	0.2	0.1	5.1	7.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	14.0	14.3	4.9	0.7	0.7	1.7	0.4	8.5	4.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	52.8	41.8	41.9	65.7	3.1	3.1	23.7	20.4	24.9	39.7	0.0	0.0
LnGrp LOS	D	D	D	E	A	A	C	C	C	D		
Approach Vol, veh/h	1273			1001			608			174		
Approach Delay, s/veh	42.2			25.7			24.5			39.7		
Approach LOS	D			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	8					
Phs Duration (G+Y+Rc), s	15.0	40.0	10.6	24.4	8.2	46.8	35.0					
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0					
Max Green Setting (Gmax), s	10.0	35.0	10.0	15.0	10.0	35.0	30.0					
Max Q Clear Time (g_c+l1), s	11.3	31.3	6.0	14.6	4.0	3.8	23.4					
Green Ext Time (p_c), s	0.0	2.4	0.1	0.0	0.0	3.8	1.1					
Intersection Summary												
HCM 7th Control Delay, s/veh	33.2											
HCM 7th LOS	C											

HCM Signalized Intersection Capacity Analysis

18: US-75 SB Ramps & 151st St

2030 Total PM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑	↑↑					↑	↑	
Traffic Volume (vph)	0	1297	251	315	619	0	0	0	0	125	0	289
Future Volume (vph)	0	1297	251	315	619	0	0	0	0	125	0	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0					5.0	5.0	
Lane Util. Factor		0.91	1.00	1.00	0.95					1.00	1.00	
Frt		1.00	0.85	1.00	1.00					1.00	0.85	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		5085	1524	1736	3505					1687	1553	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		5085	1524	1736	3505					1687	1553	
Peak-hour factor, PHF	0.92	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.95	0.95	0.95
Adj. Flow (vph)	0	1365	264	332	652	0	0	0	0	132	0	304
RTOR Reduction (vph)	0	0	190	0	0	0	0	0	0	0	213	0
Lane Group Flow (vph)	0	1365	74	332	652	0	0	0	0	132	91	0
Heavy Vehicles (%)	2%	2%	6%	4%	3%	2%	2%	2%	2%	7%	2%	4%
Turn Type		NA	Perm	Prot	NA					Perm	NA	
Protected Phases		2		1	2						4	12
Permitted Phases			2							4	12	
Actuated Green, G (s)		25.0	25.0	27.0	57.0					23.0	23.0	
Effective Green, g (s)		25.0	25.0	27.0	57.0					23.0	23.0	
Actuated g/C Ratio		0.28	0.28	0.30	0.63					0.26	0.26	
Clearance Time (s)		5.0	5.0	5.0								
Vehicle Extension (s)		3.0	3.0	3.0								
Lane Grp Cap (vph)		1412	423	520	2219					431	396	
v/s Ratio Prot		c0.27		c0.19	0.19						0.06	
v/s Ratio Perm			0.05							c0.08		
v/c Ratio		0.97	0.18	0.64	0.29					0.31	0.23	
Uniform Delay, d1		32.1	24.7	27.3	7.4					27.1	26.5	
Progression Factor		0.81	0.97	0.15	0.22					1.00	1.00	
Incremental Delay, d2		10.3	0.4	0.5	0.2					0.4	0.3	
Delay (s)		36.4	24.2	4.8	1.8					27.5	26.8	
Level of Service		D	C	A	A					C	C	
Approach Delay (s/veh)		34.4			2.8			0.0			27.0	
Approach LOS		C			A			A			C	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			23.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			20.0			
Intersection Capacity Utilization			72.9%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis
19: US-75 NB Ramps & 151st St

2030 Total PM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			  							
Traffic Volume (vph)	395	1027	0	0	815	220	119	5	335	0	0	0
Future Volume (vph)	395	1027	0	0	815	220	119	5	335	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0	5.0	5.0				
Lane Util. Factor	1.00	0.95			0.91	1.00	1.00	1.00				
Frt	1.00	1.00			1.00	0.85	1.00	0.85				
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (prot)	1719	3539			5036	1524	1805	1619				
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00				
Satd. Flow (perm)	1719	3539			5036	1524	1805	1619				
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	416	1081	0	0	858	232	125	5	353	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	193	0	85	0	0	0	0
Lane Group Flow (vph)	416	1081	0	0	858	39	125	273	0	0	0	0
Heavy Vehicles (%)	5%	2%	2%	2%	3%	6%	0%	0%	0%	2%	2%	2%
Turn Type	Prot	NA			NA	Perm	Perm	NA				
Protected Phases	5	5 6			6			8 16				
Permitted Phases						6	8 16					
Actuated Green, G (s)	37.0	57.0			15.0	15.0	23.0	23.0				
Effective Green, g (s)	37.0	57.0			15.0	15.0	23.0	23.0				
Actuated g/C Ratio	0.41	0.63			0.17	0.17	0.26	0.26				
Clearance Time (s)	5.0				5.0	5.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	706	2241			839	254	461	413				
v/s Ratio Prot	c0.24	0.31			c0.17			c0.17				
v/s Ratio Perm						0.03	0.07					
v/c Ratio	0.59	0.48			1.02	0.15	0.27	0.66				
Uniform Delay, d1	20.6	8.7			37.5	32.1	26.8	30.0				
Progression Factor	0.10	0.28			0.75	0.91	1.00	1.00				
Incremental Delay, d2	1.1	0.1			33.2	0.2	0.3	3.9				
Delay (s)	3.2	2.5			61.4	29.5	27.1	34.0				
Level of Service	A	A			E	C	C	C				
Approach Delay (s/veh)		2.7			54.6			32.2			0.0	
Approach LOS		A			D			C			A	
Intersection Summary												
HCM 2000 Control Delay (s/veh)			25.8									
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			90.0									
Intersection Capacity Utilization			72.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM 7th Signalized Intersection Summary
20: S Broadway St & 151st St

2030 Total PM - Signals Modified
US 75 & 151st Analysis

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (veh/h)	165	1135	62	20	760	105	52	5	15	75	5	223
Future Volume (veh/h)	165	1135	62	20	760	105	52	5	15	75	5	223
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1885	1885	1900	1900	1870	1870	1900	1900	1900	1900	1900	1885
Adj Flow Rate, veh/h	183	1195	69	22	800	117	58	6	17	83	6	248
Peak Hour Factor	0.90	0.95	0.90	0.90	0.95	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	0	0	2	2	0	0	0	0	0	1
Cap, veh/h	218	1915	861	43	1358	199	348	317	268	407	336	283
Arrive On Green	0.12	0.53	0.53	0.02	0.44	0.44	0.04	0.17	0.17	0.05	0.18	0.18
Sat Flow, veh/h	1795	3582	1610	1810	3110	455	1810	1900	1610	1810	1900	1598
Grp Volume(v), veh/h	183	1195	69	22	457	460	58	6	17	83	6	248
Grp Sat Flow(s),veh/h/ln	1795	1791	1610	1810	1777	1788	1810	1900	1610	1810	1900	1598
Q Serve(g_s), s	9.0	21.0	1.9	1.1	17.6	17.6	2.4	0.2	0.8	3.4	0.2	13.6
Cycle Q Clear(g_c), s	9.0	21.0	1.9	1.1	17.6	17.6	2.4	0.2	0.8	3.4	0.2	13.6
Prop In Lane	1.00		1.00	1.00		0.25	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	218	1915	861	43	776	781	348	317	268	407	336	283
V/C Ratio(X)	0.84	0.62	0.08	0.52	0.59	0.59	0.17	0.02	0.06	0.20	0.02	0.88
Avail Cap(c_a), veh/h	259	1915	861	201	776	781	472	317	268	512	336	283
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)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	14.6	10.2	43.4	19.2	19.2	29.1	31.3	31.6	28.7	30.6	36.1
Incr Delay (d2), s/veh	16.3	1.3	0.2	9.4	3.3	3.2	0.2	0.1	0.5	0.2	0.1	29.6
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	4.6	7.2	0.7	0.6	6.9	7.0	1.0	0.1	0.3	1.5	0.1	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.0	16.0	10.3	52.8	22.5	22.5	29.3	31.5	32.0	29.0	30.7	65.7
LnGrp LOS	D	B	B	D	C	C	C	C	C	C	C	E
Approach Vol, veh/h	1447			939			81			337		
Approach Delay, s/veh	20.6			23.2			30.0			56.0		
Approach LOS	C			C			C			E		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.1	53.1	8.8	20.9	15.9	44.3	9.8	20.0				
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	10.0	35.0	10.0	15.0	13.0	32.0	10.0	15.0				
Max Q Clear Time (g_c+I1), s	3.1	23.0	4.4	15.6	11.0	19.6	5.4	2.8				
Green Ext Time (p_c), s	0.0	5.9	0.0	0.0	0.1	4.0	0.1	0.0				
Intersection Summary												
HCM 7th Control Delay, s/veh	26.0											
HCM 7th LOS	C											

ATTACHMENT G

SIGNALIZED QUEUES

Queues
1: Yukon Ave. & 151st St

2025 Total AM - Signals Existing
US 75 & 151st Analysis

					
Lane Group	EBL	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	7	668	53	609	158
v/c Ratio	0.05	0.58	0.60	0.34	0.26
Control Delay (s/veh)	38.5	29.9	54.4	4.5	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.5	29.9	54.4	4.5	2.5
Queue Length 50th (ft)	4	190	14	24	0
Queue Length 95th (ft)	16	256	m#43	44	16
Internal Link Dist (ft)		804		856	323
Turn Bay Length (ft)	265		200		
Base Capacity (vph)	211	1146	109	1811	602
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.58	0.49	0.34	0.26

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
18: US-75 SB Ramps & 151st St

2025 Total AM - Signals Existing
US 75 & 151st Analysis

	→	↙	←	↓
Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	785	268	526	289
v/c Ratio	1.02	0.46	0.25	0.49
Control Delay (s/veh)	63.3	3.6	2.3	11.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	63.3	3.6	2.3	11.6
Queue Length 50th (ft)	~78	0	4	36
Queue Length 95th (ft)	#213	m0	m3	107
Internal Link Dist (ft)	856		312	403
Turn Bay Length (ft)				
Base Capacity (vph)	767	578	2141	585
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.02	0.46	0.25	0.49

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
19: US-75 NB Ramps & 151st St

2025 Total AM - Signals Existing
US 75 & 151st Analysis

					
Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	95	768	735	263	357
v/c Ratio	0.18	0.36	0.94	0.52	0.60
Control Delay (s/veh)	1.0	4.6	39.8	4.6	16.0
Queue Delay	0.0	0.7	0.0	0.0	0.0
Total Delay (s/veh)	1.0	5.4	39.8	4.6	16.0
Queue Length 50th (ft)	0	14	154	1	92
Queue Length 95th (ft)	m0	m10	#317	m0	223
Internal Link Dist (ft)		312	774		432
Turn Bay Length (ft)				50	
Base Capacity (vph)	527	2121	778	505	596
Starvation Cap Reductn	0	949	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.66	0.94	0.52	0.60
Intersection Summary					
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.					
m Volume for 95th percentile queue is metered by upstream signal.					

Queues

20: S Broadway St & 151st St

2025 Total AM - Signals Existing

US 75 & 151st Analysis

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	267	721	72	33	762	39	11	17	22	6	117
v/c Ratio	0.79	0.44	0.09	0.24	0.71	0.27	0.02	0.03	0.17	0.01	0.22
Control Delay (s/veh)	64.7	7.2	0.2	42.2	32.1	42.6	28.7	0.1	41.4	30.8	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	64.7	7.2	0.2	42.2	32.1	42.6	28.7	0.1	41.4	30.8	0.9
Queue Length 50th (ft)	145	57	0	18	204	22	4	0	12	3	0
Queue Length 95th (ft)	#220	78	m0	47	278	52	20	0	36	14	1
Internal Link Dist (ft)		774			760		423			100	
Turn Bay Length (ft)	425		280	425		285		220			
Base Capacity (vph)	389	1623	810	194	1074	194	524	594	192	461	537
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.44	0.09	0.17	0.71	0.20	0.02	0.03	0.11	0.01	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

1: Yukon Ave. & 151st St

2025 Total PM - Signals Existing

US 75 & 151st Analysis

					
Lane Group	EBL	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	35	921	59	523	136
v/c Ratio	0.24	0.75	0.63	0.32	0.22
Control Delay (s/veh)	42.1	33.0	74.8	5.0	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.1	33.0	74.8	5.0	1.6
Queue Length 50th (ft)	19	271	26	25	0
Queue Length 95th (ft)	44	#391	#67	42	5
Internal Link Dist (ft)		804		856	323
Turn Bay Length (ft)	265		200		
Base Capacity (vph)	200	1226	110	1623	609
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.18	0.75	0.54	0.32	0.22

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
18: US-75 SB Ramps & 151st St

2025 Total PM - Signals Existing
US 75 & 151st Analysis

	→	↙	←	↓
Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	1021	284	437	248
v/c Ratio	1.10	0.57	0.20	0.41
Control Delay (s/veh)	84.0	5.0	2.3	8.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay (s/veh)	84.0	5.0	2.3	8.4
Queue Length 50th (ft)	~316	0	2	18
Queue Length 95th (ft)	#450	m0	m2	78
Internal Link Dist (ft)	856		312	403
Turn Bay Length (ft)				
Base Capacity (vph)	932	501	2141	602
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.10	0.57	0.20	0.41

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
19: US-75 NB Ramps & 151st St

2025 Total PM - Signals Existing
US 75 & 151st Analysis

					
Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	111	847	668	200	363
v/c Ratio	0.17	0.39	1.07	0.45	0.61
Control Delay (s/veh)	1.1	3.8	82.0	4.3	19.1
Queue Delay	0.0	1.1	0.0	0.0	0.0
Total Delay (s/veh)	1.1	4.9	82.0	4.3	19.1
Queue Length 50th (ft)	1	13	~231	1	88
Queue Length 95th (ft)	m1	m8	#326	2	182
Internal Link Dist (ft)		312	774		432
Turn Bay Length (ft)				50	
Base Capacity (vph)	649	2162	623	440	592
Starvation Cap Reductn	0	1003	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.17	0.73	1.07	0.45	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
20: S Broadway St & 151st St

2025 Total PM - Signals Existing
US 75 & 151st Analysis

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	172	784	44	17	647	39	6	11	61	6	117
v/c Ratio	0.65	0.44	0.05	0.13	0.52	0.26	0.02	0.02	0.38	0.01	0.21
Control Delay (s/veh)	58.8	7.7	0.1	40.9	24.8	42.4	31.4	0.1	44.7	30.8	0.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.8	7.7	0.1	40.9	24.8	42.4	31.4	0.1	44.7	30.8	0.9
Queue Length 50th (ft)	90	51	0	9	150	21	3	0	33	3	0
Queue Length 95th (ft)	143	165	m0	29	213	51	14	0	71	14	1
Internal Link Dist (ft)		774			760		423			100	
Turn Bay Length (ft)	425		280	425		285		220			
Base Capacity (vph)	317	1788	880	200	1235	200	400	503	200	462	545
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.44	0.05	0.09	0.52	0.20	0.02	0.02	0.31	0.01	0.21

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues
1: Yukon Ave. & 151st St

2030 Total AM - Signals Existing
US 75 & 151st Analysis

							
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	9	859	217	699	72	258	180
v/c Ratio	0.08	1.42	3.56	0.32	0.20	0.44	0.97
Control Delay (s/veh)	53.4	234.3	Error	2.7	36.9	8.0	109.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	53.4	234.3	Error	2.7	36.9	8.0	109.5
Queue Length 50th (ft)	7	~487	~298	20	45	8	~160
Queue Length 95th (ft)	23	#623	m#426	m57	80	62	#292
Internal Link Dist (ft)		804		856		558	323
Turn Bay Length (ft)	265		200				
Base Capacity (vph)	158	606	61	2213	363	583	185
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.06	1.42	3.56	0.32	0.20	0.44	0.97

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
18: US-75 SB Ramps & 151st St

2030 Total AM - Signals Existing
US 75 & 151st Analysis

	→	↙	←	↓
Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	1130	311	680	401
v/c Ratio	0.99	0.51	0.27	0.95
Control Delay (s/veh)	22.9	1.3	0.6	62.4
Queue Delay	0.9	4.9	2.3	0.0
Total Delay (s/veh)	23.8	6.1	2.9	62.4
Queue Length 50th (ft)	483	0	2	201
Queue Length 95th (ft)	m103	m0	m2	#400
Internal Link Dist (ft)	856		312	403
Turn Bay Length (ft)				
Base Capacity (vph)	1143	607	2541	423
Starvation Cap Reductn	0	225	1683	0
Spillback Cap Reductn	5	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.99	0.81	0.79	0.95
Intersection Summary				
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.				
m Volume for 95th percentile queue is metered by upstream signal.				

Queues
19: US-75 NB Ramps & 151st St

2030 Total AM - Signals Existing
US 75 & 151st Analysis

					
Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	257	937	885	300	442
v/c Ratio	0.40	0.39	1.04	0.61	0.98
Control Delay (s/veh)	1.5	2.0	66.2	10.6	72.2
Queue Delay	1.8	3.4	4.1	0.0	0.0
Total Delay (s/veh)	3.3	5.4	70.2	10.6	72.2
Queue Length 50th (ft)	1	8	~402	118	371
Queue Length 95th (ft)	m2	m8	#518	104	#671
Internal Link Dist (ft)		312	774		432
Turn Bay Length (ft)				50	
Base Capacity (vph)	646	2400	847	492	451
Starvation Cap Reductn	245	1336	0	0	0
Spillback Cap Reductn	0	0	9	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.64	0.88	1.06	0.61	0.98

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

20: S Broadway St & 151st St

2030 Total AM - Signals Existing

US 75 & 151st Analysis

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	272	921	94	44	1096	61	17	22	28	6	168
v/c Ratio	0.81	0.46	0.10	0.37	0.72	0.48	0.05	0.05	0.26	0.02	0.44
Control Delay (s/veh)	73.0	6.5	0.5	61.8	32.0	65.8	45.5	0.3	58.9	46.4	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	73.0	6.5	0.5	61.8	32.0	65.8	45.5	0.3	58.9	46.4	11.0
Queue Length 50th (ft)	194	99	0	34	368	47	11	0	22	4	0
Queue Length 95th (ft)	m242	m118	m4	74	483	94	34	0	53	17	66
Internal Link Dist (ft)		774			760		423			100	
Turn Bay Length (ft)	425		280	425		285		220			
Base Capacity (vph)	408	1994	947	146	1514	146	346	421	144	292	383
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.46	0.10	0.30	0.72	0.42	0.05	0.05	0.19	0.02	0.44

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues
1: Yukon Ave. & 151st St

2030 Total PM - Signals Existing
US 75 & 151st Analysis

							
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT
Lane Group Flow (vph)	41	1232	363	639	106	502	174
v/c Ratio	0.37	1.77	6.37	0.35	0.25	0.61	1.85
Control Delay (s/veh)	67.1	382.4	Error	6.0	34.3	7.3	449.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	67.1	382.4	Error	6.0	34.3	7.3	449.7
Queue Length 50th (ft)	34	~837	~596	81	66	16	~224
Queue Length 95th (ft)	68	#981	m#690	m97	107	77	#353
Internal Link Dist (ft)		804		856		558	323
Turn Bay Length (ft)	265		200				
Base Capacity (vph)	138	697	57	1817	423	829	94
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	1.77	6.37	0.35	0.25	0.61	1.85

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
18: US-75 SB Ramps & 151st St

2030 Total PM - Signals Existing
US 75 & 151st Analysis

	→	↙	←	↓
Lane Group	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	1629	332	652	436
v/c Ratio	1.15	0.67	0.25	1.02
Control Delay (s/veh)	92.8	4.9	1.8	84.4
Queue Delay	0.0	22.0	3.8	0.0
Total Delay (s/veh)	92.8	26.8	5.6	84.4
Queue Length 50th (ft)	~882	0	3	~291
Queue Length 95th (ft)	m176	m0	m2	#506
Internal Link Dist (ft)	856		312	403
Turn Bay Length (ft)				
Base Capacity (vph)	1411	494	2561	426
Starvation Cap Reductn	0	158	1796	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	1.15	0.99	0.85	1.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
19: US-75 NB Ramps & 151st St

2030 Total PM - Signals Existing
US 75 & 151st Analysis

					
Lane Group	EBL	EBT	WBT	WBR	NBT
Lane Group Flow (vph)	416	1081	858	232	483
v/c Ratio	0.50	0.42	1.18	0.54	1.21
Control Delay (s/veh)	1.0	0.9	126.8	11.5	150.8
Queue Delay	4.4	5.2	0.2	0.0	0.0
Total Delay (s/veh)	5.3	6.1	127.0	11.5	150.8
Queue Length 50th (ft)	3	6	~468	102	~430
Queue Length 95th (ft)	m2	m5	#607	77	#649
Internal Link Dist (ft)		312	774		432
Turn Bay Length (ft)				50	
Base Capacity (vph)	833	2586	727	429	400
Starvation Cap Reductn	333	1424	0	0	0
Spillback Cap Reductn	0	0	21	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.83	0.93	1.22	0.54	1.21

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

20: S Broadway St & 151st St

2030 Total PM - Signals Existing

US 75 & 151st Analysis

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	183	1195	69	22	917	58	6	17	83	6	248
v/c Ratio	0.72	0.58	0.07	0.22	0.57	0.46	0.02	0.04	0.55	0.02	0.49
Control Delay (s/veh)	64.0	15.9	1.1	63.4	28.0	69.4	48.2	0.2	70.0	46.0	9.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	64.0	15.9	1.1	63.4	28.0	69.4	48.2	0.2	70.0	46.0	9.2
Queue Length 50th (ft)	130	456	3	18	293	48	4	0	68	4	0
Queue Length 95th (ft)	m158	m550	m8	47	396	94	18	0	121	17	77
Internal Link Dist (ft)	774				760				100		
Turn Bay Length (ft)	425		280	425		285	220				
Base Capacity (vph)	343	2066	976	138	1597	152	307	381	194	366	508
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.58	0.07	0.16	0.57	0.38	0.02	0.04	0.43	0.02	0.49

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues

1: Yukon Ave. & 151st St

2025 Total AM - Signals Modified

US 75 & 151st Analysis

					
Lane Group	EBL	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	7	668	53	609	158
v/c Ratio	0.05	0.56	0.43	0.38	0.24
Control Delay (s/veh)	33.5	26.6	53.9	4.5	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.5	26.6	53.9	4.5	1.5
Queue Length 50th (ft)	3	170	22	18	0
Queue Length 95th (ft)	14	#255	53	33	6
Internal Link Dist (ft)		804		856	323
Turn Bay Length (ft)	265		200		
Base Capacity (vph)	237	1193	153	1609	671
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.03	0.56	0.35	0.38	0.24

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
18: US-75 SB Ramps & 151st St

2025 Total AM - Signals Modified
US 75 & 151st Analysis

	→	↘	↙	←	↗	↓
Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	711	74	268	526	163	126
v/c Ratio	0.76	0.16	0.49	0.27	0.32	0.18
Control Delay (s/veh)	39.5	3.1	6.5	3.3	23.3	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	39.5	3.1	6.5	3.3	23.3	0.6
Queue Length 50th (ft)	67	1	0	0	68	0
Queue Length 95th (ft)	147	m17	m0	m0	123	0
Internal Link Dist (ft)	856			312		403
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	935	471	542	1971	503	686
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.16	0.49	0.27	0.32	0.18
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

Queues
19: US-75 NB Ramps & 151st St

2025 Total AM - Signals Modified
US 75 & 151st Analysis

						
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	95	768	735	263	63	294
v/c Ratio	0.19	0.39	0.78	0.52	0.12	0.48
Control Delay (s/veh)	1.9	4.6	26.4	5.8	20.6	11.6
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0
Total Delay (s/veh)	1.9	5.0	26.4	5.8	20.6	11.6
Queue Length 50th (ft)	0	0	67	0	24	57
Queue Length 95th (ft)	m0	231	m90	m0	55	152
Internal Link Dist (ft)		312	774			432
Turn Bay Length (ft)				200	500	
Base Capacity (vph)	494	1952	944	504	512	612
Starvation Cap Reductn	0	675	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.60	0.78	0.52	0.12	0.48
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

Queues
20: S Broadway St & 151st St

2025 Total AM - Signals Modified
US 75 & 151st Analysis

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	267	721	72	33	762	39	11	17	22	6	117
v/c Ratio	0.81	0.48	0.09	0.21	0.86	0.08	0.02	0.03	0.05	0.01	0.19
Control Delay (s/veh)	63.2	8.0	0.2	36.6	40.6	16.6	23.2	0.1	16.4	25.0	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	63.2	8.0	0.2	36.6	40.6	16.6	23.2	0.1	16.4	25.0	0.7
Queue Length 50th (ft)	126	42	0	16	194	13	3	0	7	2	0
Queue Length 95th (ft)	#233	102	0	42	#303	32	17	0	22	12	0
Internal Link Dist (ft)		774			760		423			100	
Turn Bay Length (ft)	425		280	425		285		220			
Base Capacity (vph)	350	1502	771	219	882	531	599	667	534	535	608
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.48	0.09	0.15	0.86	0.07	0.02	0.03	0.04	0.01	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues

1: Yukon Ave. & 151st St

2025 Total PM - Signals Modified

US 75 & 151st Analysis

					
Lane Group	EBL	EBT	WBL	WBT	SBT
Lane Group Flow (vph)	35	921	59	523	136
v/c Ratio	0.22	0.67	0.33	0.37	0.21
Control Delay (s/veh)	36.6	24.8	55.1	5.4	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	36.6	24.8	55.1	5.4	2.8
Queue Length 50th (ft)	17	220	32	23	0
Queue Length 95th (ft)	40	#331	67	37	20
Internal Link Dist (ft)		804		856	323
Turn Bay Length (ft)	265		200		
Base Capacity (vph)	225	1383	225	1402	636
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.16	0.67	0.26	0.37	0.21

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Queues
18: US-75 SB Ramps & 151st St

2025 Total PM - Signals Modified
US 75 & 151st Analysis

						
Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	842	179	284	437	116	132
v/c Ratio	0.88	0.38	0.49	0.21	0.24	0.18
Control Delay (s/veh)	35.4	4.7	5.5	1.3	23.5	0.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	35.4	4.7	5.5	1.3	23.5	0.5
Queue Length 50th (ft)	157	25	0	0	47	0
Queue Length 95th (ft)	#226	28	m220	0	91	0
Internal Link Dist (ft)	856			312		403
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	953	474	585	2059	485	744
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.38	0.49	0.21	0.24	0.18
Intersection Summary						
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.						
m Volume for 95th percentile queue is metered by upstream signal.						

Queues
19: US-75 NB Ramps & 151st St

2025 Total PM - Signals Modified
US 75 & 151st Analysis

						
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	111	847	668	200	53	310
v/c Ratio	0.19	0.41	0.71	0.42	0.10	0.53
Control Delay (s/veh)	0.7	3.9	23.2	4.0	21.7	14.8
Queue Delay	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay (s/veh)	0.7	4.6	23.2	4.0	21.7	14.8
Queue Length 50th (ft)	0	0	49	0	19	57
Queue Length 95th (ft)	m0	m250	88	m0	46	133
Internal Link Dist (ft)		312	774			432
Turn Bay Length (ft)				200	500	
Base Capacity (vph)	580	2079	944	474	518	582
Starvation Cap Reductn	0	828	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.68	0.71	0.42	0.10	0.53
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

Queues

20: S Broadway St & 151st St

2025 Total PM - Signals Modified

US 75 & 151st Analysis

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	172	784	44	17	647	39	6	11	61	6	117
v/c Ratio	0.63	0.47	0.05	0.12	0.65	0.08	0.01	0.02	0.12	0.01	0.21
Control Delay (s/veh)	54.4	6.1	0.1	35.6	28.6	16.7	25.6	0.1	17.0	24.8	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.4	6.1	0.1	35.6	28.6	16.7	25.6	0.1	17.0	24.8	2.8
Queue Length 50th (ft)	85	44	0	8	147	12	2	0	19	2	0
Queue Length 95th (ft)	137	113	m0	27	214	31	12	0	44	12	20
Internal Link Dist (ft)		774			760		423			100	
Turn Bay Length (ft)	425		280	425		285		220			
Base Capacity (vph)	335	1673	843	225	996	549	524	564	551	536	569
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.47	0.05	0.08	0.65	0.07	0.01	0.02	0.11	0.01	0.21

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Queues
1: Yukon Ave. & 151st St

2030 Total AM - Signals Modified
US 75 & 151st Analysis

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	9	859	212	699	72	13	245	180
v/c Ratio	0.06	0.71	0.59	0.42	0.14	0.02	0.28	0.48
Control Delay (s/veh)	38.4	29.0	63.6	6.5	19.0	17.7	9.7	33.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	38.4	29.0	63.6	6.5	19.0	17.7	9.7	33.4
Queue Length 50th (ft)	5	226	58	27	27	5	55	85
Queue Length 95th (ft)	18	298	95	261	52	16	91	148
Internal Link Dist (ft)		804		856		558		323
Turn Bay Length (ft)	265		200				200	
Base Capacity (vph)	211	1210	381	1655	531	703	884	376
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.71	0.56	0.42	0.14	0.02	0.28	0.48
Intersection Summary								

Queues
18: US-75 SB Ramps & 151st St

2030 Total AM - Signals Modified
US 75 & 151st Analysis

	→	↘	↙	←	↗	↓
Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	1015	115	311	680	179	222
v/c Ratio	0.83	0.22	0.58	0.32	0.40	0.37
Control Delay (s/veh)	16.2	0.3	6.9	3.5	29.7	4.1
Queue Delay	0.0	0.0	0.6	0.6	0.0	0.0
Total Delay (s/veh)	16.2	0.3	7.5	4.1	29.7	4.1
Queue Length 50th (ft)	76	0	0	0	91	0
Queue Length 95th (ft)	m72	m0	m0	m0	156	36
Internal Link Dist (ft)	856			312		612
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	1219	524	540	2141	447	596
Starvation Cap Reductn	0	0	55	1026	0	0
Spillback Cap Reductn	0	0	0	0	6	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.22	0.64	0.61	0.41	0.37
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

Queues
19: US-75 NB Ramps & 151st St

2030 Total AM - Signals Modified
US 75 & 151st Analysis

						
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	257	937	885	300	105	337
v/c Ratio	0.46	0.44	0.88	0.55	0.23	0.63
Control Delay (s/veh)	4.0	3.8	22.2	4.6	26.8	21.7
Queue Delay	0.0	1.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	4.0	4.8	22.2	4.6	26.8	21.7
Queue Length 50th (ft)	0	0	126	29	50	130
Queue Length 95th (ft)	m0	m0	m147	m32	96	260
Internal Link Dist (ft)		312	774			670
Turn Bay Length (ft)				200	500	
Base Capacity (vph)	562	2121	1007	550	455	538
Starvation Cap Reductn	0	852	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.74	0.88	0.55	0.23	0.63
Intersection Summary						
m Volume for 95th percentile queue is metered by upstream signal.						

Queues

20: S Broadway St & 151st St

2030 Total AM - Signals Modified

US 75 & 151st Analysis

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	272	921	94	44	1096	61	17	22	28	6	168
v/c Ratio	0.93	0.57	0.12	0.30	0.94	0.14	0.03	0.04	0.07	0.01	0.36
Control Delay (s/veh)	89.3	8.1	0.3	43.2	44.5	21.8	28.1	0.2	21.2	31.0	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	89.3	8.1	0.3	43.2	44.5	21.8	28.1	0.2	21.2	31.0	7.9
Queue Length 50th (ft)	171	76	0	25	315	24	6	0	11	3	0
Queue Length 95th (ft)	#324	112	m0	57	#452	53	26	0	30	14	55
Internal Link Dist (ft)		774			760		423			100	
Turn Bay Length (ft)	425		280	425		285		220			
Base Capacity (vph)	292	1609	804	194	1171	445	527	553	456	410	470
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.93	0.57	0.12	0.23	0.94	0.14	0.03	0.04	0.06	0.01	0.36

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
1: Yukon Ave. & 151st St

2030 Total PM - Signals Modified
US 75 & 151st Analysis

								
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBT
Lane Group Flow (vph)	41	1232	362	639	106	27	475	174
v/c Ratio	0.27	0.91	0.95	0.39	0.23	0.04	0.59	0.57
Control Delay (s/veh)	42.6	37.3	93.3	7.3	22.9	20.7	18.8	41.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	42.6	37.3	93.3	7.3	22.9	20.7	18.8	41.1
Queue Length 50th (ft)	22	346	115	41	43	10	176	89
Queue Length 95th (ft)	50	#487	#184	92	77	27	252	#164
Internal Link Dist (ft)		804		856		558		323
Turn Bay Length (ft)	265		200				200	
Base Capacity (vph)	200	1352	381	1619	464	621	803	306
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.91	0.95	0.39	0.23	0.04	0.59	0.57

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Queues
18: US-75 SB Ramps & 151st St

2030 Total PM - Signals Modified
US 75 & 151st Analysis

	→	↘	↙	←	↗	↓
Lane Group	EBT	EBR	WBL	WBT	SBL	SBT
Lane Group Flow (vph)	1365	264	332	652	132	304
v/c Ratio	0.97	0.43	0.64	0.29	0.31	0.50
Control Delay (s/veh)	37.7	4.6	4.9	1.8	29.5	7.5
Queue Delay	7.0	0.0	0.6	0.0	0.0	0.0
Total Delay (s/veh)	44.7	4.6	5.4	1.8	29.5	7.5
Queue Length 50th (ft)	224	3	0	0	64	8
Queue Length 95th (ft)	m#363	m19	m0	m0	117	74
Internal Link Dist (ft)	856			312		612
Turn Bay Length (ft)		200			500	
Base Capacity (vph)	1412	613	520	2219	431	609
Starvation Cap Reductn	0	0	36	0	0	0
Spillback Cap Reductn	53	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.43	0.69	0.29	0.31	0.50

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues
19: US-75 NB Ramps & 151st St

2030 Total PM - Signals Modified
US 75 & 151st Analysis

						
Lane Group	EBL	EBT	WBT	WBR	NBL	NBT
Lane Group Flow (vph)	416	1081	858	232	125	358
v/c Ratio	0.59	0.48	1.02	0.52	0.27	0.72
Control Delay (s/veh)	3.3	2.8	63.3	8.0	28.8	29.9
Queue Delay	5.6	3.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	8.9	5.8	63.3	8.0	28.8	29.9
Queue Length 50th (ft)	0	0	~135	0	57	127
Queue Length 95th (ft)	m0	m0	#269	m46	105	#231
Internal Link Dist (ft)		312	774			670
Turn Bay Length (ft)				200	500	
Base Capacity (vph)	706	2241	839	447	461	498
Starvation Cap Reductn	227	1020	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.89	1.02	0.52	0.27	0.72
Intersection Summary						
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.						
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.						
m Volume for 95th percentile queue is metered by upstream signal.						

Queues

20: S Broadway St & 151st St

2030 Total PM - Signals Modified

US 75 & 151st Analysis

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	183	1195	69	22	917	58	6	17	83	6	248
v/c Ratio	0.76	0.67	0.08	0.17	0.72	0.13	0.02	0.04	0.19	0.01	0.46
Control Delay (s/veh)	57.6	14.1	0.6	41.4	28.2	21.8	31.4	0.1	22.4	30.8	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	57.6	14.1	0.6	41.4	28.2	21.8	31.4	0.1	22.4	30.8	7.6
Queue Length 50th (ft)	78	82	0	12	234	22	3	0	33	3	0
Queue Length 95th (ft)	m#179	457	m5	35	308	50	14	0	66	14	64
Internal Link Dist (ft)		774			760		423			100	
Turn Bay Length (ft)	425		280	425		285		220			
Base Capacity (vph)	258	1782	877	200	1277	471	400	455	472	413	542
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.71	0.67	0.08	0.11	0.72	0.12	0.02	0.04	0.18	0.01	0.46

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

ATTACHMENT H

ROUNDAABOUT RESULTS

HCS Roundabouts Report

General Information			Site Information		
Analyst	MSH		Intersection	Broadway St. & 151st	
Agency or Co.	TEC		E/W Street Name	151st Street	
Date Performed	10/9/2025		N/S Street Name	Broadway Street	
Analysis Year	2025		Analysis Time Period, hrs	0.25	
Time Analyzed	AM Peak Hour		Peak Hour Factor	0.92	
Project Description	US 75 & 151st Street Study		Jurisdiction	District 8	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0
Lane Assignment	LT		TR		LT		TR				LTR				LTR	
Volume (V), veh/h	0	240	685	65	0	30	635	85	0	35	10	15	0	20	5	105
Percent Heavy Vehicles, %	0	3	4	3	0	3	2	1	0	3	0	0	0	4	0	3
Flow Rate (v _{PCE}), pc/h	0	269	774	73	0	34	704	93	0	39	11	16	0	23	5	118
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436		4.5436	4.5436			4.3276			4.3276	
Follow-Up Headway, s	2.5352	2.5352		2.5352	2.5352			2.5352			2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	525	591		391	440			66			146	
Entry Volume, veh/h	506	570		383	432			65			142	
Circulating Flow (v_c), pc/h	62			319			1066			777		
Exiting Flow (v_{ex}), pc/h	813			861			373			112		
Capacity (C_{pce}), pc/h	1342	1342		1062	1062			574			734	
Capacity (c), veh/h	1294	1294		1042	1042			564			712	
v/c Ratio (x)	0.39	0.44		0.37	0.41			0.12			0.20	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	6.5	7.2		7.3	8.0			7.8			7.3	
Lane LOS	A	A		A	A			A			A	
95% Queue Length, Q ₉₅ (veh)	1.9	2.3		1.7	2.1			0.4			0.7	
95% Queue Length, Q ₉₅ (ft)	48.9	59.3		43.2	53.3			10.1			17.9	
Approach Delay, s/veh LOS	6.9		A	7.6		A	7.8		A	7.3		A
Intersection Delay, s/veh LOS	7.2						A					

HCS Roundabouts Report

General Information			Site Information		
Analyst	MSH		Intersection	US 75 & 151st - NB Ramps	
Agency or Co.	TEC		E/W Street Name	151st Street	
Date Performed	10/9/2025		N/S Street Name	US 75	
Analysis Year	2025		Analysis Time Period, hrs	0.25	
Time Analyzed	AM Peak Hour		Peak Hour Factor	0.92	
Project Description	US 75 & 151st Street Study		Jurisdiction	District 8	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0
Lane Assignment	LT		T		T		TR				LT					
Volume (V), veh/h	0	90	730		0		695	250	0	60	5	275				
Percent Heavy Vehicles, %	0	14	4		3		3	4	3	10	50	3				
Flow Rate (v _{PCE}), pc/h	0	112	825		0		778	283	0	72	8	308				
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes	1				1				2							
Pedestrians Crossing, p/h	0				0				0							
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436		4.5436	4.5436			4.3276	4.9763			
Follow-Up Headway, s	2.5352	2.5352		2.5352	2.5352			2.5352	2.6087			

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	440	497		499	562			80	308			
Entry Volume, veh/h	419	473		483	545			71	299			
Circulating Flow (v_c), pc/h	0			192			937			850		
Exiting Flow (v_{ex}), pc/h	825			850			403			0		
Capacity (C_{pce}), pc/h	1420	1420		1192	1192			640	595			
Capacity (c), veh/h	1351	1351		1155	1155			567	578			
v/c Ratio (x)	0.31	0.35		0.42	0.47			0.12	0.52			

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	5.4	5.8		7.4	8.2			7.9	15.3			
Lane LOS	A	A		A	A			A	C			
95% Queue Length, Q ₉₅ (veh)	1.3	1.6		2.1	2.6			0.4	3.0			
95% Queue Length, Q ₉₅ (ft)	33.8	41.3		53.8	66.7			10.2	76.8			
Approach Delay, s/veh LOS	5.6		A	7.9		A	13.9		B			
Intersection Delay, s/veh LOS	8.0						A					

HCS Roundabouts Report

General Information			Site Information		
Analyst	MSH		Intersection	US 75 & 151st - SB Ramps	
Agency or Co.	TEC		E/W Street Name	151st Street	
Date Performed	10/9/2025		N/S Street Name	US 75	
Analysis Year	2025		Analysis Time Period, hrs	0.25	
Time Analyzed	AM Peak Hour		Peak Hour Factor	0.92	
Project Description	US 75 & 151st Street Study		Jurisdiction	District 8	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0
Lane Assignment	T		T		LT		T								LTR	
Volume (V), veh/h	0		675	70	0	255	500						0	155	0	120
Percent Heavy Vehicles, %	0		4	7	0	4	3						0	12	0	7
Flow Rate (v _{PCE}), pc/h	0		763	81	0	288	560						0	189	0	140
Right-Turn Bypass	Yielding				None				None				None			
Conflicting Lanes	1				1								2			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436	4.9763	4.5436	4.5436						4.3276	
Follow-Up Headway, s	2.5352	2.5352	2.6087	2.5352	2.5352						2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	359	404	81	399	449						329	
Entry Volume, veh/h	345	389	76	386	435						300	
Circulating Flow (v_c), pc/h	477			0			952			848		
Exiting Flow (v_{ex}), pc/h	952			700			0			288		
Capacity (C_{pce}), pc/h	920	920	1029	1420	1420						691	
Capacity (c), veh/h	885	885	961	1374	1374						629	
v/c Ratio (x)	0.39	0.44	0.08	0.28	0.32						0.48	

Delay and Level of Service

Approach	EB			WB			NB			SB				
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass		
Lane Control Delay (d), s/veh	8.6	9.4	4.5	5.0	5.4						13.2			
Lane LOS	A	A	A	A	A						B			
95% Queue Length, Q ₉₅ (veh)	1.9	2.3	0.3	1.2	1.4						2.6			
95% Queue Length, Q ₉₅ (ft)	49.0	59.3	7.9	30.8	35.8						70.1			
Approach Delay, s/veh LOS	8.6		A		5.2		A				13.2		B	
Intersection Delay, s/veh LOS	7.9						A							

HCS Roundabouts Report

General Information			Site Information		
Analyst	MSH		Intersection	Yukon Ave. & 151st	
Agency or Co.	TEC		E/W Street Name	151st Street	
Date Performed	10/9/2025		N/S Street Name	Yukon Ave.	
Analysis Year	2025		Analysis Time Period, hrs	0.25	
Time Analyzed	AM Peak Hour		Peak Hour Factor	0.92	
Project Description	US 75 & 151st Street Study		Jurisdiction	District 8	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0
Lane Assignment	LT		TR		LT		TR				LT				LTR	
Volume (V), veh/h	1	5	635	0	45	0	545	30	0	0	0	0	0	110	0	25
Percent Heavy Vehicles, %	0	0	4	2	4	2	4	3	3	2	2	2	3	2	0	0
Flow Rate (v _{PCE}), pc/h	1	5	718	0	51	0	616	34	0	0	0	0	0	122	0	27
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes	1				1				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436		4.5436	4.5436			4.3276	4.9763		4.3276	
Follow-Up Headway, s	2.5352	2.5352		2.5352	2.5352			2.5352	2.6087		2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	340	384		329	372			0	0		149	
Entry Volume, veh/h	327	369		317	357			0	0		147	
Circulating Flow (v_c), pc/h	173			6			897			668		
Exiting Flow (v_{ex}), pc/h	891			644			39			0		
Capacity (C_{PCE}), pc/h	1213	1213		1412	1412			662	556		805	
Capacity (c), veh/h	1167	1167		1359	1359			648	545		792	
v/c Ratio (x)	0.28	0.32		0.23	0.26			0.00	0.00		0.19	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	5.7	6.1		4.6	4.9			5.6	6.6		6.5	
Lane LOS	A	A		A	A			A	A		A	
95% Queue Length, Q ₉₅ (veh)	1.2	1.4		0.9	1.1			0.0	0.0		0.7	
95% Queue Length, Q ₉₅ (ft)	31.0	36.1		23.2	28.4			0.0	0.0		17.7	
Approach Delay, s/veh LOS	5.9		A	4.8		A				6.5		A
Intersection Delay, s/veh LOS	5.5						A					

HCS Roundabouts Report

General Information			Site Information		
Analyst	MSH		Intersection	Broadway St. & 151st	
Agency or Co.	TEC		E/W Street Name	151st Street	
Date Performed	10/9/2025		N/S Street Name	Broadway Street	
Analysis Year	2025		Analysis Time Period, hrs	0.25	
Time Analyzed	PM Peak Hour		Peak Hour Factor	0.92	
Project Description	US 75 & 151st Street Study		Jurisdiction	District 8	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0
Lane Assignment	LT		TR		LT		TR				LTR				LTR	
Volume (V), veh/h	0	155	745	40	0	15	530	80	0	35	5	10	0	55	5	165
Percent Heavy Vehicles, %	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	1
Flow Rate (v_{PCE}), pc/h	0	170	818	43	0	16	588	89	0	38	5	11	0	60	5	181
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436		4.5436	4.5436			4.3276			4.3276	
Follow-Up Headway, s	2.5352	2.5352		2.5352	2.5352			2.5352			2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	485	546		326	367			54			246	
Entry Volume, veh/h	480	541		319	360			54			244	
Circulating Flow (v_c), pc/h	81			213			1048			642		
Exiting Flow (v_{ex}), pc/h	889			807			264			64		
Capacity (C_{pce}), pc/h	1319	1319		1170	1170			583			823	
Capacity (c), veh/h	1307	1307		1147	1147			583			817	
v/c Ratio (x)	0.37	0.41		0.28	0.31			0.09			0.30	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	6.2	6.8		5.7	6.1			7.3			7.8	
Lane LOS	A	A		A	A			A			A	
95% Queue Length, Q ₉₅ (veh)	1.7	2.1		1.1	1.4			0.3			1.3	
95% Queue Length, Q ₉₅ (ft)	42.8	52.9		27.9	35.6			7.5			32.7	
Approach Delay, s/veh LOS	6.5		A	5.9		A	7.3		A	7.8		A
Intersection Delay, s/veh LOS	6.5						A					

HCS Roundabouts Report

General Information			Site Information		
Analyst	MSH		Intersection	US 75 & 151st - NB Ramps	
Agency or Co.	TEC		E/W Street Name	151st Street	
Date Performed	10/9/2025		N/S Street Name	US 75	
Analysis Year	2025		Analysis Time Period, hrs	0.25	
Time Analyzed	PM Peak Hour		Peak Hour Factor	0.92	
Project Description	US 75 & 151st Street Study		Jurisdiction	District 8	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0
Lane Assignment	LT		T		T		TR				LT					
Volume (V), veh/h	0	105	805		0		635	190	0	50	5	290				
Percent Heavy Vehicles, %	0	5	2		3		3	6	3	0	0	0				
Flow Rate (v _{PCE}), pc/h	0	120	892		0		711	219	0	54	5	315				
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes	1				1				2							
Pedestrians Crossing, p/h	0				0				0							
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436		4.5436	4.5436			4.3276	4.9763			
Follow-Up Headway, s	2.5352	2.5352		2.5352	2.5352			2.5352	2.6087			

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	476	536		437	493			59	315			
Entry Volume, veh/h	465	524		422	475			59	315			
Circulating Flow (v_c), pc/h	0			179			1012			765		
Exiting Flow (v_{ex}), pc/h	892			765			344			0		
Capacity (C_{PCE}), pc/h	1420	1420		1207	1207			601	556			
Capacity (c), veh/h	1387	1387		1164	1164			601	556			
v/c Ratio (x)	0.33	0.38		0.36	0.41			0.10	0.57			

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	5.6	6.0		6.7	7.3			7.1	17.5			
Lane LOS	A	A		A	A			A	C			
95% Queue Length, Q ₉₅ (veh)	1.5	1.8		1.7	2.0			0.3	3.5			
95% Queue Length, Q ₉₅ (ft)	38.2	45.7		43.5	51.5			7.5	87.5			
Approach Delay, s/veh LOS	5.8		A	7.0		A	15.8		C			
Intersection Delay, s/veh LOS	7.9						A					

HCS Roundabouts Report

General Information			Site Information		
Analyst	MSH		Intersection	US 75 & 151st - SB Ramps	
Agency or Co.	TEC		E/W Street Name	151st Street	
Date Performed	10/9/2025		N/S Street Name	US 75	
Analysis Year	2025		Analysis Time Period, hrs	0.25	
Time Analyzed	PM Peak Hour		Peak Hour Factor	0.92	
Project Description	US 75 & 151st Street Study		Jurisdiction	District 8	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0
Lane Assignment	T		T		LT		T								LTR	
Volume (V), veh/h	0		800	170	0	270	415						0	110	0	125
Percent Heavy Vehicles, %	0		2	6	3	4	3						3	7	0	4
Flow Rate (v _{PCE}), pc/h	0		887	196	0	305	465						0	128	0	141
Right-Turn Bypass	Yielding				None				None				None			
Conflicting Lanes	1				1								2			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436	4.9763	4.5436	4.5436						4.3276	
Follow-Up Headway, s	2.5352	2.5352	2.6087	2.5352	2.5352						2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	417	470	196	362	408						269	
Entry Volume, veh/h	409	461	185	350	395						255	
Circulating Flow (v_c), pc/h	433			0			1015			770		
Exiting Flow (v_{ex}), pc/h	1015			606			0			305		
Capacity (C_{PCE}), pc/h	958	958	1011	1420	1420						738	
Capacity (c), veh/h	939	939	954	1373	1373						700	
v/c Ratio (x)	0.44	0.49	0.19	0.25	0.29						0.36	

Delay and Level of Service

Approach	EB			WB			NB			SB				
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass		
Lane Control Delay (d), s/veh	8.9	9.9	5.6	4.8	5.1						9.9			
Lane LOS	A	A	A	A	A						A			
95% Queue Length, Q ₉₅ (veh)	2.2	2.8	0.7	1.0	1.2						1.7			
95% Queue Length, Q ₉₅ (ft)	55.9	71.1	18.3	25.7	30.7						44.3			
Approach Delay, s/veh LOS	8.8		A		5.0		A				9.9		A	
Intersection Delay, s/veh LOS	7.5						A							

HCS Roundabouts Report

General Information				Site Information			
Analyst	MSH		Intersection	Yukon Ave. & 151st			
Agency or Co.	TEC		E/W Street Name	151st Street			
Date Performed	10/9/2025		N/S Street Name	US 75			
Analysis Year	2025		Analysis Time Period, hrs	0.25			
Time Analyzed	PM Peak Hour		Peak Hour Factor	0.92			
Project Description	US 75 & 151st Street Study		Jurisdiction	District 8			

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0
Lane Assignment	LT		TR		LT		TR				LT				LTR	
Volume (V), veh/h	0	30	875	0	50	0	435	55	0	0	0	0	0	95	0	20
Percent Heavy Vehicles, %	0	0	0	3	0	2	3	0	3	2	2	2	3	0	0	5
Flow Rate (v _{PCE}), pc/h	0	33	951	0	54	0	487	60	0	0	0	0	0	103	0	23
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes	1				1				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436		4.5436	4.5436			4.3276	4.9763		4.3276	
Follow-Up Headway, s	2.5352	2.5352		2.5352	2.5352			2.5352	2.6087		2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	462	522		282	319			0	0		126	
Entry Volume, veh/h	462	522		276	311			0	0		125	
Circulating Flow (v_c), pc/h	157			33			1141			541		
Exiting Flow (v_{ex}), pc/h	1108			510			93			0		
Capacity (C_{pce}), pc/h	1231	1231		1378	1378			538	446		897	
Capacity (c), veh/h	1231	1231		1345	1345			527	437		889	
v/c Ratio (x)	0.38	0.42		0.20	0.23			0.00	0.00		0.14	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	6.6	7.2		4.4	4.6			6.8	8.2		5.4	
Lane LOS	A	A		A	A			A	A		A	
95% Queue Length, Q ₉₅ (veh)	1.8	2.2		0.8	0.9			0.0	0.0		0.5	
95% Queue Length, Q ₉₅ (ft)	45.0	55.0		20.5	23.0			0.0	0.0		12.6	
Approach Delay, s/veh LOS	6.9		A	4.5		A				5.4		A
Intersection Delay, s/veh LOS	6.0						A					

HCS Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	TEC
Date Performed	10/9/2025
Analysis Year	2030
Time Analyzed	AM Peak Hour
Project Description	US 75 & 151st Street Study



Site Information

Intersection	Yukon Ave. & 151st
E/W Street Name	151st Street
N/S Street Name	Yukon Ave.
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.92
Jurisdiction	District 8

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0
Lane Assignment	LT		TR		LT		TR				LT				LTR	
Volume (V), veh/h	1	7	755	59	50	145	631	30	0	61	11	208	0	110	15	28
Percent Heavy Vehicles, %	0	0	4	2	4	2	4	3	3	2	2	2	3	2	0	0
Flow Rate (v _{PCE}), pc/h	1	8	853	65	57	161	713	34	0	68	12	231	0	122	16	30
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes	1				1				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436		4.5436	4.5436			4.3276	4.9763		4.3276	
Follow-Up Headway, s	2.5352	2.5352		2.5352	2.5352			2.5352	2.6087		2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	436	491		454	511			80	231		168	
Entry Volume, veh/h	420	473		438	494			78	226		166	
Circulating Flow (v_c), pc/h	356			89			1041			1000		
Exiting Flow (v_{ex}), pc/h	1032			812			54			242		
Capacity (C_{pce}), pc/h	1027	1027		1310	1310			586	482		607	
Capacity (c), veh/h	989	989		1264	1264			575	472		598	
v/c Ratio (x)	0.42	0.48		0.35	0.39			0.14	0.48		0.28	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	8.4	9.3		6.1	6.6			7.9	16.8		9.7	
Lane LOS	A	A		A	A			A	C		A	
95% Queue Length, Q ₉₅ (veh)	2.1	2.6		1.6	1.9			0.5	2.6		1.1	
95% Queue Length, Q ₉₅ (ft)	54.2	67.0		41.2	49.0			12.7	66.0		27.8	
Approach Delay, s/veh LOS	8.9		A	6.4		A	14.6		B	9.7		A
Intersection Delay, s/veh LOS	8.7						A					

HCS Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	TEC
Date Performed	10/9/2025
Analysis Year	2030
Time Analyzed	PM Peak Hour
Project Description	US 75 & 151st Street Study

Site Information



Intersection	Yukon Ave. & 151st
E/W Street Name	151st Street
N/S Street Name	US 75
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.92
Jurisdiction	District 8

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0
Lane Assignment	LT		TR		LT		TR				LT				LTR	
Volume (V), veh/h	0	35	1049	109	60	248	545	55	0	90	23	404	0	95	28	25
Percent Heavy Vehicles, %	0	0	0	3	0	2	3	0	3	2	2	2	3	0	0	5
Flow Rate (v _{PCE}), pc/h	0	38	1140	122	65	275	610	60	0	100	26	448	0	103	30	29
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes	1				1				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436		4.5436	4.5436			4.3276	4.9763		4.3276	
Follow-Up Headway, s	2.5352	2.5352		2.5352	2.5352			2.5352	2.6087		2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	611	689		475	535			126	448		162	
Entry Volume, veh/h	609	687		464	523			124	439		161	
Circulating Flow (v_c), pc/h	473			164			1346			1050		
Exiting Flow (v_{ex}), pc/h	1308			739			124			427		
Capacity (C_{pce}), pc/h	923	923		1223	1223			452	363		582	
Capacity (c), veh/h	921	921		1195	1195			443	356		577	
v/c Ratio (x)	0.66	0.75		0.39	0.44			0.28	1.23		0.28	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	14.5	18.2		6.9	7.5			12.6	158.8		10.0	
Lane LOS	B	C		A	A			B	F		B	
95% Queue Length, Q ₉₅ (veh)	5.2	7.1		1.9	2.3			1.1	19.0		1.1	
95% Queue Length, Q ₉₅ (ft)	130.0	177.9		48.5	58.8			27.9	482.6		27.7	
Approach Delay, s/veh LOS	16.5		C	7.2		A	126.7		F	10.0		B
Intersection Delay, s/veh LOS	33.7						D					

HCS Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	TEC
Date Performed	10/9/2025
Analysis Year	2030
Time Analyzed	AM Peak Hour
Project Description	US 75 & 151st Street Study



Site Information

Intersection	US 75 & 151st - SB Ramps
E/W Street Name	151st Street
N/S Street Name	US 75
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.92
Jurisdiction	District 8

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0
Lane Assignment	T		T		LT		T								LTR	
Volume (V), veh/h	0		964	109	0	295	646						0	170	0	211
Percent Heavy Vehicles, %	0		4	7	0	4	3						0	12	0	7
Flow Rate (v _{PCE}), pc/h	0		1090	127	0	333	723						0	207	0	245
Right-Turn Bypass	Yielding				None				None				None			
Conflicting Lanes	1				1								2			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436	4.9763	4.5436	4.5436						4.3276	
Follow-Up Headway, s	2.5352	2.5352	2.6087	2.5352	2.5352						2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	512	578	127	496	560						452	
Entry Volume, veh/h	493	555	119	480	542						414	
Circulating Flow (v_c), pc/h	540			0			1297			1056		
Exiting Flow (v_{ex}), pc/h	1297			968			0			333		
Capacity (C_{PCE}), pc/h	869	869	983	1420	1420						579	
Capacity (c), veh/h	835	835	918	1374	1374						530	
v/c Ratio (x)	0.59	0.67	0.13	0.35	0.39						0.78	

Delay and Level of Service

Approach	EB			WB			NB			SB				
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass		
Lane Control Delay (d), s/veh	13.3	15.8	5.1	5.8	6.3						30.8			
Lane LOS	B	C	A	A	A						D			
95% Queue Length, Q ₉₅ (veh)	3.9	5.2	0.4	1.6	1.9						7.2			
95% Queue Length, Q ₉₅ (ft)	100.6	134.2	10.6	41.1	48.6						193.3			
Approach Delay, s/veh LOS	13.6		B		6.0		A				30.8		D	
Intersection Delay, s/veh LOS	13.4						B						Page 257 of 260	

HCS Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	TEC
Date Performed	10/9/2025
Analysis Year	2030
Time Analyzed	PM Peak Hour
Project Description	US 75 & 151st Street Study



Site Information

Intersection	US 75 & 151st - SB Ramps
E/W Street Name	151st Street
N/S Street Name	US 75
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.92
Jurisdiction	District 8

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	0	0	0	0	1	0
Lane Assignment	T		T		LT		T								LTR	
Volume (V), veh/h	0		1297	251	0	315	619						0	125	0	289
Percent Heavy Vehicles, %	0		2	6	3	4	3						3	7	0	4
Flow Rate (v _{PCE}), pc/h	0		1438	289	0	356	693						0	145	0	327
Right-Turn Bypass	Yielding				None				None				None			
Conflicting Lanes	1				1								2			
Pedestrians Crossing, p/h	0				0								0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436	4.9763	4.5436	4.5436						4.3276	
Follow-Up Headway, s	2.5352	2.5352	2.6087	2.5352	2.5352						2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	676	762	289	493	556						472	
Entry Volume, veh/h	663	747	273	477	538						450	
Circulating Flow (v_c), pc/h	501			0			1583			1049		
Exiting Flow (v_{ex}), pc/h	1583			1020			0			356		
Capacity (C_{pce}), pc/h	900	900	960	1420	1420						582	
Capacity (c), veh/h	882	882	905	1374	1374						555	
v/c Ratio (x)	0.75	0.85	0.30	0.35	0.39						0.81	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	19.0	26.2	7.2	5.7	6.3						32.6	
Lane LOS	C	D	A	A	A						D	
95% Queue Length, Q ₉₅ (veh)	7.2	10.3	1.3	1.6	1.9						8.0	
95% Queue Length, Q ₉₅ (ft)	182.9	261.6	34.1	41.1	48.6						207.8	
Approach Delay, s/veh LOS	20.3		C	6.0		A				32.6		D
Intersection Delay, s/veh LOS	17.4						C					

HCS Roundabouts Report

General Information			Site Information		
Analyst	MSH		Intersection	US 75 & 151st - NB Ramps	
Agency or Co.	TEC		E/W Street Name	151st Street	
Date Performed	10/9/2025		N/S Street Name	US 75	
Analysis Year	2030		Analysis Time Period, hrs	0.25	
Time Analyzed	AM Peak Hour		Peak Hour Factor	0.92	
Project Description	US 75 & 151st Street Study		Jurisdiction	District 8	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0
Lane Assignment	LT		T		T		TR				LT					
Volume (V), veh/h	0	244	890		0		841	285	0	100	5	315				
Percent Heavy Vehicles, %	0	14	4		3		3	4	3	10	50	3				
Flow Rate (v _{PCE}), pc/h	0	302	1006		0		942	322	0	120	8	353				
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes	1				1				2							
Pedestrians Crossing, p/h	0				0				0							
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436		4.5436	4.5436			4.3276	4.9763			
Follow-Up Headway, s	2.5352	2.5352		2.5352	2.5352			2.5352	2.6087			

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	615	693		594	670			128	353			
Entry Volume, veh/h	579	653		575	649			114	343			
Circulating Flow (v_c), pc/h	0			430			1308			1062		
Exiting Flow (v_{ex}), pc/h	1006			1062			632			0		
Capacity (C_{pce}), pc/h	1420	1420		960	960			467	495			
Capacity (c), veh/h	1338	1338		930	930			418	480			
v/c Ratio (x)	0.43	0.49		0.62	0.70			0.27	0.71			

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	6.9	7.7		13.0	15.8			13.2	27.6			
Lane LOS	A	A		B	C			B	D			
95% Queue Length, Q ₉₅ (veh)	2.2	2.8		4.4	5.9			1.1	5.6			
95% Queue Length, Q ₉₅ (ft)	57.7	72.2		112.6	151.3			28.2	143.4			
Approach Delay, s/veh LOS	7.3	A		14.5	B		24.0	C				
Intersection Delay, s/veh LOS	12.9						B					

HCS Roundabouts Report

General Information			Site Information		
Analyst	MSH		Intersection	US 75 & 151st - NB Ramps	
Agency or Co.	TEC		E/W Street Name	151st Street	
Date Performed	10/9/2025		N/S Street Name	US 75	
Analysis Year	2030		Analysis Time Period, hrs	0.25	
Time Analyzed	PM Peak Hour		Peak Hour Factor	0.92	
Project Description	US 75 & 151st Street Study		Jurisdiction	District 8	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	0	0	0	0	0
Lane Assignment	LT		T		T		TR				LT					
Volume (V), veh/h	0	395	1027		0		815	220	0	119	5	335				
Percent Heavy Vehicles, %	0	5	2		3		3	6	3	0	0	0				
Flow Rate (v _{PCE}), pc/h	0	451	1139		0		912	253	0	129	5	364				
Right-Turn Bypass	None				None				Yielding				None			
Conflicting Lanes	1				1				2							
Pedestrians Crossing, p/h	0				0				0							
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436		4.5436	4.5436			4.3276	4.9763			
Follow-Up Headway, s	2.5352	2.5352		2.5352	2.5352			2.5352	2.6087			

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	747	843		548	617			134	364			
Entry Volume, veh/h	727	819		528	596			134	364			
Circulating Flow (v_c), pc/h	0			585			1590			1041		
Exiting Flow (v_{ex}), pc/h	1139			1041			709			0		
Capacity (C_{PCE}), pc/h	1420	1420		834	834			368	432			
Capacity (c), veh/h	1381	1381		805	805			368	432			
v/c Ratio (x)	0.53	0.59		0.66	0.74			0.36	0.84			

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	8.1	9.3		15.9	19.8			17.1	43.6			
Lane LOS	A	A		C	C			C	E			
95% Queue Length, Q ₉₅ (veh)	3.2	4.1		5.0	6.8			1.6	8.2			
95% Queue Length, Q ₉₅ (ft)	81.8	104.1		128.0	174.9			40.0	205.0			
Approach Delay, s/veh LOS	8.7		A		18.0		C		36.5		E	
Intersection Delay, s/veh LOS	16.4						C					

HCS Roundabouts Report

General Information			Site Information		
Analyst	MSH		Intersection	Broadway St. & 151st	
Agency or Co.	TEC		E/W Street Name	151st Street	
Date Performed	10/9/2025		N/S Street Name	Broadway Street	
Analysis Year	2030		Analysis Time Period, hrs	0.25	
Time Analyzed	AM Peak Hour		Peak Hour Factor	0.92	
Project Description	US 75 & 151st Street Study		Jurisdiction	District 8	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0
Lane Assignment	LT		TR		LT		TR				LTR				LTR	
Volume (V), veh/h	0	245	875	85	0	40	920	115	0	55	15	20	0	25	5	151
Percent Heavy Vehicles, %	0	3	4	3	0	3	2	1	0	3	0	0	0	4	0	3
Flow Rate (v _{PCE}), pc/h	0	274	989	95	0	45	1020	126	0	62	16	22	0	28	5	169
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436		4.5436	4.5436			4.3276			4.3276	
Follow-Up Headway, s	2.5352	2.5352		2.5352	2.5352			2.5352			2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	638	720		560	631			100			202	
Entry Volume, veh/h	615	694		549	619			98			196	
Circulating Flow (v_c), pc/h	78			352			1291			1127		
Exiting Flow (v_{ex}), pc/h	1039			1251			416			145		
Capacity (C_{pce}), pc/h	1323	1323		1031	1031			474			545	
Capacity (c), veh/h	1275	1275		1011	1011			465			529	
v/c Ratio (x)	0.48	0.54		0.54	0.61			0.21			0.37	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	7.8	8.9		10.4	12.1			10.8			12.6	
Lane LOS	A	A		B	B			B			B	
95% Queue Length, Q ₉₅ (veh)	2.7	3.4		3.4	4.4			0.8			1.7	
95% Queue Length, Q ₉₅ (ft)	69.5	87.7		86.4	111.7			20.3			43.5	
Approach Delay, s/veh LOS	8.4		A	11.3		B	10.8		B	12.6		B
Intersection Delay, s/veh LOS	10.0						A					

HCS Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	TEC
Date Performed	10/9/2025
Analysis Year	2030
Time Analyzed	PM Peak Hour
Project Description	US 75 & 151st Street Study



Site Information

Intersection	Broadway St. & 151st
E/W Street Name	151st Street
N/S Street Name	Broadway Street
Analysis Time Period, hrs	0.25
Peak Hour Factor	0.92
Jurisdiction	District 8

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	1	0	0	0	1	0
Lane Assignment	LT		TR		LT		TR				LTR				LTR	
Volume (V), veh/h	0	165	1135	62	0	20	760	105	0	52	5	15	0	75	5	223
Percent Heavy Vehicles, %	0	1	1	0	0	0	2	2	0	0	0	0	0	0	0	1
Flow Rate (v _{PCE}), pc/h	0	181	1246	67	0	22	843	116	0	57	5	16	0	82	5	245
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				2				2			
Pedestrians Crossing, p/h	0				0				0				0			
Proportion of CAVs, %	0															

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway, s	4.5436	4.5436		4.5436	4.5436			4.3276			4.3276	
Follow-Up Headway, s	2.5352	2.5352		2.5352	2.5352			2.5352			2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	702	792		461	520			78			332	
Entry Volume, veh/h	696	784		452	510			78			330	
Circulating Flow (v_c), pc/h	109			243			1509			922		
Exiting Flow (v_{ex}), pc/h	1344			1145			302			94		
Capacity (C_{pce}), pc/h	1286	1286		1138	1138			394			649	
Capacity (c), veh/h	1274	1274		1116	1116			394			644	
v/c Ratio (x)	0.55	0.62		0.41	0.46			0.20			0.51	

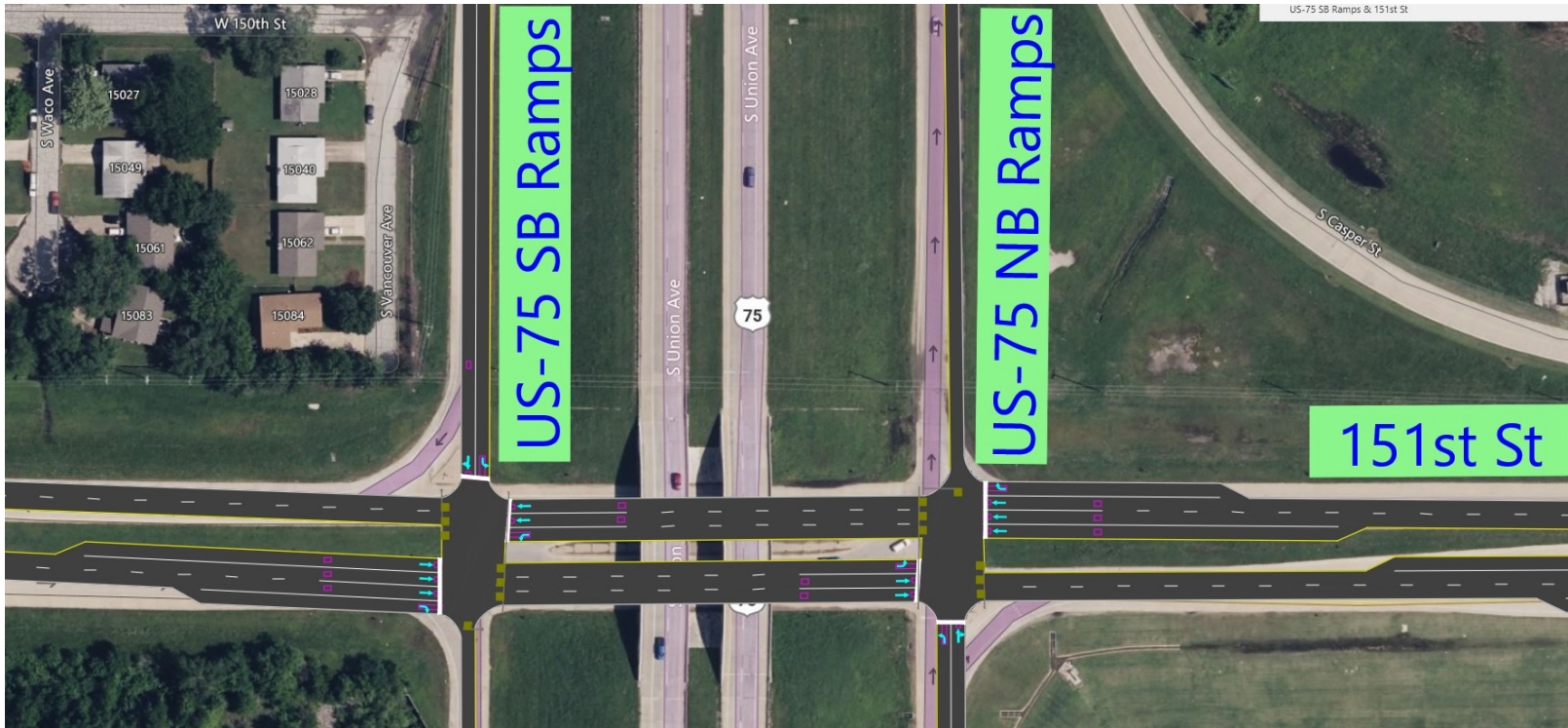
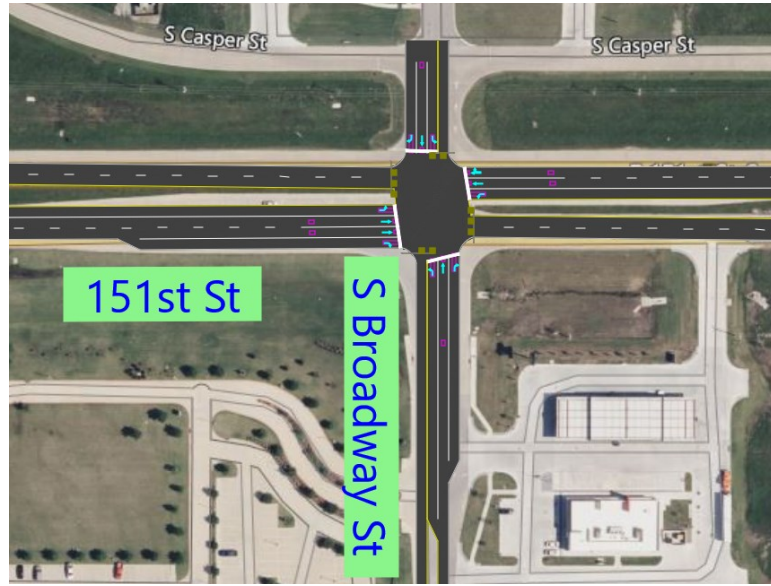
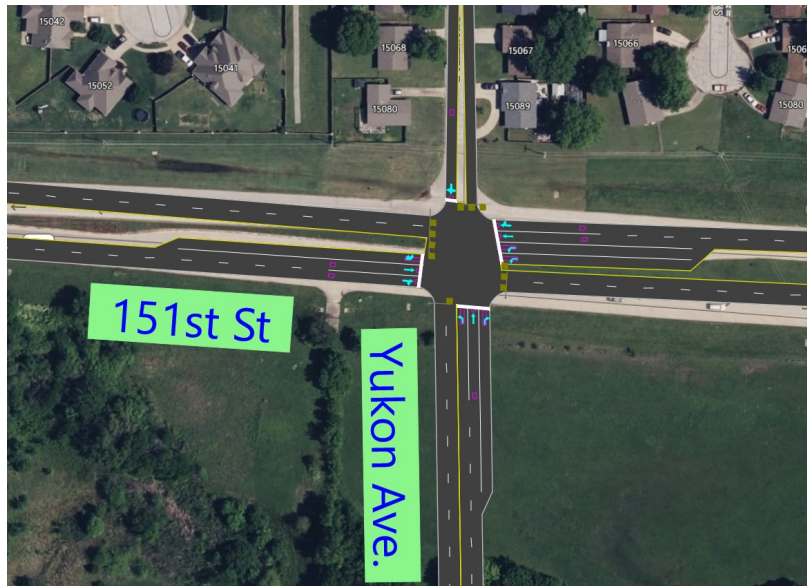
Delay and Level of Service

Approach	EB			WB			NB			SB						
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass				
Lane Control Delay (d), s/veh	8.9	10.3		7.4	8.2			12.4			13.9					
Lane LOS	A	B		A	A			B			B					
95% Queue Length, Q ₉₅ (veh)	3.4	4.5		2.0	2.4			0.7			2.9					
95% Queue Length, Q ₉₅ (ft)	85.7	113.4		50.8	61.0			17.5			72.9					
Approach Delay, s/veh LOS	9.7		A		7.8		A		12.4		B		13.9		B	
Intersection Delay, s/veh LOS	9.6						A						B			

ATTACHMENT I

SIGNALIZED CONCEPTS

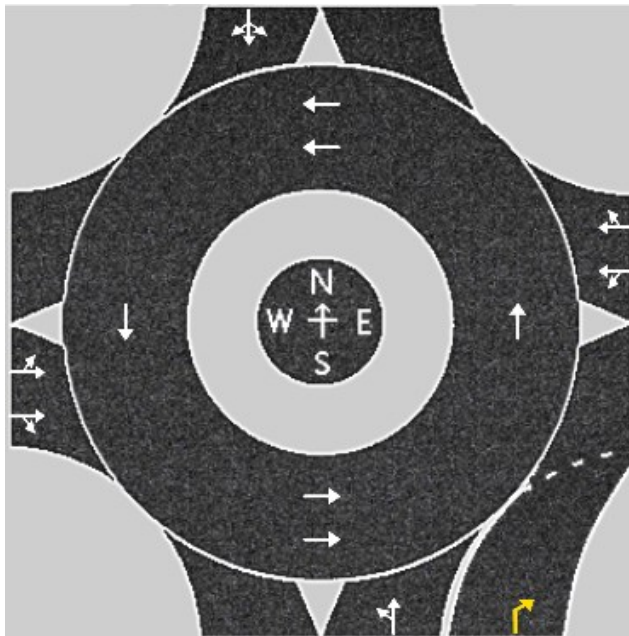
SIGNALS MODIFIED LANE CONFIGURATIONS (AS ANALYZED)



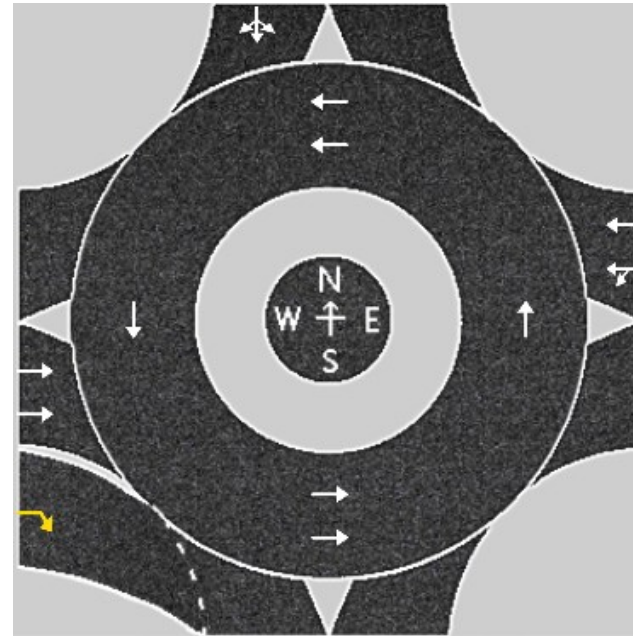
ATTACHMENT J

ROUNABOUT CONCEPTS

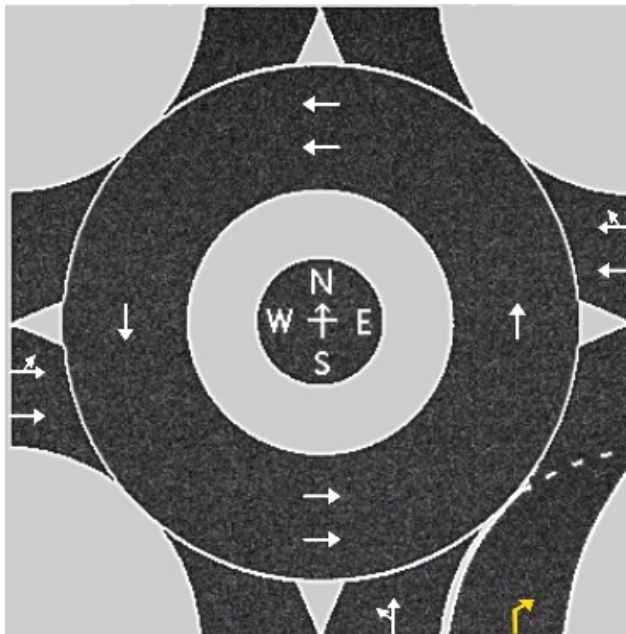
ROUNDBABOUT LANE CONFIGURATIONS



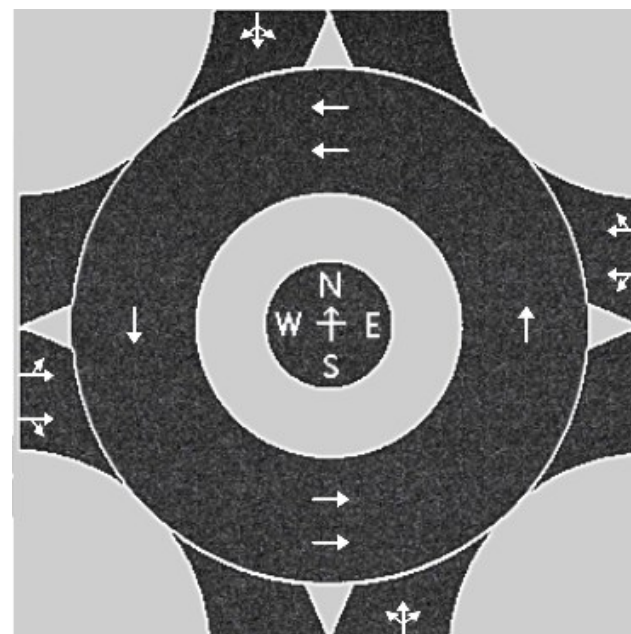
Yukon Avenue



NB Ramps



SB Ramps



Broadway Street

