



TRAFFIC IMPACT ANALYSIS

FREEMAN LOGISTICS

JURISDICTION: CITY OF PUYALLUP & CITY OF FIFE

Prepared for:

Vector Development Company

11411 NE 124th Street, Suite 190

Kirkland, WA 98034

Prepared by:

Kimley»»Horn

June 2024

KH 090222083

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Prepared by:

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Everett, Washington 98201
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1. INTRODUCTION

Kimley-Horn and Associates, Inc. has been retained to provide an updated Traffic Impact Analysis (TIA) for the Freeman Road Logistics Development (Development) that addresses changes in square footage of the buildings and previous comments from the cities. The proposed Development is located on the east side of Freeman Road E, north of 19th Avenue NW in the City of Fife. Because the site is located in Puyallup, but abuts Fife streets, Fife, and Puyallup (Cities) have assumed Co-Lead Agency status for purposes of State Environmental Policy Act (SEPA) review.

The Development is proposed to consist of two buildings, Building A with 238,525 square feet (SF) and Building B with 266,911 SF designed to accommodate a High-Cube Transload and Short-Term Warehouse, as defined in Institute for Traffic Engineers (ITE) Land Use Code (LUC) 154. However, because a tenant has not yet been identified, the Cities requested that the TIA evaluate a range of higher trip-generating uses in addition to LUC 154 — LUC 150 (Warehousing), LUC 130 (Industrial Park), and LUC 140 (Manufacturing)—to identify the impacts and mitigation associated with each use. The site is comprised of fourteen existing residential units. A site vicinity map is included in **Figure 1**.

Matthew Palmer, responsible for this report, is a licensed professional engineer (Civil) in the State of Washington and member of the Washington State section of Institute of Transportation Engineers (ITE).

2. SCOPING AND METHODOLOGY

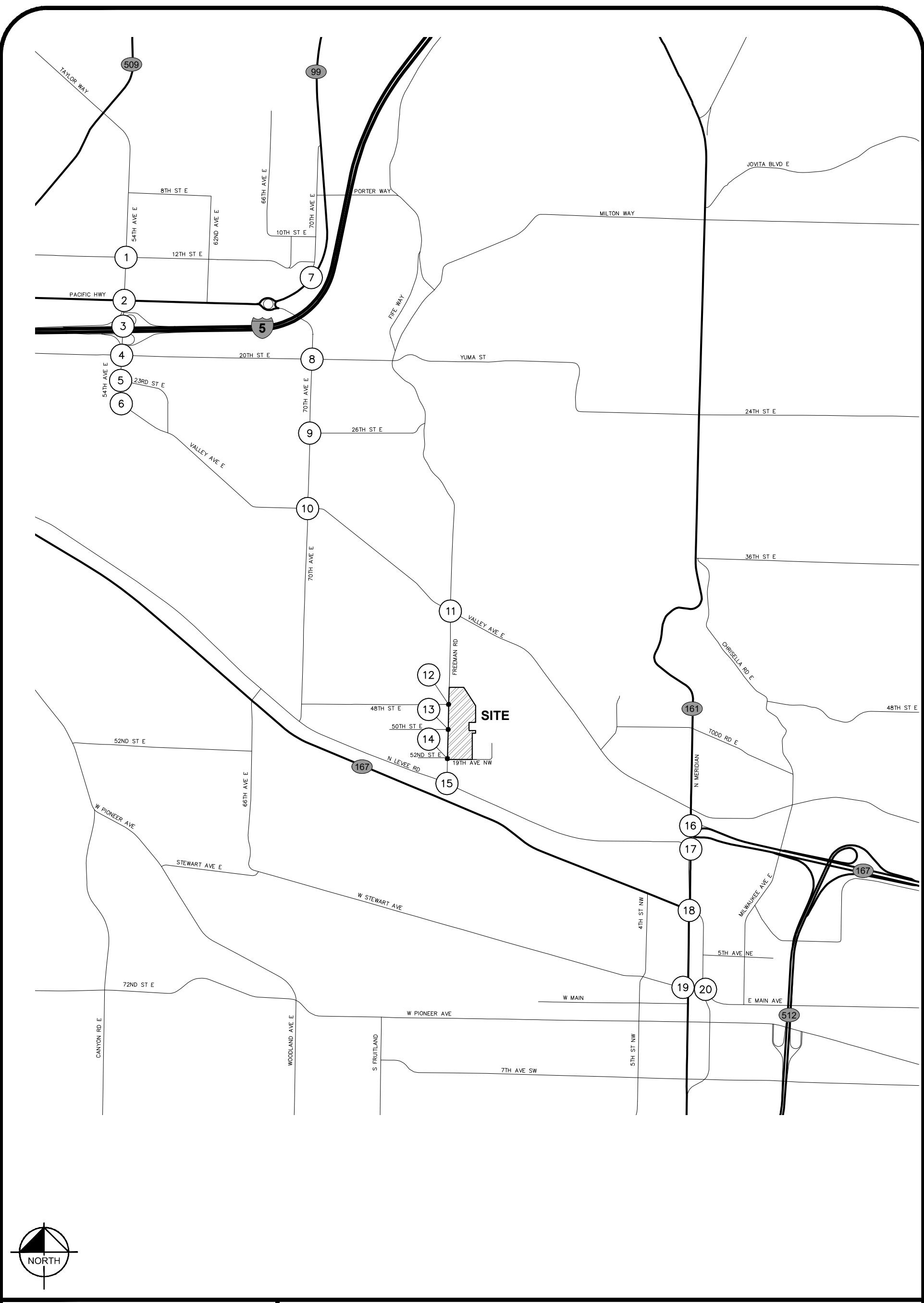
The scope of the analysis for this report is based on City of Puyallup and City of Fife guidelines and scoping comments received from the City of Puyallup and City of Fife representatives.

2.1 Intersection Analysis

The Cities identified twenty (20) intersections required to be analyzed in this TIA. This is a large number of intersections at a considerable distance from the Development site. For instance, the intersection of 54th Avenue E at 12th Street E in Fife is located 3.2 miles from the Development site. This level of analysis is not required by code; the Cities are requesting this extensive analysis pursuant to the State Environmental Policy Act (SEPA) authority. The year 2025 was selected for the future analysis year based on the anticipated opening and full occupancy year. The following off-site intersections are included in the analysis:

- | | | | |
|-----|---------------------------------------|-----|---------------------------------------|
| 1. | 54th Avenue E at 12th Street E | 11. | Freeman Road E at Valley Avenue E |
| 2. | 54th Avenue E at Pacific Highway E | 12. | Freeman Road E at 48th Street E |
| 3. | 54th Avenue E at I-5 Southbound Ramps | 13. | Freeman Road E at 50th Street E |
| 4. | 54th Avenue E at 20th Street E | 14. | Freeman Road E at 52nd Street E |
| 5. | 54th Avenue E at 23rd Street E | 15. | Freeman Road E at N Levee Road |
| 6. | 54th Avenue E at Valley Avenue E | 16. | Meridian Avenue N at SR 167 Ramps |
| 7. | 70th Avenue E at Pacific Highway E | 17. | Meridian Avenue N at N Levee Road |
| 8. | 70th Avenue E at 20th Street E | 18. | Meridian Avenue N at River Road |
| 9. | 70th Avenue E at 26th Street E | 19. | Meridian Avenue N at W Stewart Avenue |
| 10. | 70th Avenue E at Valley Avenue E | 20. | 2nd Street NE at E Stewart Avenue |

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FREEMAN ROAD LOGISTICS

CITY OF PUYALLUP

LEGEND



DEVELOPMENT SITE



STUDY INTERSECTION

FIGURE 1 VICINITY MAP

Congestion is generally measured in terms of level of service (LOS). The *Highway Capacity Manual (HCM) 6th Edition* by the Transportation Research Board rates road facilities and intersections between LOS A and LOS F, with LOS A being free flow and LOS F being forced flow or over-capacity conditions. A summary of the LOS criteria is included in **Table 1**. The LOS at signalized and all-way stop-controlled intersections is based on the average delay of all approaches. The LOS for two-way stop-controlled intersections is based on the average delay for the critical stopped approach. Geometric characteristics and conflicting traffic movements are taken into consideration when determining LOS values. The LOS analysis for this report has been performed using the *Synchro 12.2, Build 1* software for signalized and unsignalized intersections.

Table 1: Level of Service (LOS) Criteria for Intersections

Level of ¹ Service	Expected Delay	Intersection Control Delay (Seconds per Vehicle)	
		Unsignalized Intersections	Signalized Intersections
A	Little/No Delay	≤10	≤10
B	Short Delays	>10 and ≤15	>10 and ≤20
C	Average Delays	>15 and ≤25	>20 and ≤35
D	Long Delays	>25 and ≤35	>35 and ≤55
E	Very Long Delays	>35 and ≤50	>55 and ≤80
F	Extreme Delays ²	>50	>80

Freeman Road and the off-site intersections are in City of Fife right-of-way. The City of Fife has a LOS standard of LOS D for intersections; however, if an intersection is already forecasted to operate worse than LOS D before development trips are added then a development is allowed to proceed unless it degrades the LOS further with just the development trips ([Fife Municipal Code \(FMC\) 17.08.030 \(B\)](#)). The City of Puyallup has adopted LOS D as the standard except for the Meridian corridor where LOS E is acceptable ([Puyallup Comprehensive Plan T-3.2](#)). SR-99 has a LOS standard of LOS D.

¹ **Source:** *Highway Capacity Manual 6th Edition*.

LOS A: Free-flow traffic conditions, with minimal delay to stopped vehicles (no vehicle is delayed longer than one cycle at signalized intersection).

LOS B: Generally stable traffic flow conditions.

LOS C: Occasional back-ups may develop, but delay to vehicles is short term and still tolerable.

LOS D: During short periods of the peak hour, delays to approaching vehicles may be substantial but are tolerable during times of less demand (i.e., vehicles delayed one cycle or less at signal).

LOS E: Intersections operate at or near capacity, with long queues developing on all approaches and long delays.

LOS F: Jammed conditions on all approaches with excessively long delays and vehicles unable to move at times.

² When demand volume exceeds the capacity of the lane, delays will be encountered with queuing which may cause congestion affecting other traffic movements in the intersection.

3. SURROUNDING STREET SYSTEM

Freeman Road E is classified as a collector roadway located within the City of Fife with one lane of travel in each direction in the site vicinity. Valley Avenue E is classified as a major arterial roadway within the City of Puyallup and a principal arterial roadway within the City of Fife with two lanes of travel in each direction in the site vicinity. N Levee Road E is classified as a minor arterial roadway within the City of Puyallup and the City of Fife with one lane in each direction in the site vicinity. Freeman Road is being built as a 3-lane section with one travel lane in each direction and a two-way left-turn lane along the site frontage south to Levee Road. The northern section of Freeman Road will be completed by Washington State Department of Transportation (WSDOT) as part of the WSDOT SR-167 completion project.

4. TRIP DISTRIBUTION

Trip distribution and traffic assignments for the Development are based on anticipated truck routes and employee travel patterns for the site. The trip distributions have been reviewed by the City of Puyallup and City of Fife and changes have been made based on their comments. As trucks along Freeman Road E are restricted to local travel only and are directed to travel to and from the south, a separate distribution was created for car trips and truck trips. The anticipated passenger trip distribution is:

- 50% to and from the north on Freeman Road E
 - 25% along Valley Avenue E
 - 15% along 70th Avenue E
 - 10% along Freeman Road, north of Valley Avenue E
- 40% to and from the east on N Levee Road E
 - 25% along SR-167
 - 15% along N Meridian
- 10% to and from the west
 - 5% along 48th Street E
 - 5% along N Levee Road E

As truck movement along Freeman Road E is restricted to local travel only and trucks are required to travel to and from the south, all the truck trips will travel to and from the south along Freeman Road E to N Levee Road E. The anticipated truck trip distribution is:

- 50% to and from the West
 - 35% along 70th Avenue E
 - 15% along N Levee Road
- 50% to and from the East
 - 30% along SR-167
 - 20% to and from the north and south along N Meridian

5. INTERSECTION ANALYSIS

The scope of analysis for off-site intersections was directed by the Cities. Analysis was conducted for the AM (7-9am) and PM (4-6pm) peak-hours using True Demand volumes which include queued vehicles that did not make it through the intersections during the peak-hour counts. The 20 off-site intersections evaluated for existing, baseline, and future LOS operations are listed below:

- | | | | |
|-----|---------------------------------------|-----|---------------------------------------|
| 1. | 54th Avenue E at 12th Street E | 11. | Freeman Road E at Valley Avenue E |
| 2. | 54th Avenue E at Pacific Highway E | 12. | Freeman Road E at 48th Street E |
| 3. | 54th Avenue E at I-5 Southbound Ramps | 13. | Freeman Road E at 50th Street E |
| 4. | 54th Avenue E at 20th Street E | 14. | Freeman Road E at 52nd Street E |
| 5. | 54th Avenue E at 23rd Street E | 15. | Freeman Road E at N Levee Road |
| 6. | 54th Avenue E at Valley Avenue E | 16. | Meridian Avenue N at SR 167 Ramps |
| 7. | 70th Avenue E at Pacific Highway E | 17. | Meridian Avenue N at N Levee Road |
| 8. | 70th Avenue E at 20th Street E | 18. | Meridian Avenue N at River Road |
| 9. | 70th Avenue E at 26th Street E | 19. | Meridian Avenue N at W Stewart Avenue |
| 10. | 70th Avenue E at Valley Avenue E | 20. | 2nd Street NE at E Stewart Avenue |

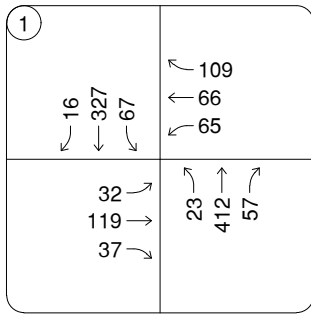
5.1 2023 Existing Conditions

Existing true demand turning movement count data was collected by the independent data collection firm IDAX in June 2023. Existing peak-hour factors and heavy vehicle percentages were used in the analysis. Signal timings were received from City and WSDOT staff and analysis was matched to documents received. Turning movements for the 2023 existing conditions are shown in **Figure 2** and **Figure 3** for the AM and PM peak hours, respectively. The AM and PM peak-hour counts collected at the study intersections have been provided in **Appendix A**.

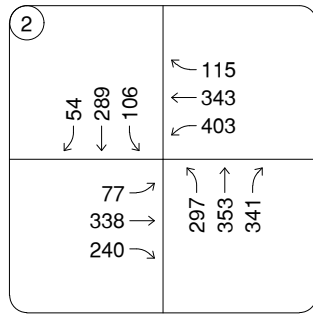
5.2 2025 Baseline Conditions

The 2025 baseline intersection turning movement counts were calculated by applying a 3.0% annually compounding growth rate to all of the existing turning movement volumes out to 2025. Turning movements for the 2025 baseline conditions are shown in **Figure 4** and **Figure 5** for the AM and PM peak hours respectively.

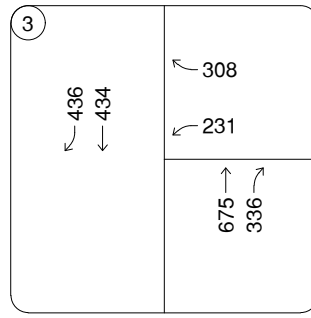
54TH AVENUE E @
12TH STREET E



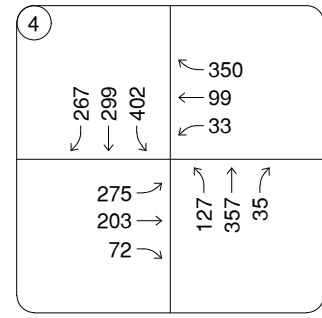
54TH AVENUE E @
PACIFIC HIGHWAY E (SR-99)



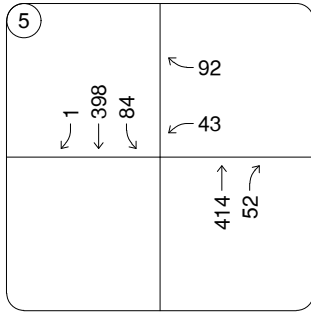
54TH AVENUE E @
I-5 SOUTHBOUND RAMPS



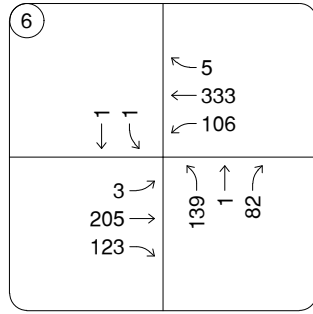
54TH AVENUE E @
20TH STREET E



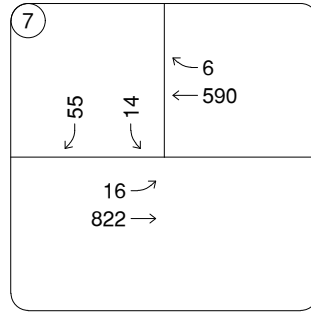
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23RD STREET E



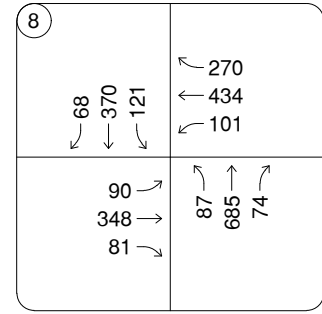
54TH AVENUE E @
VALLEY AVENUE E



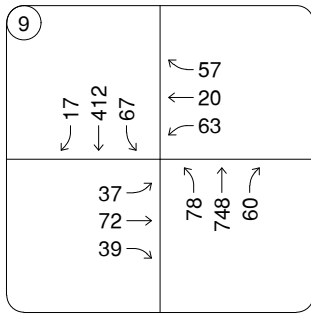
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PACIFIC HIGHWAY E (SR-99)



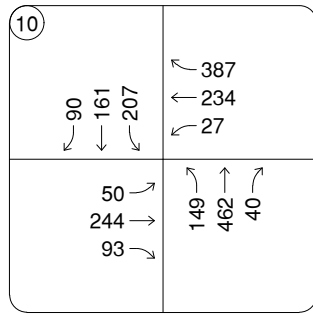
70TH AVENUE E @
20TH STREET E



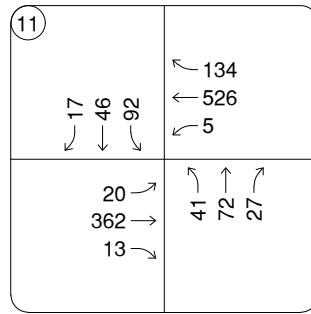
70TH AVENUE E @
26TH STREET E



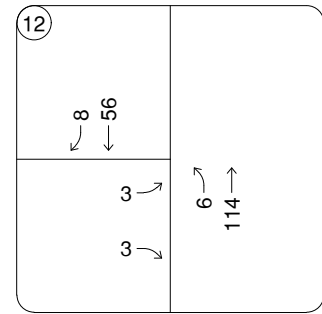
70TH AVENUE E @
VALLEY AVENUE E



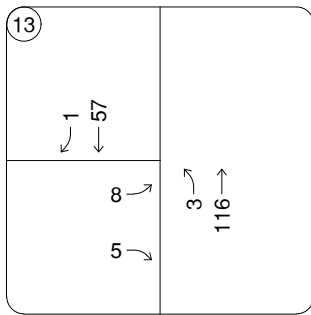
FREEMAN ROAD @
VALLEY AVENUE E



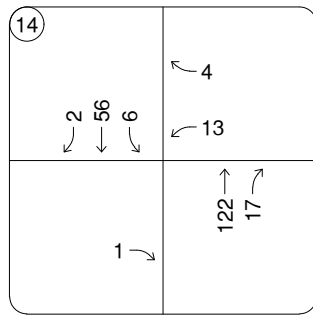
FREEMAN ROAD @
48TH STREET E



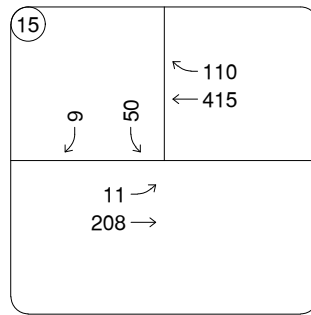
FREEMAN ROAD @
50TH STREET E



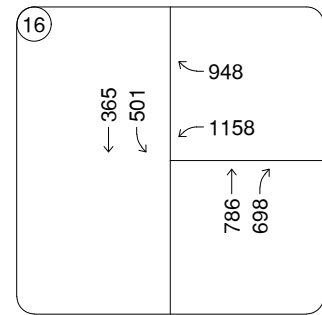
FREEMAN ROAD @
52ND STREET E



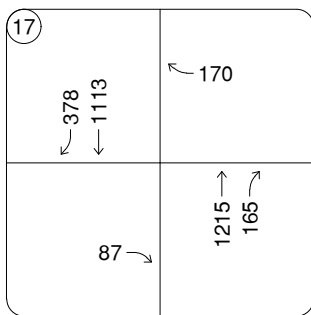
FREEMAN ROAD @
N LEVEE ROAD E



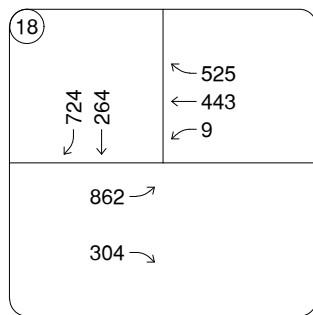
N MERIDIAN (SR-161) @
SR-167



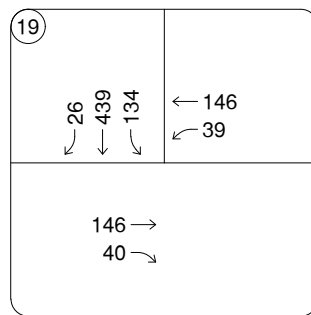
N MERIDIAN (SR-161) @
N LEVEE ROAD



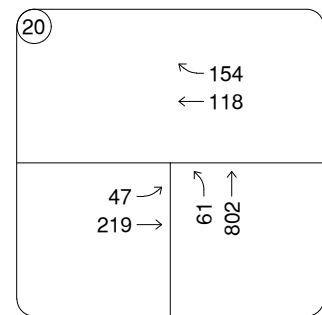
N MERIDIAN (SR-161) @
RIVER ROAD / 2ND STREET NE



N MERIDIAN (SR-161) @
W STEWART AVENUE



2ND STREET NE @
W STEWART AVENUE



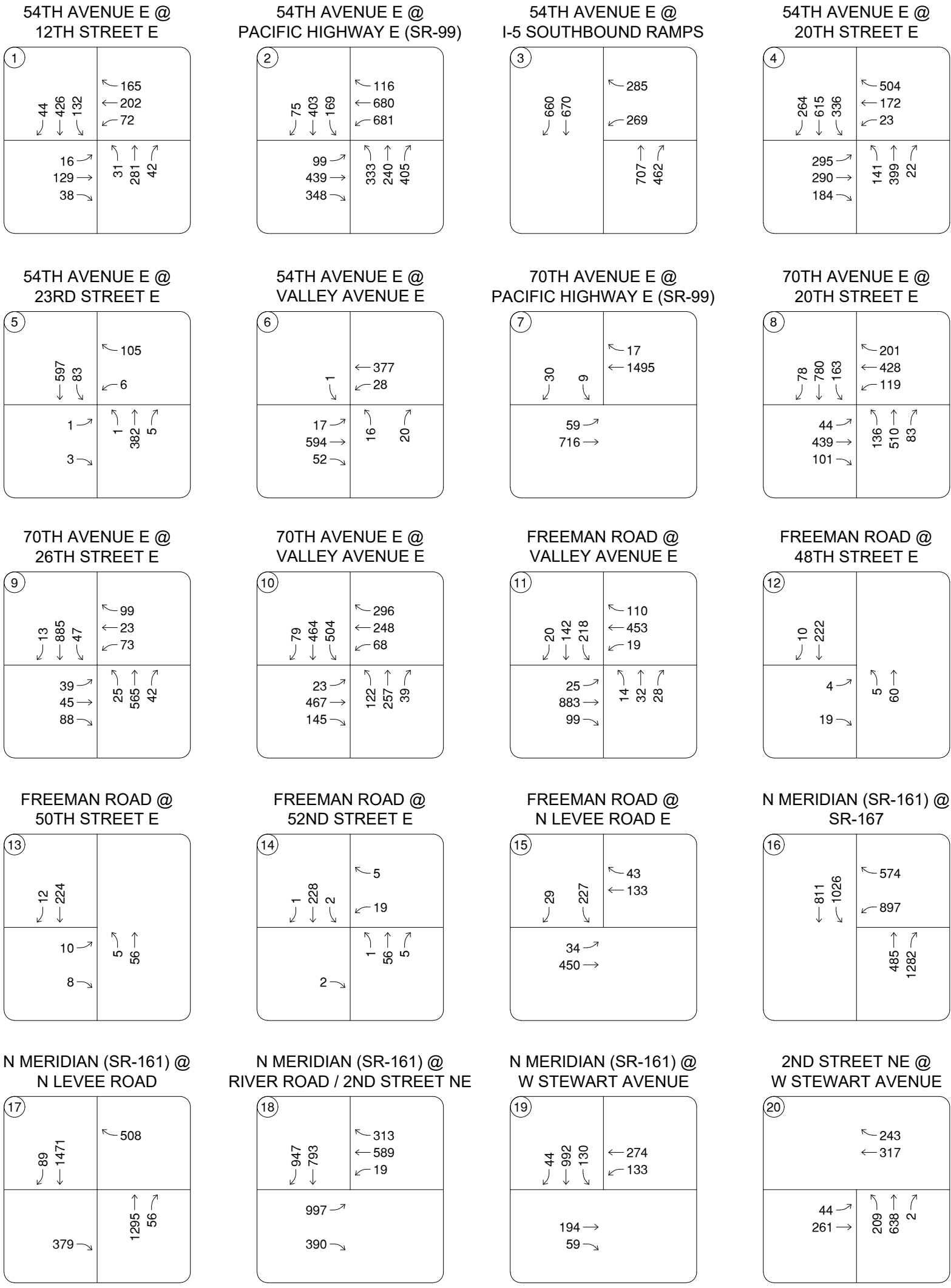
FREEMAN ROAD
LOGISTICS

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xx → AM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 2
2023 EXISTING
TURNING MOVEMENTS
AM PEAK-HOUR

CITY OF PUYALLUP



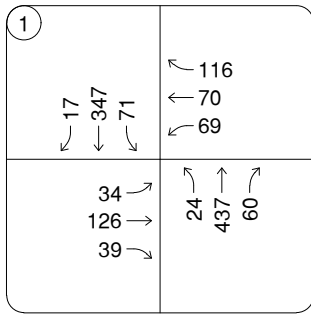
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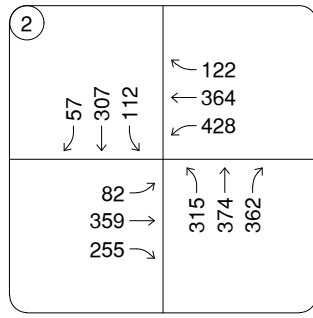
xx → PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 3
 2023 EXISTING TURNING MOVEMENTS
 PM PEAK-HOUR

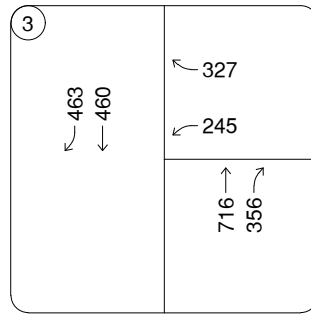
54TH AVENUE E @
12TH STREET E



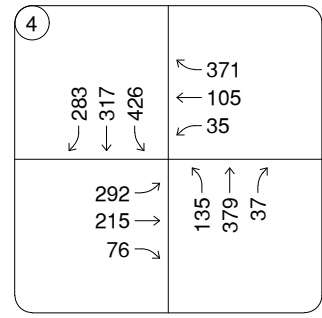
54TH AVENUE E @
PACIFIC HIGHWAY E (SR-99)



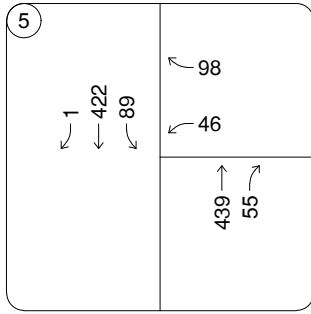
54TH AVENUE E @
I-5 SOUTHBOUND RAMPS



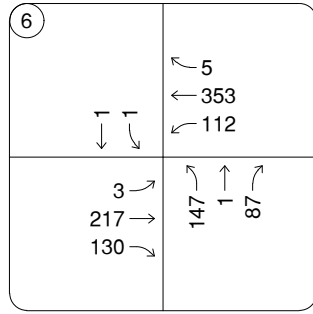
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20TH STREET E



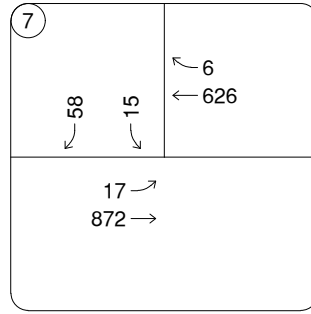
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23RD STREET E



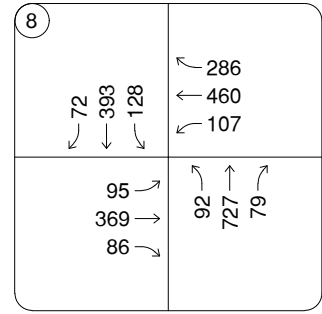
54TH AVENUE E @
VALLEY AVENUE E



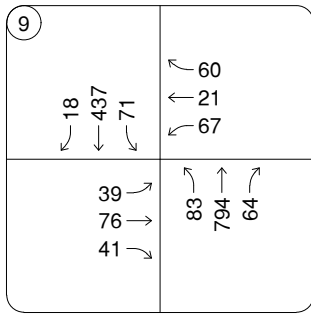
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PACIFIC HIGHWAY E (SR-99)



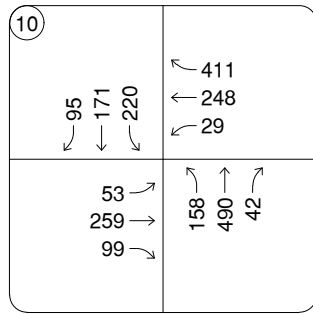
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20TH STREET E



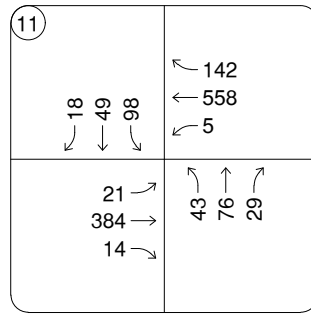
70TH AVENUE E @
26TH STREET E



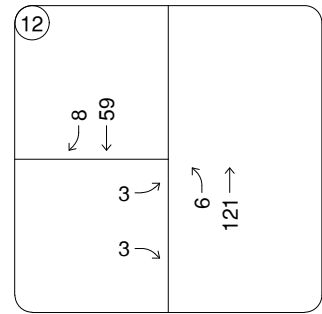
70TH AVENUE E @
VALLEY AVENUE E



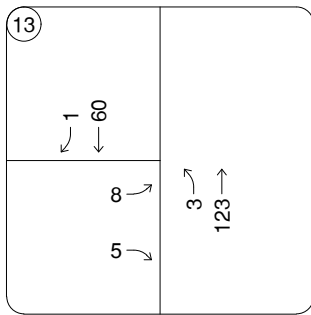
FREEMAN ROAD @
VALLEY AVENUE E



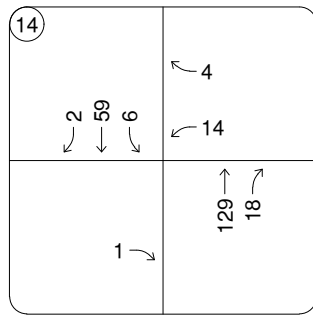
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48TH STREET E



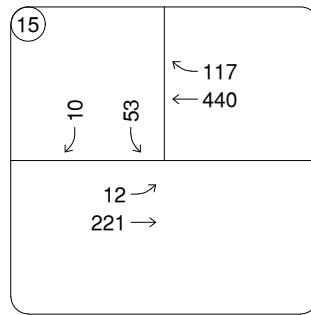
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50TH STREET E



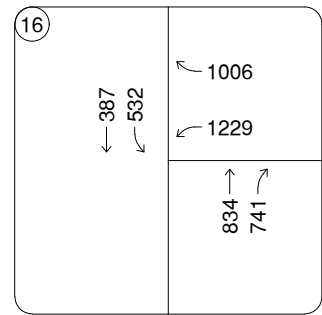
FREEMAN ROAD @
52ND STREET E



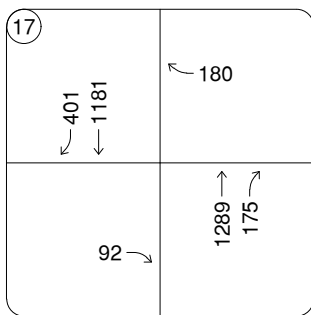
FREEMAN ROAD @
N LEVEE ROAD E



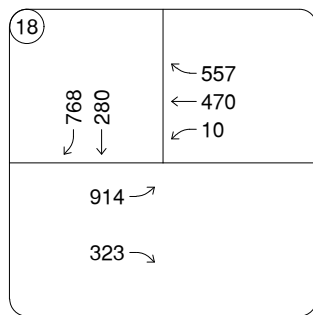
N MERIDIAN (SR-161) @
SR-167



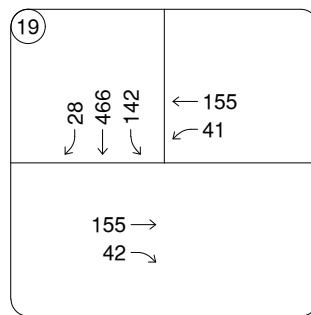
N MERIDIAN (SR-161) @
N LEVEE ROAD



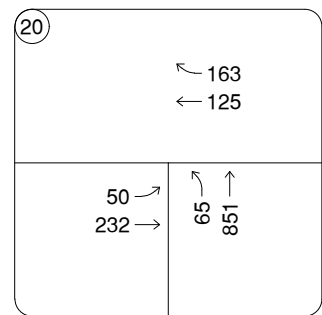
N MERIDIAN (SR-161) @
RIVER ROAD / 2ND STREET NE



N MERIDIAN (SR-161) @
W STEWART AVENUE



2ND STREET NE @
W STEWART AVENUE



FREEMAN ROAD
LOGISTICS

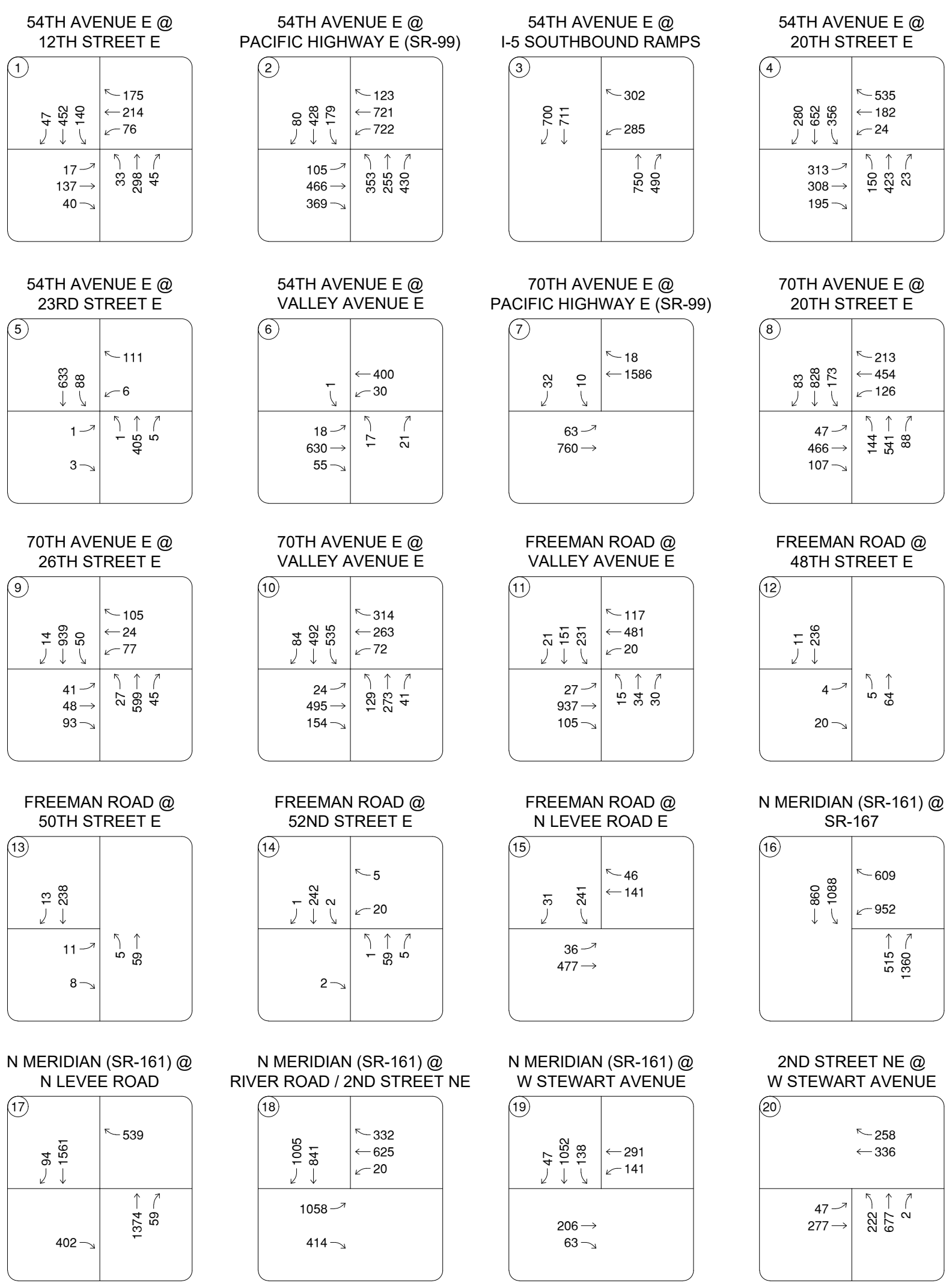
LEGEND

xx → AM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 4
2025 BASELINE
TURNING MOVEMENTS
AM PEAK-HOUR

CITY OF PUYALLUP

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FREEMAN ROAD LOGISTICS

LEGEND

xx → PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 5
 2025 BASELINE
 TURNING MOVEMENTS
 PM PEAK-HOUR

5.3 Level Of Service (LOS) Analysis

Intersection LOS was analyzed for each of the study intersections for the 2023 existing and 2025 baseline scenarios. The standard for City of Puyallup and City of Fife intersections is LOS D, with LOS E for WSDOT roadways and intersections along Meridian. There is currently one signalized intersection that falls below acceptable LOS, and one intersection anticipated to fail in the 2025 baseline AM peak-hour scenario. There are currently two intersections that fall below acceptable LOS, and four intersections anticipated to fail in the 2025 baseline PM peak-hour scenario.

Future improvements to the intersection of 54th Avenue and 20th Street E are noted in the City of Fife *Six year Transportation Improvement Program (TIP) From 2023 to 2028* to expand 20th Street E to a 5-lane roadway from 50th Avenue to 56th Avenue. This improvement was not included in the analysis as it is currently not funded. Future improvement alternatives will be mentioned later in this report. The existing and baseline LOS at the study intersections is summarized in **Table 2** and **Table 3** for the AM and PM peak-hours, respectively. The complete LOS for the AM and PM peak-hours during the existing and baseline conditions have been provided in **Appendix B** and **Appendix C**, respectively.

The SR-167 Completion Project will extend SR-167 from N Meridian Avenue to I-5 and will construct new interchanges at N Meridian Avenue, Valley Avenue, and I-5. The project is fully funded by four funding sources including toll contributions and is expected to be complete by 2029. This is within the six-year concurrency window for [Washington Administrative Code \(WAC\) 365-196-840](#) – Section 6(a)(ii), so we are entitled to utilize those improvements and shifts of traffic away from local roadways in the analysis. Additionally, the SR-167 Completion Project is expected to divert the majority of the Development's trips from the I-5 and 54th Avenue E interchange area. With the completion of this project, the trips generated by the Development are expected to have impacts less than 20 peak-hour trips and is not expected to have an adverse impact to the intersections along the 54th Avenue E and I-5 interchange area.

Table 2: Weekday AM Peak-Hour LOS Summary

Intersection	Control Type	2023 Existing Conditions			2025 Baseline Conditions		
		LOS	Delay	v/c	LOS	Delay	v/c
1. 54 th Avenue E at 12 th Street E	Signal	B	11.7 sec	0.42	B	13.0 sec	0.45
2. 54 th Avenue E at Pacific Highway E (SR-99)	Signal	E	65.5 sec	1.27	E	74.9 sec	1.35
3. 54 th Avenue E at I-5 Southbound Ramps	Signal	B	17.4 sec	0.87	B	19.2 sec	0.90
4. 54 th Avenue E at 20 th Street E	Signal	D	51.5 sec	0.88	D	53.9 sec	0.91
5. 54 th Avenue E at 23 rd Street E	Signal	A	7.6 sec	0.52	A	8.0 sec	0.55
6. 54 th Avenue E at Valley Avenue E	Signal	B	12.5 sec	0.65	B	13.4 sec	0.68
7. 70 th Avenue E at Pacific Highway E (SR-99)	Signal	A	5.5 sec	0.03	A	5.6 sec	0.03
8. 70 th Avenue E at 20 th Street E	Signal	D	41.5 sec	0.86	D	44.1 sec	0.89
9. 70 th Avenue E at 26 th Street E	Signal	C	24.6 sec	0.54	C	25.3 sec	0.56
10. 70 th Avenue E at Valley Avenue E	Signal	D	39.4 sec	0.88	D	40.2 sec	0.91
11. Freeman Road at Valley Avenue E	Signal	C	20.2 sec	0.47	C	20.9 sec	0.50
12. Freeman Road at 48 th Street E	Minor-Leg Stop-Control	A	9.2 sec	---	A	9.3 sec	---
13. Freeman Road at 50 th Street E	Minor-Leg Stop-Control	A	9.4 sec	---	A	9.4 sec	---
14. Freeman Road at 52 nd Street E	Minor-Leg Stop-Control	B	10.8 sec	---	B	11.0 sec	---
15. Freeman Road at N Levee Road E	Minor-Leg Stop-Control	C	17.0 sec	---	C	18.3 sec	---
16. N Meridian (SR-161) at SR-167	Signal	F	106.3 sec	1.64	F	123.4 sec	1.77
17. N Meridian (SR-161) at N Levee Road	Minor-Leg Stop-Control	C	21.2 sec	---	C	22.3 sec	---
18. N Meridian (SR-161) at River Road/2 nd Street NE	Signal	D	36.3 sec	0.98	D	44.2 sec	1.05
19. N Meridian (SR-161) at W Stewart Avenue	Signal	C	26.4 sec	1.06	C	28.5 sec	1.10
20. 2 nd Street NE at W Stewart Avenue	Signal	B	17.9 sec	0.67	B	18.3 sec	0.68

Table 3: Weekday PM Peak-Hour LOS Summary

	Intersection	Control Type	2023 Existing Conditions			2025 Baseline Conditions		
			LOS	Delay	v/c	LOS	Delay	v/c
1.	54 th Avenue E at 12 th Street E	Signal	B	15.5 sec	0.62	B	16.2 sec	0.63
2.	54 th Avenue E at Pacific Highway E (SR-99)	Signal	F	122.5 sec	1.92	F	134.8 sec	2.03
3.	54 th Avenue E at I-5 Southbound Ramps	Signal	C	29.3 sec	0.91	C	31.0 sec	0.94
4.	54 th Avenue E at 20 th Street E	Signal	E	58.6 sec	0.92	E	63.0 sec	0.96
5.	54 th Avenue E at 23 rd Street E	Signal	A	7.5 sec	0.46	A	7.9 sec	0.49
6.	54 th Avenue E at Valley Avenue E	Signal	A	3.6 sec	0.45	A	3.7 sec	0.48
7.	70 th Avenue E at Pacific Highway E (SR-99)	Signal	B	15.7 sec	0.12	B	15.8 sec	0.13
8.	70 th Avenue E at 20 th Street E	Signal	D	44.9 sec	0.90	D	48.2 sec	0.94
9.	70 th Avenue E at 26 th Street E	Signal	B	18.8 sec	0.51	B	19.5 sec	0.54
10.	70 th Avenue E at Valley Avenue E	Signal	D	44.3 sec	0.81	D	45.4 sec	0.82
11.	Freeman Road at Valley Avenue E	Signal	C	25.2 sec	0.68	C	26.5 sec	0.73
12.	Freeman Road at 48 th Street E	Minor-Leg Stop-Control	B	10.0 sec	---	B	10.1 sec	---
13.	Freeman Road at 50 th Street E	Minor-Leg Stop-Control	B	10.4 sec	---	B	10.6 sec	---
14.	Freeman Road at 52 nd Street E	Minor-Leg Stop-Control	B	11.0 sec	---	B	11.3 sec	---
15.	Freeman Road at N Levee Road E	Minor-Leg Stop-Control	D	27.7 sec	---	D	34.5 sec	---
16.	N Meridian (SR-161) at SR-167	Signal	F	123.4 sec	1.51	F	142.8 sec	1.60
17.	N Meridian (SR-161) at N Levee Road	Minor-Leg Stop-Control	F	198.5 sec	---	F	273.3 sec	---
18.	N Meridian (SR-161) at River Road/2 nd Street NE	Signal	D	50.9 sec	1.08	E	61.6 sec	1.15
19.	N Meridian (SR-161) at W Stewart Avenue	Signal	C	21.6 sec	0.76	C	22.5 sec	0.78
20.	2 nd Street NE at W Stewart Avenue	Signal	C	24.9 sec	0.82	C	25.3 sec	0.83

6. LAND USE CODE 154 – HIGH-CUBE TRANSLOAD AND SHORT-TERM STORAGE WAREHOUSE

6.1 Trip Generation

Trip generation calculations for the Development are based on national statistics contained in the ITE’s *Trip Generation, 11th Edition (2021)*. The average trip generation rates for LUC 154, High-Cube Transload and Short-Term Storage Warehouse, and LUC 210, Single-Family Detached Housing, have been used for the trip generation calculations of the Development for this scenario. Per the ITE, a Warehousing use stores products on-site, typically for more than a month. There is limited truck parking and loading docks on one or two sides. The Development is proposed to consist of two buildings, Building A with 238,525 SF and Building B with 266,911 SF, both of which have been analyzed together under the three separate land uses. There are currently 14 existing residential uses on-site. The trip generation calculations are summarized in **Table 4**.

Table 4: Total Vehicle Trip Generation Summary

Land Use	Size	Average Daily Trips (ADTs)	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
High-Cube Short-Term Warehouse (Building A) LUC 154	238,525 SF	333.94	14.69	4.39	19.08	6.68	17.17	23.85
High-Cube Short-Term Warehouse (Building B) LUC 154	266,911 SF	373.68	16.44	4.91	21.35	7.47	19.22	26.69
Single-Family Detached LUC 210	-14 units	-132.02	-2.55	-7.25	-9.80	-8.29	-4.87	-13.16
TOTAL		575.60	28.58	2.05	30.63	5.86	31.52	37.38

Under the high-cube transload and short-term warehouse land use, the Development is anticipated to generate approximately 576 new average daily trips with 31 new AM peak-hour trips and 37 new PM peak-hour trips.

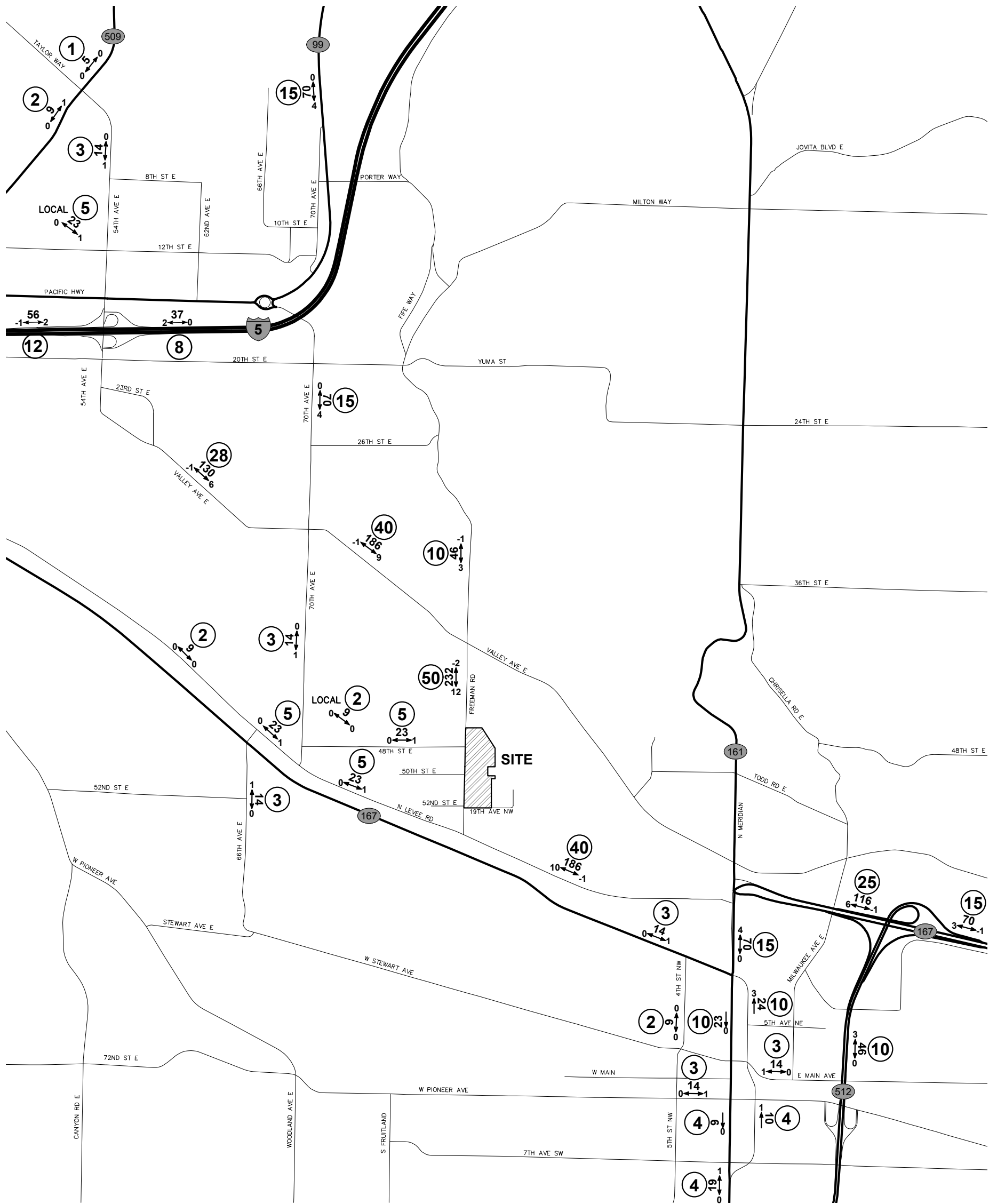
The ITE provides specific trip generation rates for heavy trucks for the specified land uses. The Development’s expected truck trip generation are summarized in **Table 5**.

Table 5: Truck Trip Generation Summary

505,436 SF High-Cube Short-Term Warehouse LUC 154	Average Daily Trips			AM Peak-Hour Trips			PM Peak-Hour Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
Generation Rate	0.22 trips per 1,000 SF			0.02 trips per 1,000 SF			0.01 trips per 1,000 SF		
Splits	50%	50%	100%	49%	51%	100%	47%	53%	100%
Trips	55.60	55.60	111.20	4.96	5.15	10.11	2.37	2.69	5.06

The Development is anticipated to generate approximately 111 new average daily truck trips with 10 new AM peak-hour truck trips and 5 new PM peak-hour truck trips. The trip generation calculations — including truck trip generation rates — are included in the **Appendix D**.

The car trip distribution under high-cube transload and short-term storage warehouse conditions for the AM and PM peak-hours is included in **Figure 6** and **Figure 7**. The truck trip distribution under warehousing conditions for the AM and PM peak-hours is included in **Figure 8** and **Figure 9**. A summary of the total site traffic under warehousing conditions during the AM and PM peak-hours is included in **Figure 10** and **Figure 11**, respectively.



FREEMAN ROAD LOGISTICS
(HIGH-CUBE SHORT-TERM
WAREHOUSE)
ITE LUC 154

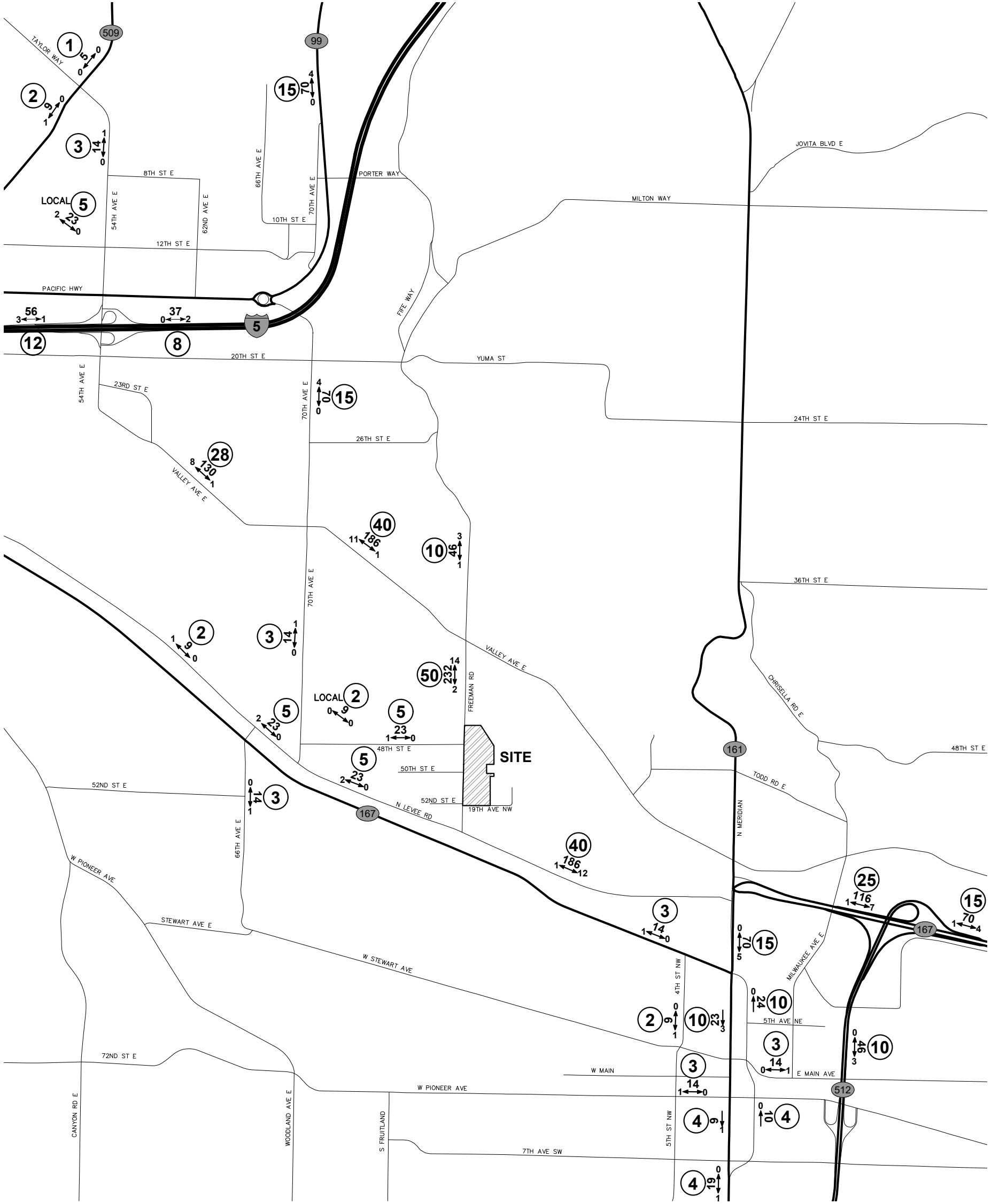
CITY OF PUYALLUP

LEGEND

- AWDT** NEW DAILY TRAFFIC
- AM ← PEAK** NEW PEAK-HOUR TRIPS
- XX** TRIP DISTRIBUTION

FIGURE 6
DEVELOPMENT
TRIP DISTRIBUTION
AM PEAK-HOUR
CAR TRIPS

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**FREEMAN ROAD LOGISTICS
 (HIGH-CUBE SHORT-TERM
 WAREHOUSE)
 ITE LUC 154**

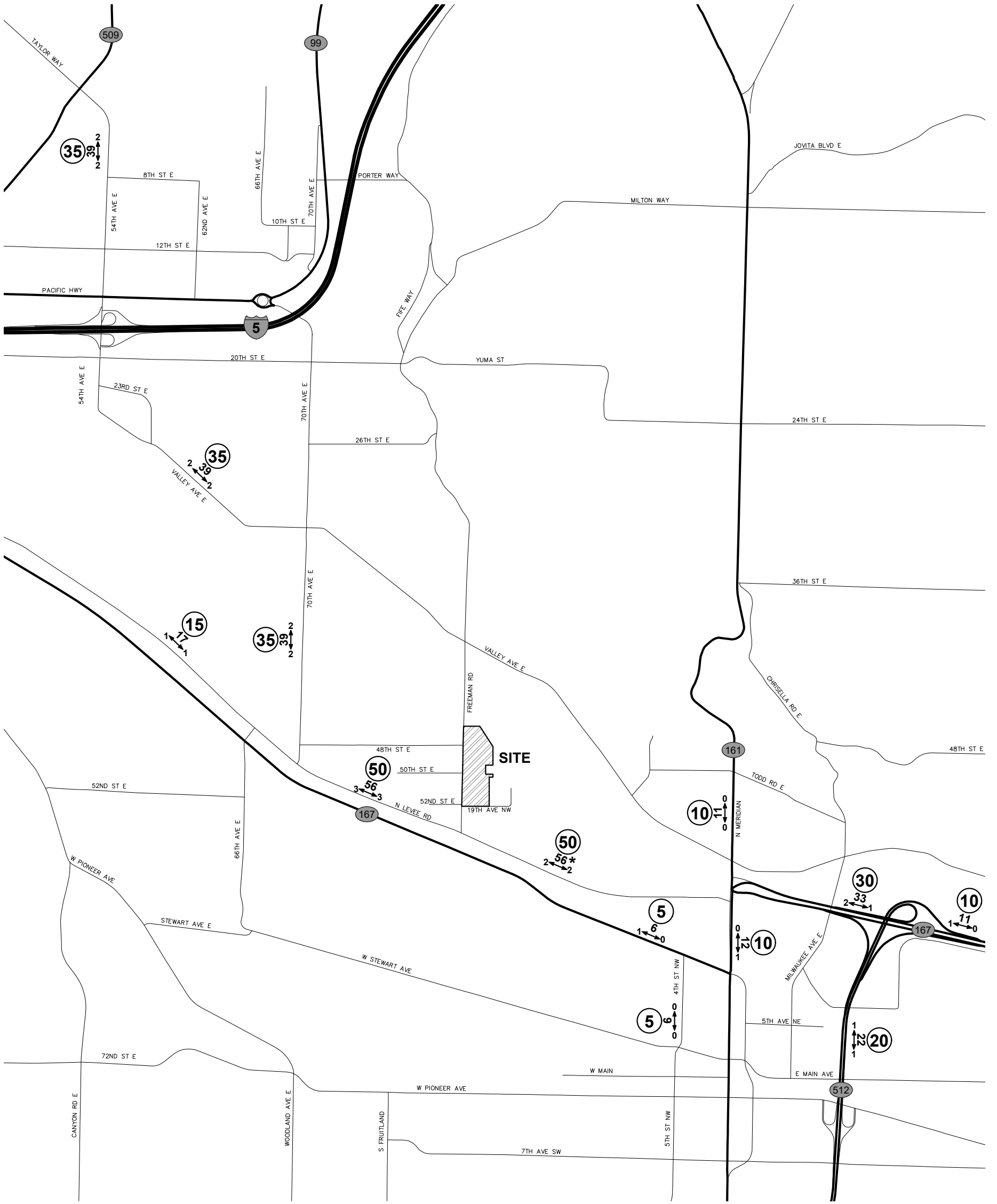
LEGEND
 AWDT PM ← PEAK NEW DAILY TRAFFIC
 NEW PEAK-HOUR TRIPS
 (XX) TRIP DISTRIBUTION

FIGURE 7
 DEVELOPMENT
 TRIP DISTRIBUTION
 PM PEAK-HOUR
 CAR TRIPS

CITY OF PUYALLUP



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**FREEMAN ROAD LOGISTICS
 (HIGH-CUBE SHORT-TERM
 WAREHOUSE)
 ITE LUC 154**

CITY OF PUYALLUP

LEGEND

AWDT
 AM ← PEAK



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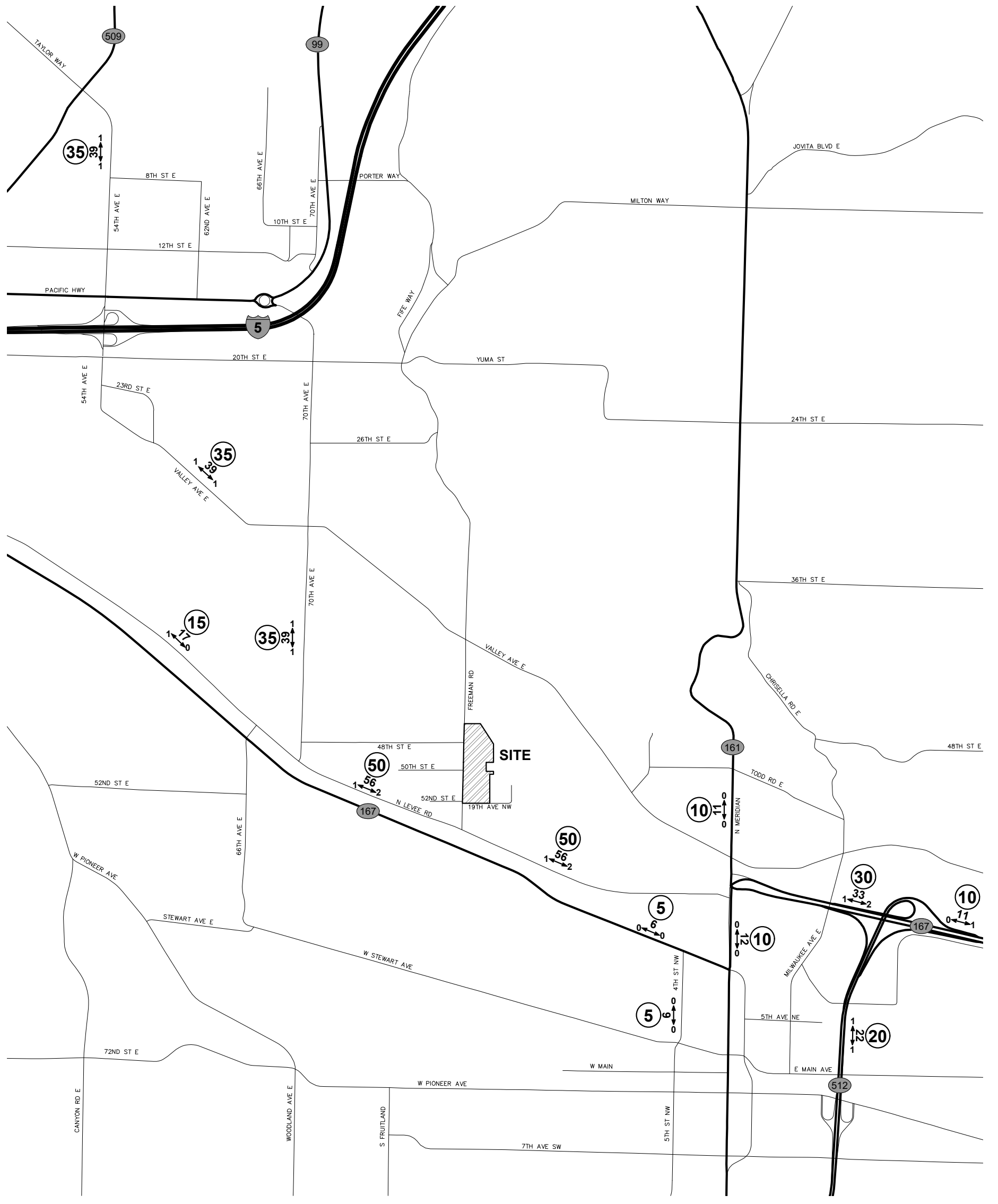
NEW DAILY TRAFFIC
 NEW PEAK-HOUR TRIPS

TRIP DISTRIBUTION

ONE (1) ADDITIONAL AWDT

FIGURE 8
 DEVELOPMENT
 TRIP DISTRIBUTION
 AM PEAK-HOUR
 TRUCK TRIPS

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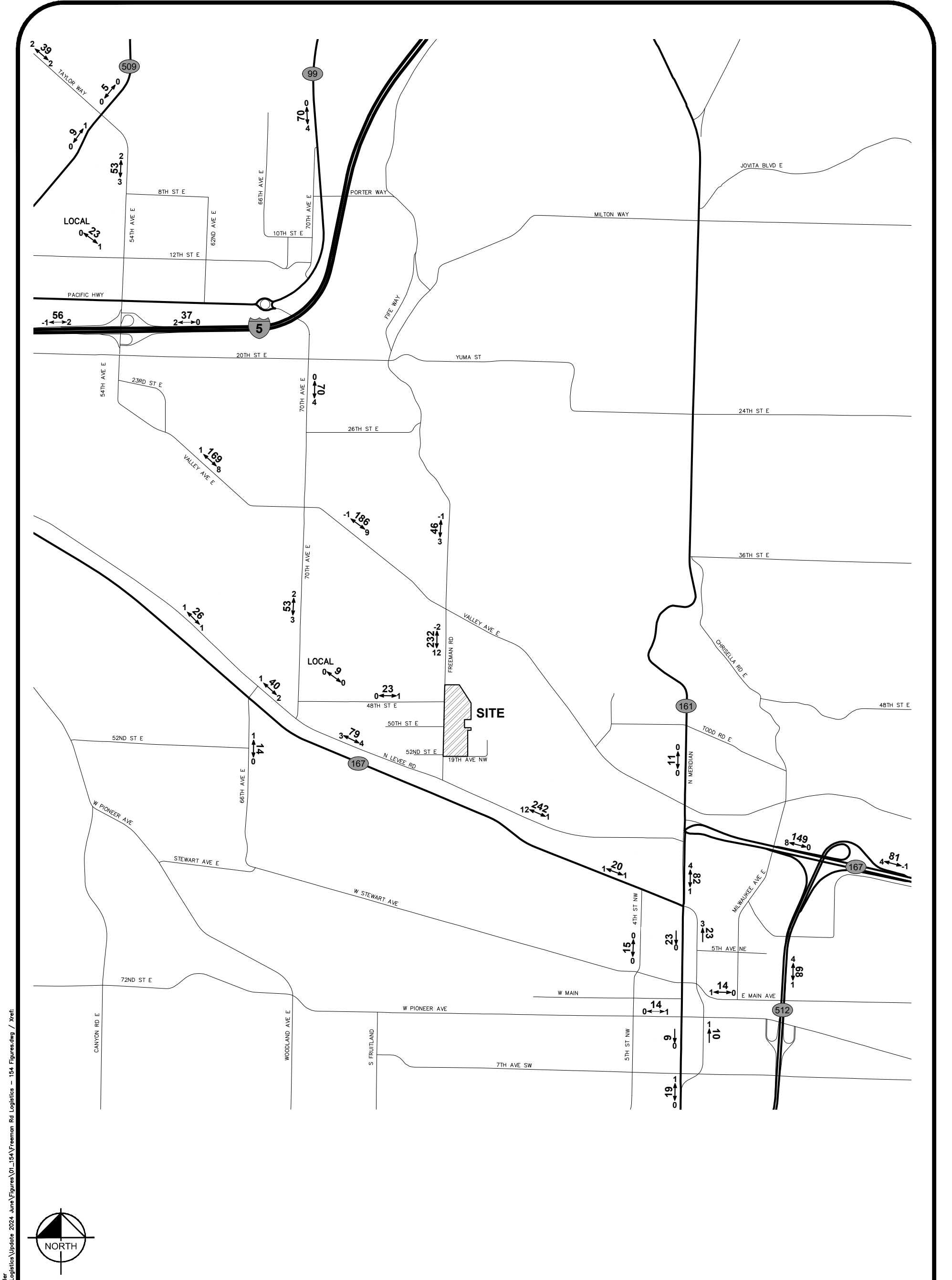


**FREEMAN ROAD LOGISTICS
 (HIGH-CUBE SHORT-TERM
 WAREHOUSE)
 ITE LUC 154**

CITY OF PUYALLUP

LEGEND
 AWDT
 PM ← → PEAK
 (XX)
 NEW DAILY TRAFFIC
 NEW PEAK-HOUR TRIPS
 TRIP DISTRIBUTION

FIGURE 9
 DEVELOPMENT
 TRIP DISTRIBUTION
 PM PEAK-HOUR
 TRUCK TRIPS



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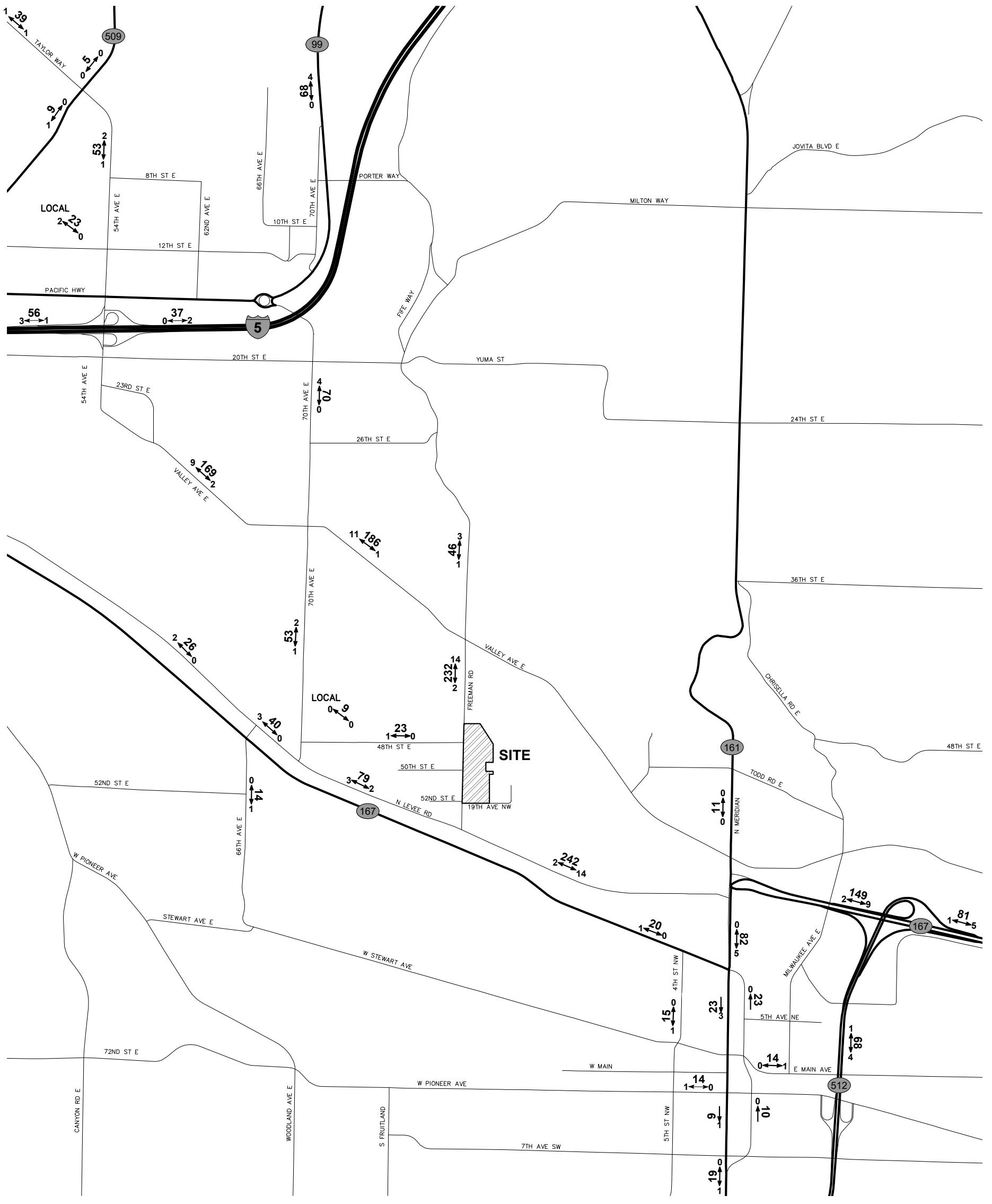
**FREEMAN ROAD LOGISTICS
 (HIGH-CUBE SHORT-TERM
 WAREHOUSE)
 ITE LUC 154**

CITY OF PUYALLUP

LEGEND

- AWDT** NEW DAILY TRAFFIC
- AM ← PEAK** NEW PEAK-HOUR TRIPS
- (XX)** TRIP DISTRIBUTION

FIGURE 10
 TOTAL DEVELOPMENT
 TRIP DISTRIBUTION
 AM PEAK-HOUR
 CARS AND TRUCKS



**FREEMAN ROAD LOGISTICS
(HIGH-CUBE SHORT-TERM
WAREHOUSE)
ITE LUC 154**

LEGEND
 AWDT
 PM ← PEAK
 (XX)
 NEW DAILY TRAFFIC
 NEW PEAK-HOUR TRIPS
 TRIP DISTRIBUTION

FIGURE 11
 TOTAL DEVELOPMENT
 TRIP DISTRIBUTION
 PM PEAK-HOUR
 CARS AND TRUCKS

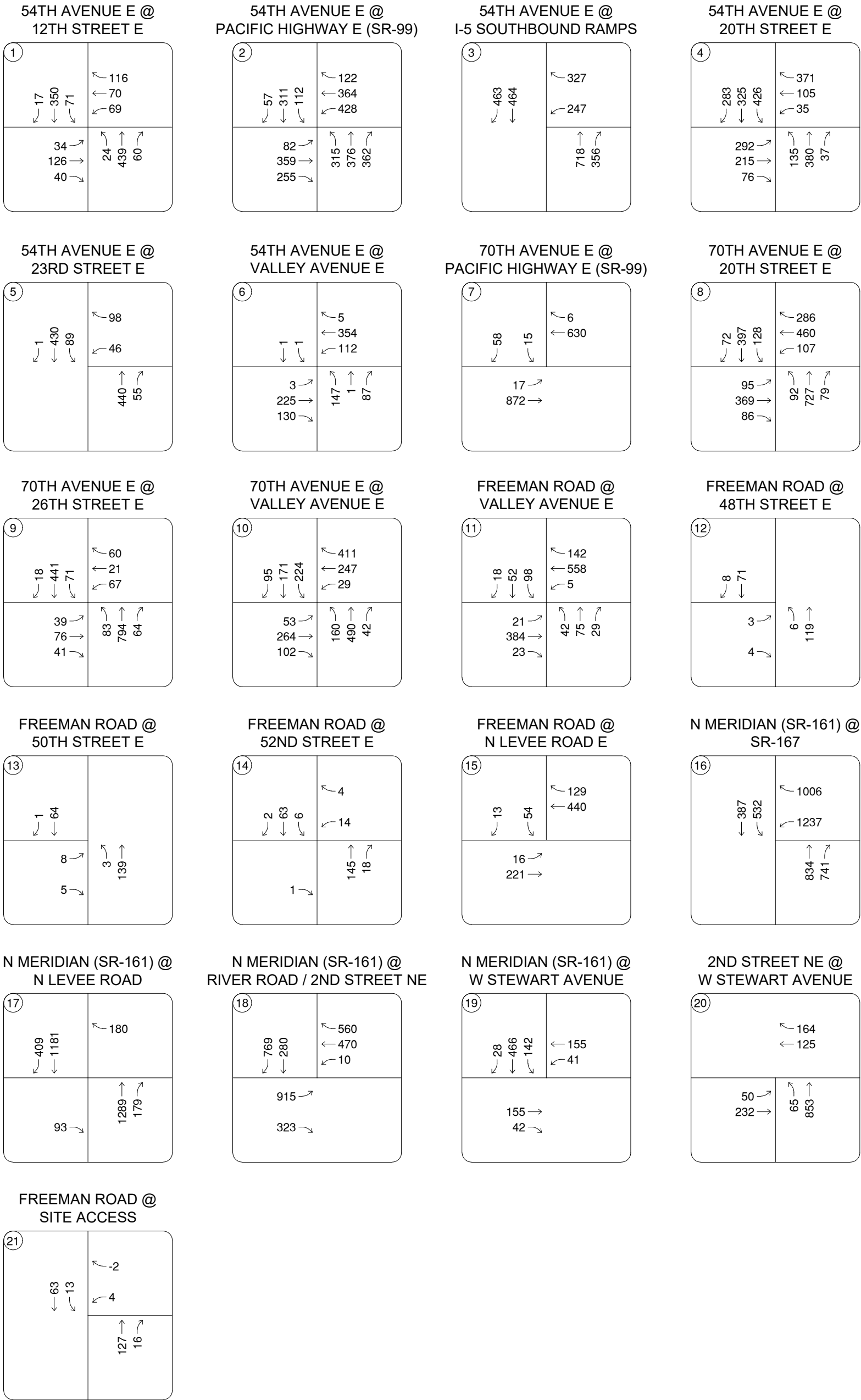
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6.2 2025 Future with Development

The 2025 future with development turning movements at the study intersections were calculated by adding the trips generated by the Development to the 2025 baseline turning movements. The trips generated by the Development are based on the AM and PM peak-hour trip distributions under the high-cube transload and short-term warehouse scenario. Turning movements for the 2025 future with development conditions are shown in **Figure 12** and **Figure 13** for the AM and PM peak hours, respectively. The turning movement calculations have been provided in **Appendix D**.



**FREEMAN ROAD LOGISTICS
 (HIGH-CUBE SHORT-TERM
 WAREHOUSE)
 ITE LUC 154**

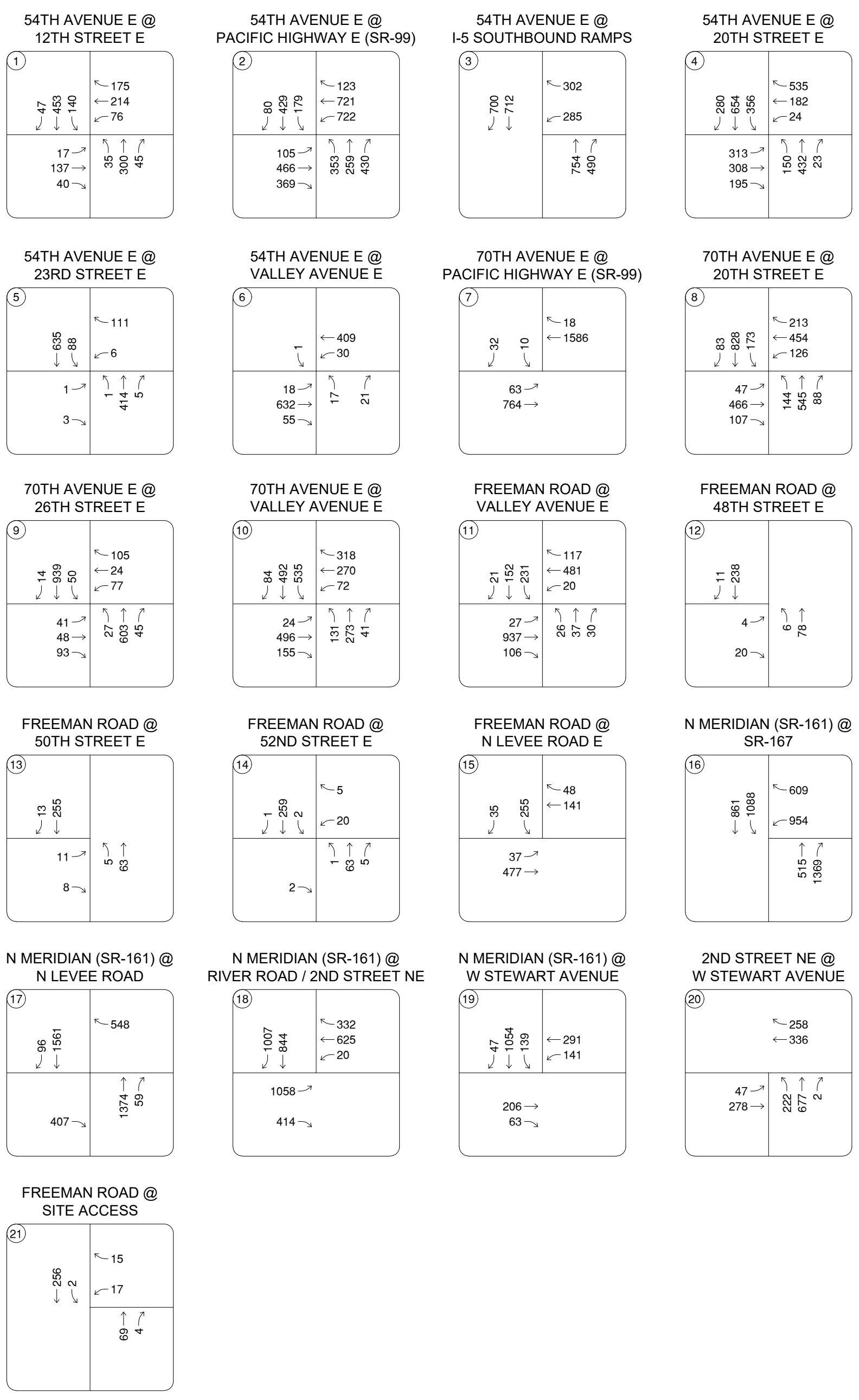
LEGEND

xx → AM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 12
 2025 FUTURE WITH DEVELOPMENT
 TURNING MOVEMENTS
 AM PEAK-HOUR

CITY OF PUYALLUP

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**FREEMAN ROAD LOGISTICS
 (HIGH-CUBE SHORT-TERM
 WAREHOUSE)
 ITE LUC 154**

LEGEND
 xx → PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 13
 2025 FUTURE WITH DEVELOPMENT
 TURNING MOVEMENTS
 PM PEAK-HOUR

CITY OF PUYALLUP



6.3 Level Of Service (LOS) Analysis – High-Cube Transload Short-Term Storage Warehouse

Intersection LOS was analyzed for each of the study intersections for the 2025 future with development scenario. The City of Fife has a LOS standard of LOS D for intersections; however, if an intersection is already forecasted to operate worse than LOS D before development trips are added then a development is allowed to proceed unless it degrades the LOS further with just the development trips (Fife Municipal Code 17.08.030). The City of Puyallup has adopted LOS D as the standard except for the Meridian corridor where LOS E is acceptable (Transportation Element T-3.2). SR-99 has a LOS standard of LOS D.

The future LOS at the study intersections is summarized in **Table 6** and **Table 7** for the AM and PM peak-hours, respectively. The complete LOS for the AM and PM peak-hours have been provided in **Appendix D**.

Table 6: Weekday AM Peak-Hour LOS Summary

	Intersection	Control Type	2025 Baseline Conditions			2025 Future w/ Conditions		
			LOS	Delay	v/c	LOS	Delay	v/c
1.	54 th Avenue E at 12 th Street E	Signal	B	13.0 sec	0.54	B	13.0 sec	0.54
2.	54 th Avenue E at Pacific Highway E (SR-99)	Signal	E	74.9 sec	1.35	E	75.5 sec	1.35
	- With Improvements	Optimized Timings	E	66.9 sec	1.22	E	67.4 sec	1.22
3.	54 th Avenue E at I-5 Southbound Ramps	Signal	B	19.2 sec	0.90	B	19.3 sec	0.90
4.	54 th Avenue E at 20 th Street E	Signal	D	53.9 sec	0.91	D	54.1 sec	0.91
	- With Improvements	Optimized Timings	D	46.5 sec	0.97	D	47.0 sec	0.97
5.	54 th Avenue E at 23 rd Street E	Signal	A	8.0 sec	0.55	A	8.0 sec	0.55
6.	54 th Avenue E at Valley Avenue E	Signal	B	13.4 sec	0.68	B	13.6 sec	0.68
7.	70 th Avenue E at Pacific Highway E (SR-99)	Signal	A	5.6 sec	0.03	A	5.6 sec	0.03
8.	70 th Avenue E at 20 th Street E	Signal	D	44.1 sec	0.89	D	44.1 sec	0.89
9.	70 th Avenue E at 26 th Street E	Signal	C	25.3 sec	0.56	C	25.3 sec	0.56
10.	70 th Avenue E at Valley Avenue E	Signal	D	40.2 sec	0.91	D	40.4 sec	0.92
11.	Freeman Road at Valley Avenue E	Signal	C	20.9 sec	0.50	C	20.8 sec	0.50
	- With 167 Extension	Reduction	B	13.8 sec	0.33	B	13.8 sec	0.33
12.	Freeman Road at 48 th Street E	Minor-Leg Stop-Control	A	9.3 sec	---	A	9.3 sec	---
13.	Freeman Road at 50 th Street E	Minor-Leg Stop-Control	A	9.4 sec	---	A	9.5 sec	---
14.	Freeman Road at 52 nd Street E	Minor-Leg Stop-Control	B	11.0 sec	---	B	11.2 sec	---
15.	Freeman Road at N Levee Road E	Minor-Leg Stop-Control	C	18.3 sec	---	C	18.7 sec	---
	- With Improvements	SB Split + AWSC	C	21.5 sec	---	C	18.8 sec	---
	- With 167 Extension	Reduction	B	13.2 sec	---	B	13.3 sec	---
16.	N Meridian (SR-161) at SR-167	Signal	F	123.4 sec	1.77	F	125.1 sec	1.78
17.	N Meridian (SR-161) at N Levee Road	Minor-Leg Stop-Control	C	23.9 sec	---	C	23.9 sec	---
18.	N Meridian (SR-161) at River Road/2 nd Street NE	Signal	D	44.2 sec	1.05	D	44.4 sec	1.05
19.	N Meridian (SR-161) at W Stewart Avenue	Signal	C	28.5 sec	1.10	C	28.5 sec	1.10
20.	2 nd Street NE at W Stewart Avenue	Signal	B	18.3 sec	0.68	B	18.3 sec	0.68
21.	Freeman Road at Site Access	Minor-Leg Stop-Control	---	---	---	A	9.9 sec	---

Table 7: Weekday PM Peak-Hour LOS Summary

	Intersection	Control Type	2025 Baseline Conditions			2025 Future w/ Conditions		
			LOS	Delay	v/c	LOS	Delay	v/c
1.	54 th Avenue E at 12 th Street E	Signal	B	16.2 sec	0.63	B	16.2 sec	0.63
2.	54 th Avenue E at Pacific Highway E (SR-99)	Signal	F	134.8 sec	2.03	F	134.9 sec	2.03
	- With Improvements	Optimized Timings	E	75.5 sec	1.30	E	76.0 sec	1.30
3.	54 th Avenue E at I-5 Southbound Ramps	Signal	C	31.0 sec	0.94	C	31.0 sec	0.94
4.	54 th Avenue E at 20 th Street E	Signal	E	63.0 sec	0.96	E	63.4 sec	0.96
	- With Improvements	Optimized Timings	E	58.7 sec	0.97	E	59.4 sec	0.98
5.	54 th Avenue E at 23 rd Street E	Signal	A	7.9 sec	0.49	A	7.9 sec	0.49
6.	54 th Avenue E at Valley Avenue E	Signal	A	3.7 sec	0.48	A	3.8 sec	0.48
7.	70 th Avenue E at Pacific Highway E (SR-99)	Signal	B	15.8 sec	0.13	B	15.8 sec	0.13
8.	70 th Avenue E at 20 th Street E	Signal	D	48.2 sec	0.94	D	48.2 sec	0.94
9.	70 th Avenue E at 26 th Street E	Signal	B	19.5 sec	0.54	B	19.5 sec	0.54
10.	70 th Avenue E at Valley Avenue E	Signal	D	45.4 sec	0.82	D	45.4 sec	0.82
11.	Freeman Road at Valley Avenue E	Signal	C	26.5 sec	0.73	C	27.5 sec	0.74
	- With 167 Extension	Reduction	C	20.4 sec	0.56	C	21.6 sec	0.58
12.	Freeman Road at 48 th Street E	Minor-Leg Stop-Control	B	10.1 sec	---	B	10.1 sec	---
13.	Freeman Road at 50 th Street E	Minor-Leg Stop-Control	B	10.6 sec	---	B	10.8 sec	---
14.	Freeman Road at 52 nd Street E	Minor-Leg Stop-Control	B	11.3 sec	---	B	11.5 sec	---
15.	Freeman Road at N Levee Road E	Minor-Leg Stop-Control	D	34.5 sec	---	E	38.5 sec	---
	- With Improvements	SB Split + AWSC	C	24.4 sec	---	C	20.1 sec	---
	- With 167 Extension	Reduction	B	13.9 sec	---	B	14.2 sec	---
16.	N Meridian (SR-161) at SR-167	Signal	F	142.8 sec	1.60	F	144.4 sec	1.61
17.	N Meridian (SR-161) at N Levee Road	Minor-Leg Stop-Control	F	273.3 sec	---	F	284.1 sec	---
18.	N Meridian (SR-161) at River Road/2 nd Street NE	Signal	E	61.6 sec	1.15	E	61.9 sec	1.16
	- With Improvements	Optimized Timings	E	60.3 sec	1.05	E	60.5 sec	1.05
19.	N Meridian (SR-161) at W Stewart Avenue	Signal	C	22.5 sec	0.78	C	22.5 sec	0.78
20.	2 nd Street NE at W Stewart Avenue	Signal	C	25.3 sec	0.83	C	25.3 sec	0.83
21.	Freeman Road at Site Access	Minor-Leg Stop-Control	---	---	---	A	9.9 sec	---

7. LAND USE CODE 150 – WAREHOUSING

7.1 Trip Generation

Trip generation calculations for the Development are based on national statistics contained in the ITE’s *Trip Generation, 11th Edition (2021)*. The average trip generation rates for LUC 150, Warehousing, and LUC 210, Single-Family Detached Housing, have been used for the trip generation calculations of the Development for this scenario. Per the ITE, a Warehousing use stores products on-site, typically for more than a month. There is limited truck parking and loading docks on one or two sides. There are currently 14 existing residential uses on-site. The trip generation calculations are summarized in **Table 8**.

Table 8: Total Vehicle Trip Generation Summary

Land Use	Size	Average Daily Trips (ADTs)	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Warehousing (Building A) LUC 150	238,525 SF	407.88	32.85	7.70	40.55	16.74	26.19	42.93
Warehousing (Building B) LUC 150	266,911 SF	456.42	36.75	8.62	45.37	18.74	29.30	48.04
Single-Family Detached LUC 210	-14 units	-132.02	-2.55	-7.25	-9.80	-8.29	-4.87	-13.16
TOTAL		732.28	67.05	9.07	76.12	27.19	50.62	77.81

Under the warehousing land use, the Development is anticipated to generate approximately 732 new average daily trips with 76 new AM peak-hour trips and 78 new PM peak-hour trips.

The ITE provides specific trip generation rates for heavy trucks for the specified land uses. The Development’s expected truck trip generation are summarized in **Table 9**.

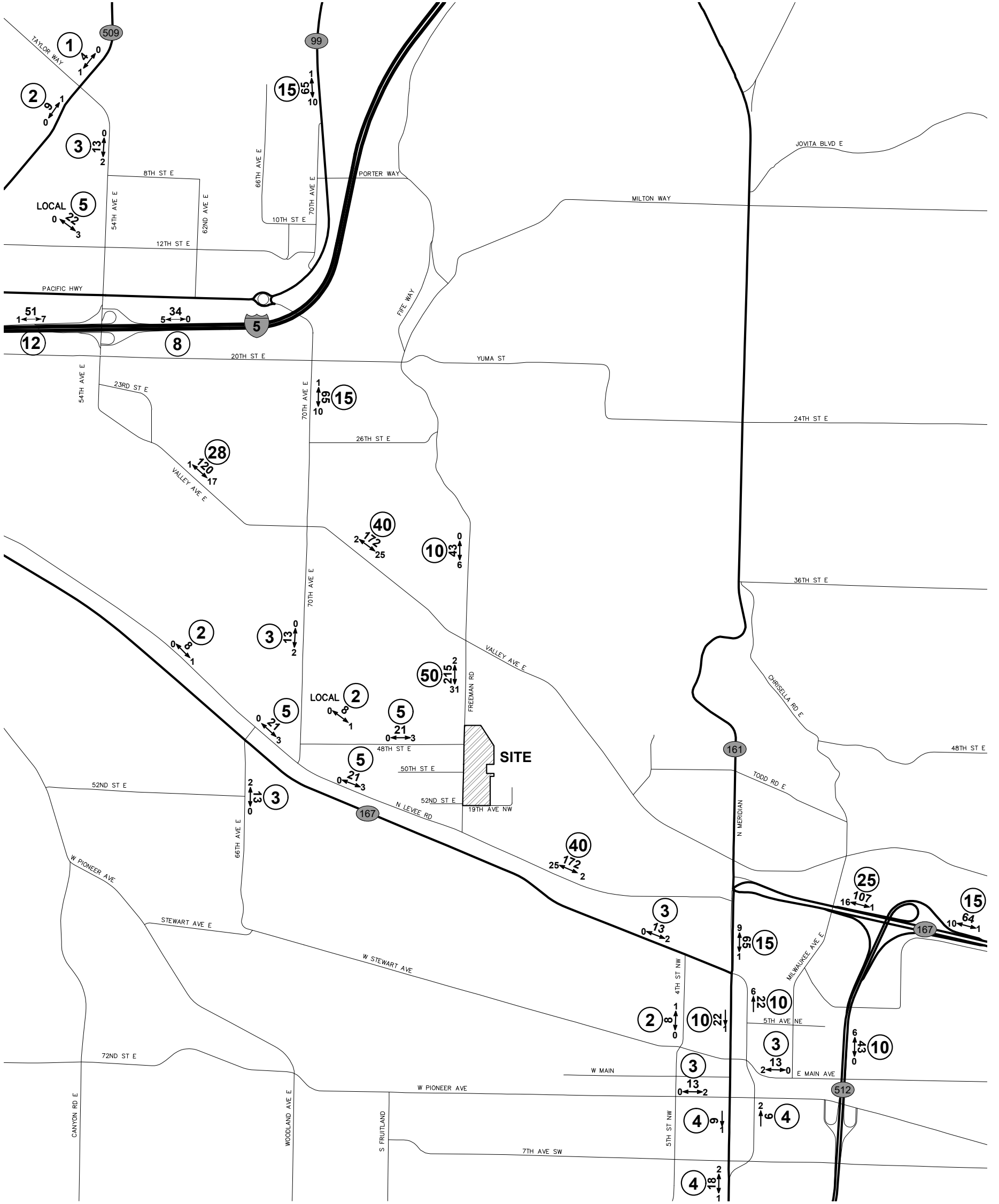
Table 9: Truck Trip Generation Summary

505,436 SF Warehousing LUC 150	Average Daily Trips			AM Peak-Hour Trips			PM Peak-Hour Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
Generation Rate	0.60 trips per 1,000 SF			0.02 trips per 1,000 SF			0.03 trips per 1,000 SF		
Splits	50%	50%	100%	52%	48%	100%	52%	48%	100%
Trips	151.64	151.63	303.27	5.26	4.85	10.11	7.89	7.28	15.17

The Development is anticipated to generate approximately 303 new average daily truck trips with 10 new AM peak-hour truck trips and 15 new PM peak-hour truck trips. The trip generation calculations — including truck trip generation rates — are included in the **Appendix E**.

The car trip distribution under warehousing conditions for the AM and PM peak-hours is included in **Figure 14** and **Figure 15**. The truck trip distribution under warehousing conditions for the AM and PM peak-hours is included in **Figure 16** and **Figure 17**. A summary of the total site traffic under warehousing conditions during the AM and PM peak-hours is included in **Figure 18** and **Figure 19**, respectively.

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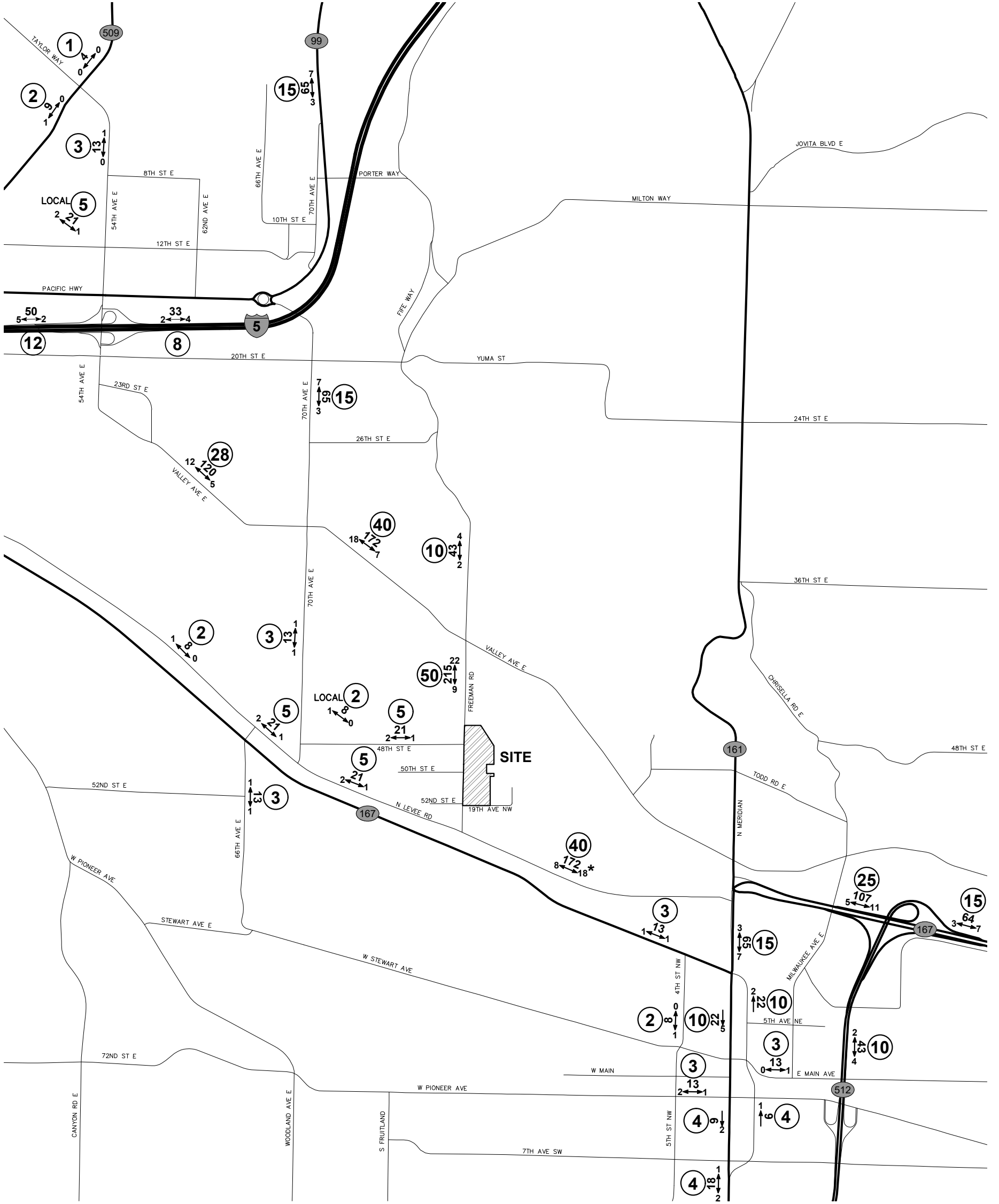
**FREEMAN ROAD LOGISTICS
 (WAREHOUSING)
 ITE LUC 150**

LEGEND
 AWDT NEW DAILY TRAFFIC
 AM-PEAK NEW PEAK-HOUR TRIPS
 XX TRIP DISTRIBUTION

FIGURE 14
 DEVELOPMENT
 TRIP DISTRIBUTION
 AM PEAK-HOUR
 CAR TRIPS

CITY OF PUYALLUP





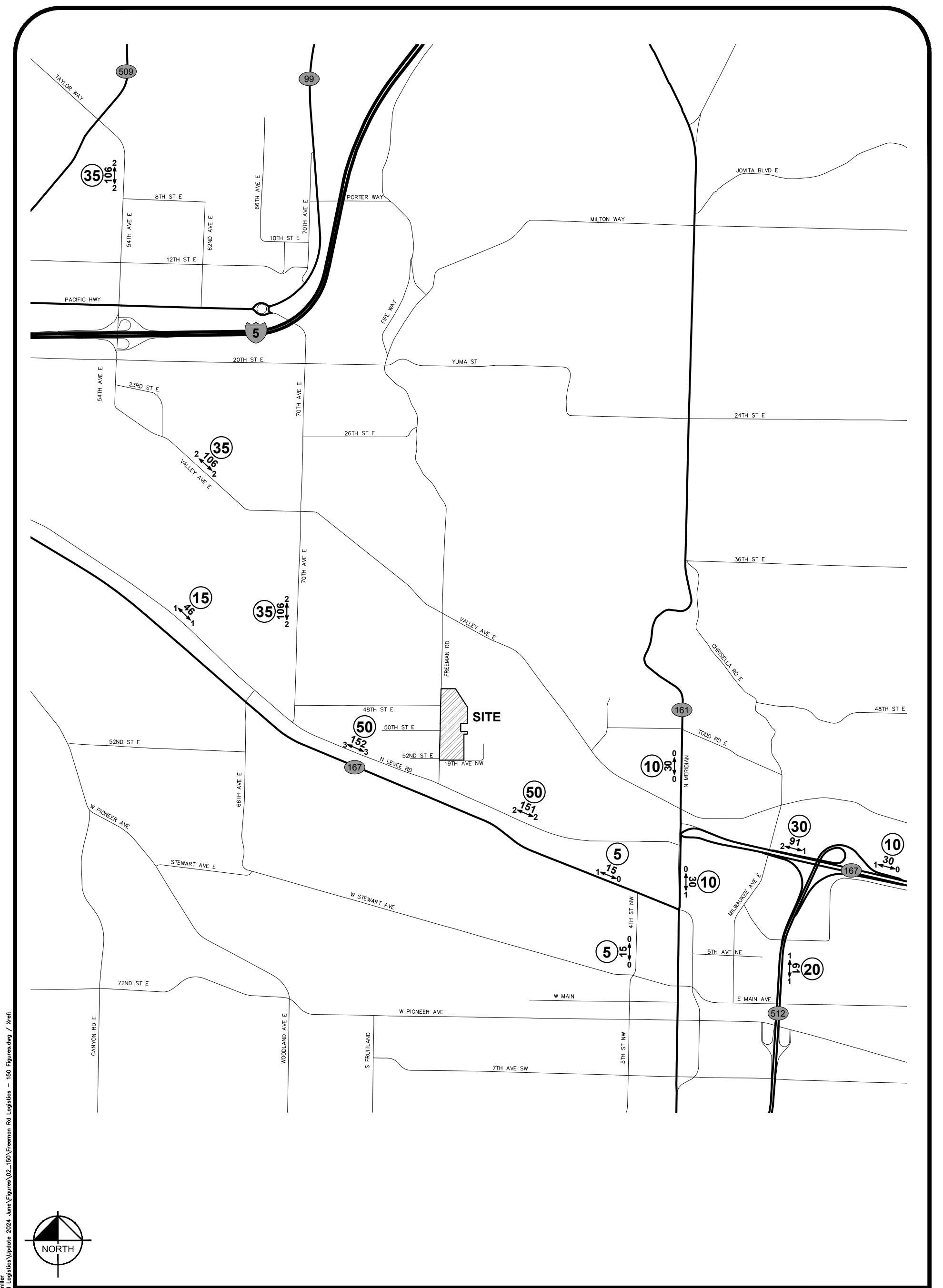
**FREEMAN ROAD LOGISTICS
 (WAREHOUSING)
 ITE LUC 150**

CITY OF PUYALLUP

LEGEND

- AWDT** NEW DAILY TRAFFIC
- PM ← PEAK** NEW PEAK-HOUR TRIPS
- (XX)** TRIP DISTRIBUTION
- *** ONE (1) ADDITIONAL OUTBOUND TRIP

FIGURE 15
 DEVELOPMENT
 TRIP DISTRIBUTION
 PM PEAK-HOUR
 CAR TRIPS



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**FREEMAN ROAD LOGISTICS
 (WAREHOUSING)
 ITE LUC 150**

CITY OF PUYALLUP

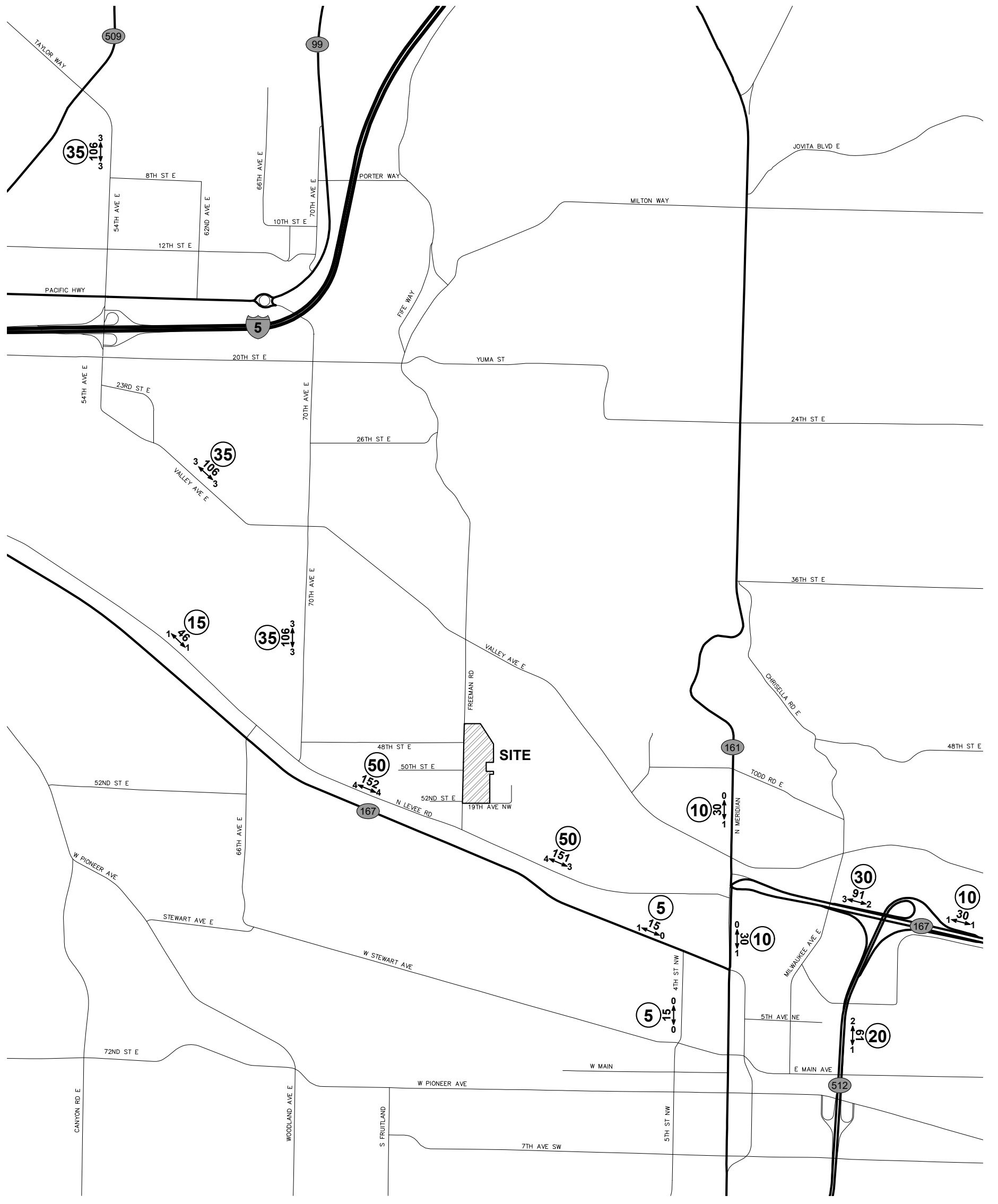
LEGEND

AWDT
 AM ← PEAK
(XX)
 TRIP DISTRIBUTION

NEW DAILY TRAFFIC
 NEW PEAK-HOUR TRIPS
 TRIP DISTRIBUTION

FIGURE 16
 DEVELOPMENT
 TRIP DISTRIBUTION
 AM PEAK-HOUR
 TRUCK TRIPS

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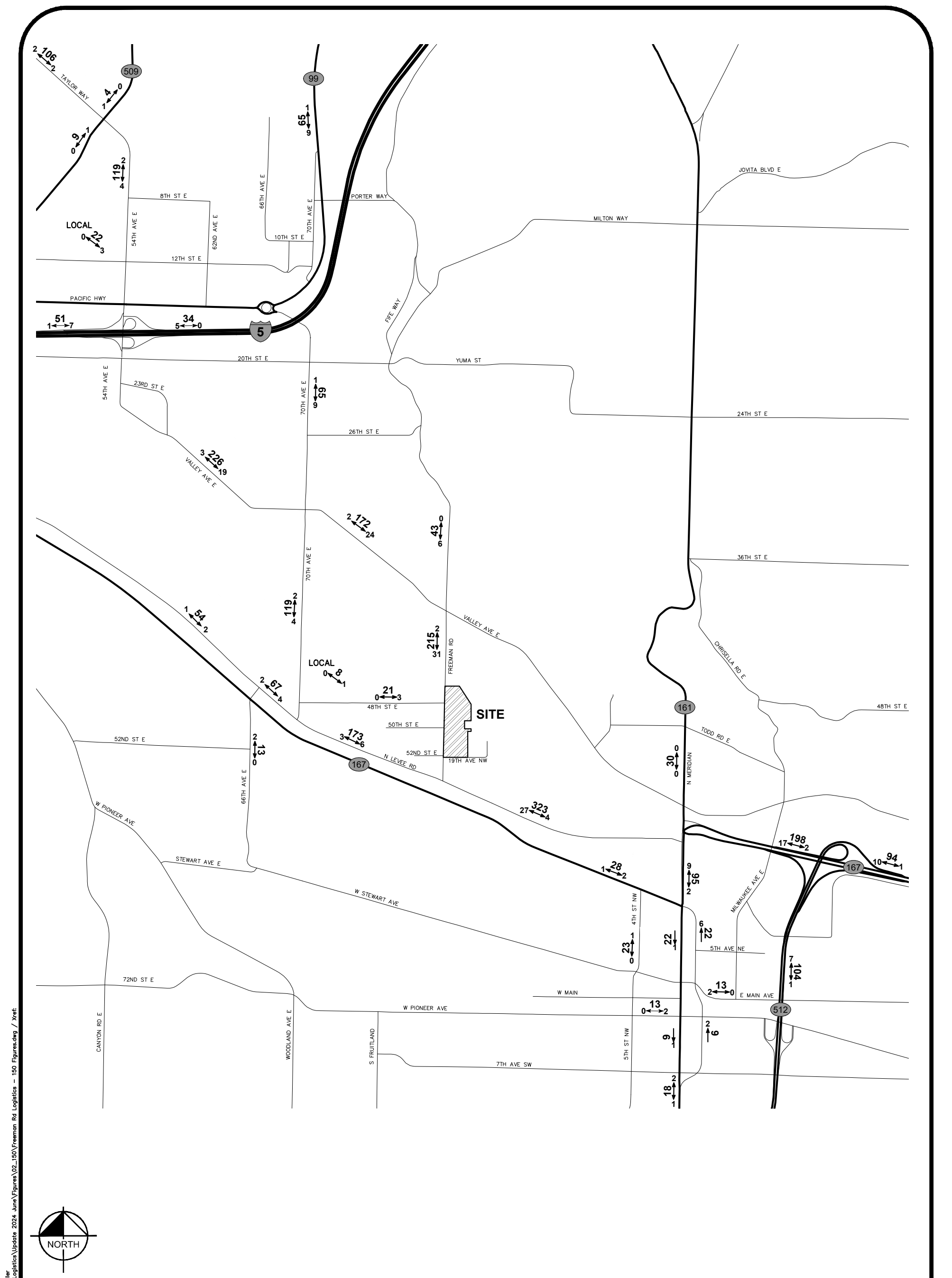
**FREEMAN ROAD LOGISTICS
 (WAREHOUSING)
 ITE LUC 150**

LEGEND
 AWDT
 PM ← PEAK
 NEW DAILY TRAFFIC
 NEW PEAK-HOUR TRIPS
 TRIP DISTRIBUTION

FIGURE 17
 DEVELOPMENT
 TRIP DISTRIBUTION
 PM PEAK-HOUR
 TRUCK TRIPS

CITY OF PUYALLUP





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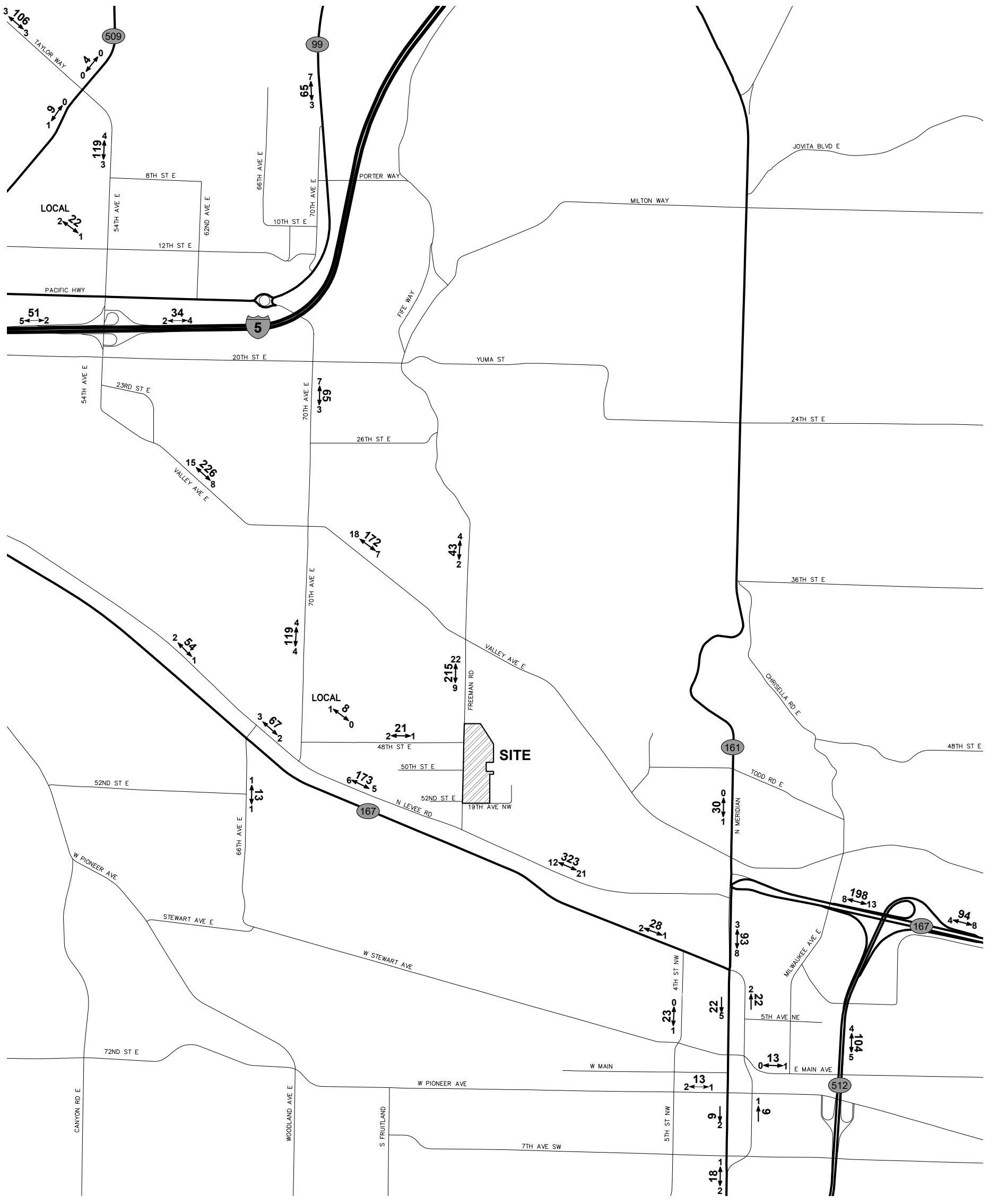
**FREEMAN ROAD LOGISTICS
(WAREHOUSING)
ITE LUC 150**

CITY OF PUYALLUP

LEGEND
 AWDT
 AM ← PEAK
 (XX)
 NEW DAILY TRAFFIC
 NEW PEAK-HOUR TRIPS
 TRIP DISTRIBUTION

FIGURE 18
 TOTAL DEVELOPMENT
 TRIP DISTRIBUTION
 AM PEAK-HOUR
 CARS AND TRUCKS

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FREEMAN ROAD LOGISTICS (WAREHOUSING) ITE LUC 150

- LEGEND**
- AWDT NEW DAILY TRAFFIC
 - PM ← PEAK NEW PEAK-HOUR TRIPS
 - XX TRIP DISTRIBUTION

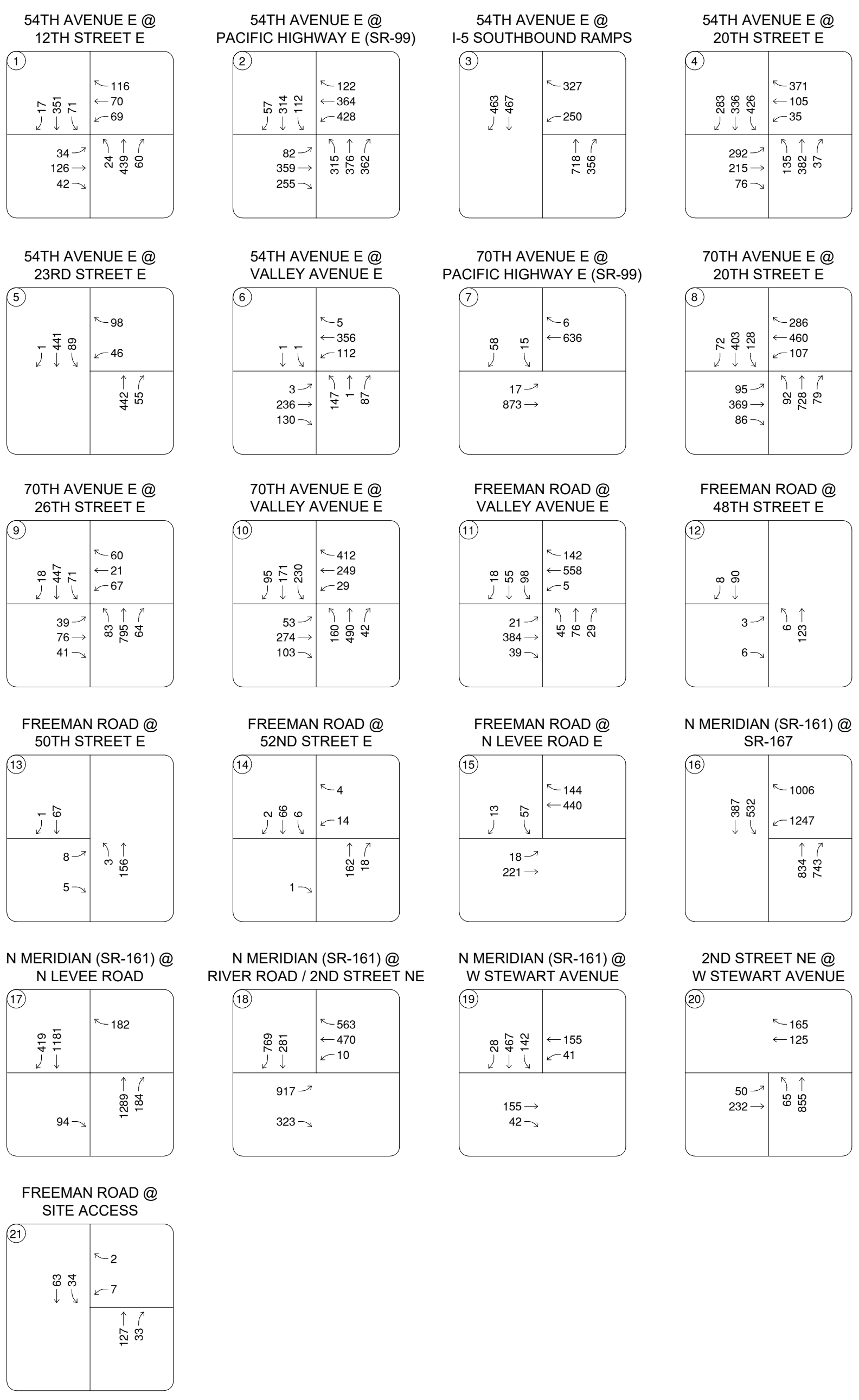
FIGURE 19
TOTAL DEVELOPMENT
TRIP DISTRIBUTION
PM PEAK-HOUR
CARS AND TRUCKS

CITY OF PUYALLUP

7.2 2025 Future with Development

The 2025 future with development turning movements at the study intersections were calculated by adding the trips generated by the Development to the 2025 baseline turning movements. The trips generated by the Development are based on the AM and PM peak-hour trip distributions under the warehousing scenario. Turning movements for the 2025 future with development conditions are shown in **Figure 20** and **Figure 21** for the AM and PM peak hours, respectively. The turning movement calculations have been provided in **Appendix E**.

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**FREEMAN ROAD LOGISTICS
 (WAREHOUSING)
 ITE LUC 150**

CITY OF PUYALLUP

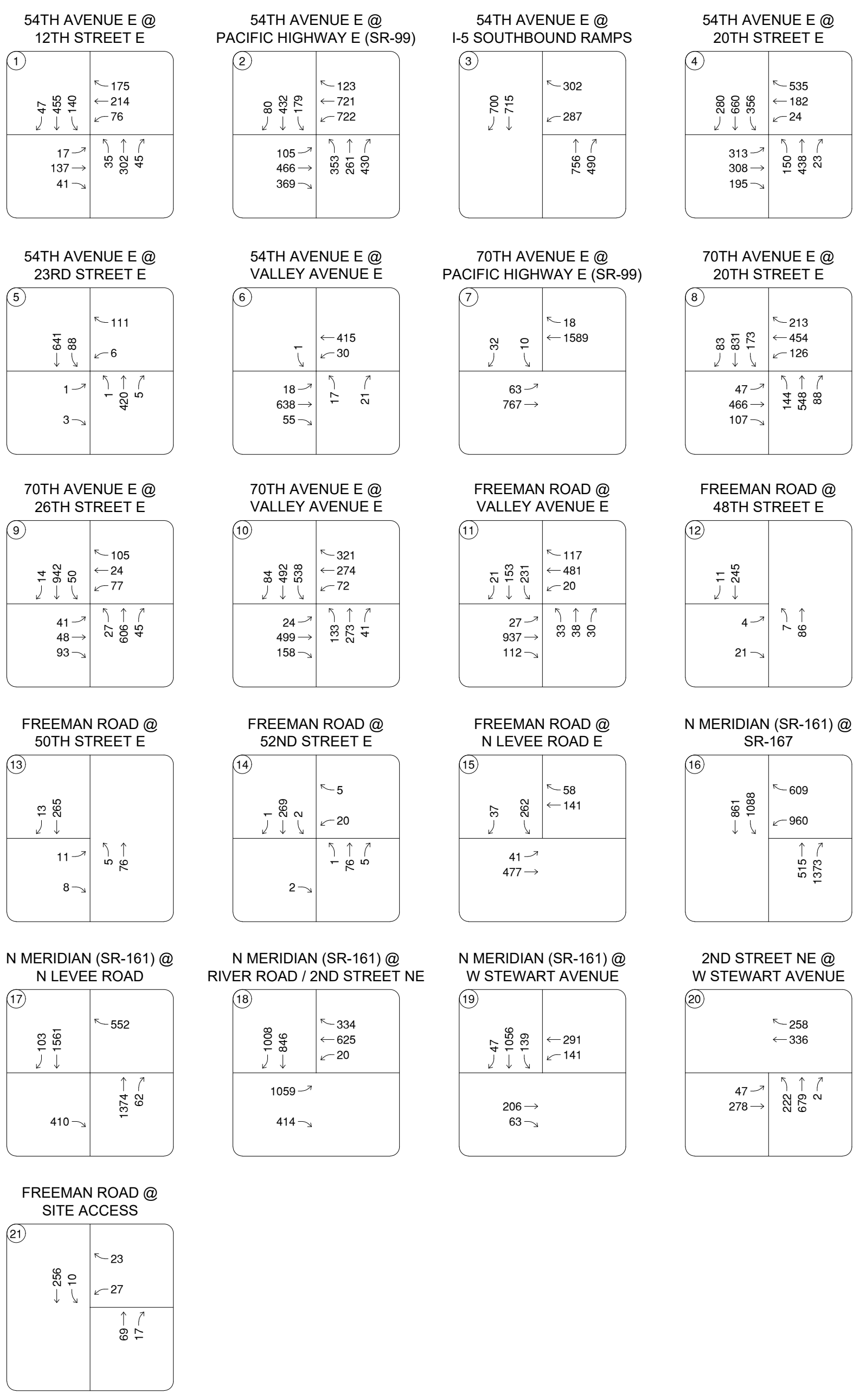
LEGEND

xx → AM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 20
 2025 FUTURE WITH DEVELOPMENT
 TURNING MOVEMENTS
 AM PEAK-HOUR

Kimley»Horn

Date: June 23, 2024 - 5:39pm / User: jayvntiller
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**FREEMAN ROAD LOGISTICS
 (WAREHOUSING)
 ITE LUC 150**

CITY OF PUYALLUP

LEGEND

xx → PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 21
 2025 FUTURE WITH DEVELOPMENT
 TURNING MOVEMENTS
 PM PEAK-HOUR

Kimley»Horn

7.3 Level Of Service (LOS) Analysis - Warehousing

Intersection LOS was analyzed for each of the study intersections for the 2025 future with development scenario. The City of Fife has a LOS standard of LOS D for intersections; however, if an intersection is already forecasted to operate worse than LOS D before development trips are added then a development is allowed to proceed unless it degrades the LOS further with just the development trips (Fife Municipal Code 17.08.030). The City of Puyallup has adopted LOS D as the standard except for the Meridian corridor where LOS E is acceptable (Transportation Element T-3.2). SR-99 has a LOS standard of LOS D.

The future LOS at the study intersections is summarized in **Table 10** and **Table 11** for the AM and PM peak-hours, respectively. The complete LOS for the AM and PM peak-hours have been provided in **Appendix E**.

Table 10: Weekday AM Peak-Hour LOS Summary

	Intersection	Control Type	2025 Baseline Conditions			2025 Future w/ Conditions		
			LOS	Delay	v/c	LOS	Delay	v/c
1.	54 th Avenue E at 12 th Street E	Signal	B	13.0 sec	0.54	B	13.5 sec	0.54
2.	54 th Avenue E at Pacific Highway E (SR-99)	Signal	E	74.9 sec	1.35	E	75.6 sec	1.35
	- With Improvements	Optimized Timings	E	66.9 sec	1.22	E	67.4 sec	1.22
3.	54 th Avenue E at I-5 Southbound Ramps	Signal	B	19.2 sec	0.90	B	19.5 sec	0.91
4.	54 th Avenue E at 20 th Street E	Signal	D	53.9 sec	0.91	D	54.3 sec	0.92
	- With Improvements	Optimized Timings	D	46.5 sec	0.97	D	47.7 sec	0.98
5.	54 th Avenue E at 23 rd Street E	Signal	A	8.0 sec	0.55	A	8.0 sec	0.55
6.	54 th Avenue E at Valley Avenue E	Signal	B	13.4 sec	0.68	B	13.8 sec	0.69
7.	70 th Avenue E at Pacific Highway E (SR-99)	Signal	A	5.6 sec	0.03	A	5.6 sec	0.03
8.	70 th Avenue E at 20 th Street E	Signal	D	44.1 sec	0.89	D	44.2 sec	0.89
9.	70 th Avenue E at 26 th Street E	Signal	C	25.3 sec	0.56	C	25.3 sec	0.56
10.	70 th Avenue E at Valley Avenue E	Signal	D	40.2 sec	0.91	D	40.4 sec	0.92
11.	Freeman Road at Valley Avenue E	Signal	C	20.9 sec	0.50	C	20.9 sec	0.50
	- With 167 Extension	Reduction	B	13.8 sec	0.33	B	13.9 sec	0.33
12.	Freeman Road at 48 th Street E	Minor-Leg Stop-Control	A	9.3 sec	---	A	9.3 sec	---
13.	Freeman Road at 50 th Street E	Minor-Leg Stop-Control	A	9.4 sec	---	A	9.6 sec	---
14.	Freeman Road at 52 nd Street E	Minor-Leg Stop-Control	B	11.0 sec	---	B	11.4 sec	---
15.	Freeman Road at N Levee Road E	Minor-Leg Stop-Control	C	18.3 sec	---	C	19.3 sec	---
	- With Improvements	SB Split + AWSC	C	21.5 sec	---	C	20.0 sec	---
	- With 167 Extension	Reduction	B	13.2 sec	---	B	13.5 sec	---
16.	N Meridian (SR-161) at SR-167	Signal	F	123.4 sec	1.77	F	127.3 sec	1.80
17.	N Meridian (SR-161) at N Levee Road	Minor-Leg Stop-Control	C	23.9 sec	---	C	24.1 sec	---
18.	N Meridian (SR-161) at River Road/2 nd Street NE	Signal	D	44.2 sec	1.05	D	44.6 sec	1.05
19.	N Meridian (SR-161) at W Stewart Avenue	Signal	C	28.5 sec	1.10	C	28.5 sec	1.10
20.	2 nd Street NE at W Stewart Avenue	Signal	B	18.3 sec	0.68	B	18.4 sec	0.69
21.	Freeman Road at Site Access	Minor-Leg Stop-Control	---	---	---	B	10.1 sec	---

Table 11: Weekday PM Peak-Hour LOS Summary

	Intersection	Control Type	2025 Baseline Conditions			2025 Future w/ Conditions		
			LOS	Delay	v/c	LOS	Delay	v/c
1.	54 th Avenue E at 12 th Street E	Signal	B	16.2 sec	0.63	B	16.2 sec	0.63
2.	54 th Avenue E at Pacific Highway E (SR-99)	Signal	F	134.8 sec	2.03	F	134.9 sec	2.03
	- With Improvements	Optimized Timings	E	75.5 sec	1.30	E	76.1 sec	1.30
3.	54 th Avenue E at I-5 Southbound Ramps	Signal	C	31.0 sec	0.94	C	31.1 sec	0.94
4.	54 th Avenue E at 20 th Street E	Signal	E	63.0 sec	0.96	E	63.8 sec	0.96
	- With Improvements	Optimized Timings	E	58.7 sec	0.97	E	60.1 sec	0.99
5.	54 th Avenue E at 23 rd Street E	Signal	A	7.9 sec	0.49	A	8.0 sec	0.49
6.	54 th Avenue E at Valley Avenue E	Signal	A	3.7 sec	0.48	A	3.8 sec	0.48
7.	70 th Avenue E at Pacific Highway E (SR-99)	Signal	B	15.8 sec	0.13	B	15.8 sec	0.13
8.	70 th Avenue E at 20 th Street E	Signal	D	48.2 sec	0.94	D	48.4 sec	0.95
9.	70 th Avenue E at 26 th Street E	Signal	B	19.5 sec	0.54	B	19.5 sec	0.55
10.	70 th Avenue E at Valley Avenue E	Signal	D	45.4 sec	0.82	D	45.4 sec	0.83
11.	Freeman Road at Valley Avenue E	Signal	C	26.5 sec	0.73	C	27.7 sec	0.74
	- With 167 Extension	Reduction	C	20.4 sec	0.56	C	21.7 sec	0.59
12.	Freeman Road at 48 th Street E	Minor-Leg Stop-Control	B	10.1 sec	---	B	10.2 sec	---
13.	Freeman Road at 50 th Street E	Minor-Leg Stop-Control	B	10.6 sec	---	B	10.9 sec	---
14.	Freeman Road at 52 nd Street E	Minor-Leg Stop-Control	B	11.3 sec	---	B	11.8 sec	---
15.	Freeman Road at N Levee Road E	Minor-Leg Stop-Control	D	34.5 sec	---	E	43.5 sec	---
	- With Improvements	SB Split + AWSC	C	24.4 sec	---	C	21.0 sec	---
	- With 167 Extension	Reduction	B	13.9 sec	---	B	14.6 sec	---
16.	N Meridian (SR-161) at SR-167	Signal	F	142.8 sec	1.60	F	145.9 sec	1.61
17.	N Meridian (SR-161) at N Levee Road	Minor-Leg Stop-Control	F	273.3 sec	---	F	288.9 sec	---
18.	N Meridian (SR-161) at River Road/2 nd Street NE	Signal	E	61.6 sec	1.15	E	62.1 sec	1.16
	- With Improvements	Optimized Timings	E	60.3 sec	1.05	E	60.4 sec	1.05
19.	N Meridian (SR-161) at W Stewart Avenue	Signal	C	22.5 sec	0.78	C	22.5 sec	0.78
20.	2 nd Street NE at W Stewart Avenue	Signal	C	25.3 sec	0.83	C	25.3 sec	0.83
21.	Freeman Road at Site Access	Minor-Leg Stop-Control	---	---	---	B	10.2 sec	---

8. LAND USE CODE 130 – INDUSTRIAL PARK

8.1 Trip Generation

Trip generation calculations for the Development are based on national statistics contained in the ITE’s *Trip Generation, 11th Edition (2021)*. An industrial park contains three or more individual industrial or related facilities and is characterized by a mix of manufacturing, service and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. The average trip generation rates for LUC 130, Industrial Park, and LUC 210, Single-Family Detached Housing, have been used for the trip generation calculations of the Development for this scenario. The trip generation calculations are summarized in **Table 12**.

Table 12: Total Vehicle Trip Generation Summary

Land Use	Size	ADTs	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Industrial Park (Building A) LUC 130	238,525 SF	803.83	65.69	14.51	81.10	17.84	63.26	81.10
Industrial Park (Building B) LUC 130	266,911 SF	899.49	73.51	17.24	90.75	19.97	70.78	90.75
Single-Family Detached LUC 210	-14 units	-132.02	-2.55	-7.25	-9.80	-8.29	-4.87	-13.16
TOTAL		1,571.30	136.65	25.40	162.05	29.52	129.17	158.69

Under the Industrial Park use, the Development is anticipated to generate approximately 1,571 new daily trips with 162 new AM peak-hour trips and 159 new PM peak-hour trips.

The ITE provides specific trip generation rates for heavy trucks for the specified land uses. The Development’s expected truck trip generation are summarized in **Table 13**.

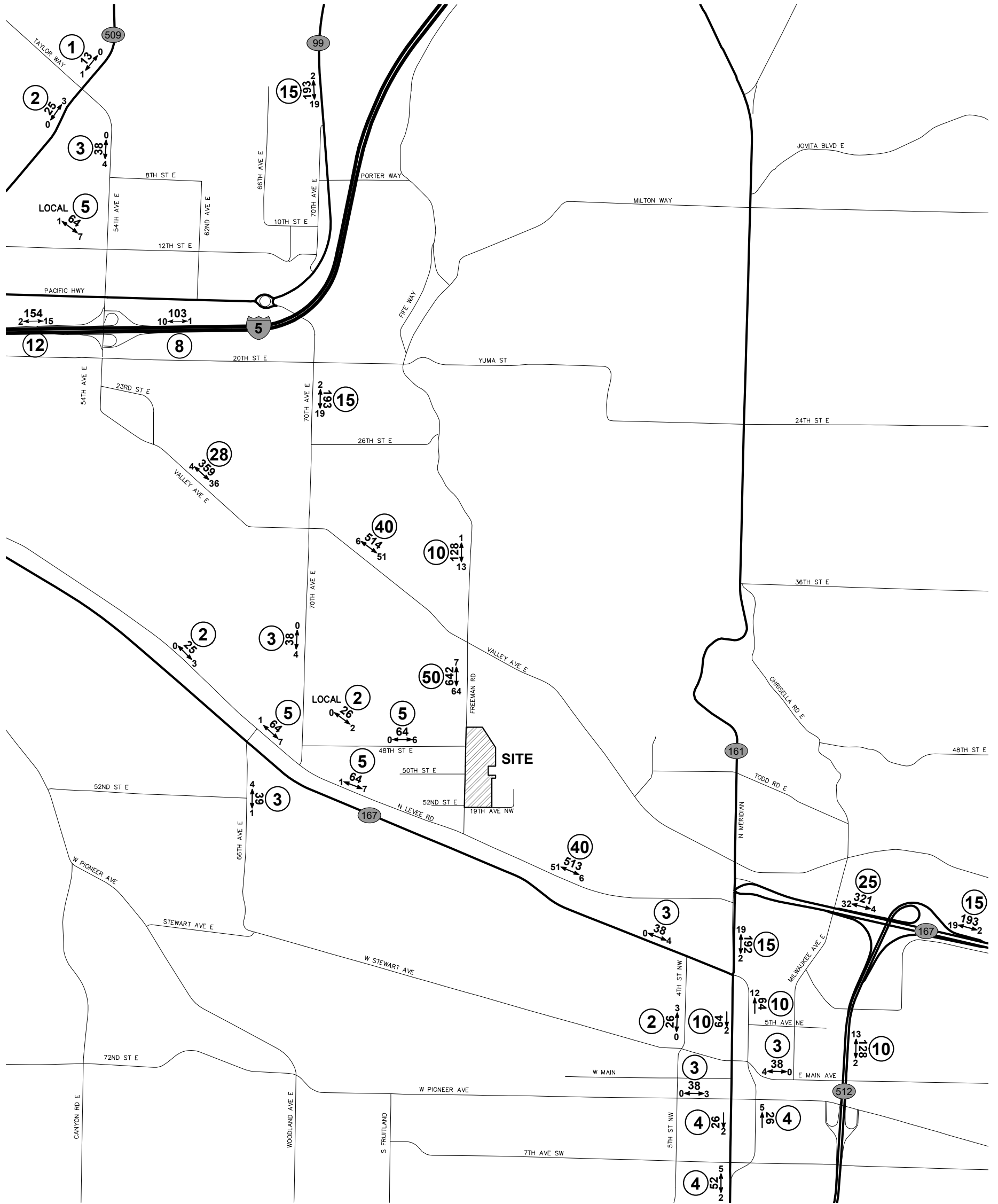
Table 13: Truck Trip Generation Summary

505,436 SF Industrial Park LUC 130	Average Daily Trips			AM Peak-Hour Trips			PM Peak-Hour Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
Generation Rate	0.57 trips per 1,000 SF			0.04 trips per 1,000 SF			0.04 trips per 1,000 SF		
Splits	50%	50%	100%	45%	55%	100%	38%	62%	100%
Trips	144.05	144.05	288.10	9.10	11.12	20.22	7.69	12.53	20.22

Under the Industrial Park land use, the Development is anticipated to generate approximately 288 new average daily truck trips with 20 new AM peak-hour truck trips and 20 new PM peak-hour truck trips. The trip generation calculations — including truck trip generation rates — are included in the **Appendix F**.

The car trip distribution under industrial park conditions for the AM and PM peak-hours is included in **Figure 22** and **Figure 23**. The truck trip distribution under warehousing conditions for the AM and PM peak-hours is included in **Figure 24** and **Figure 25**. A summary of the total site traffic under warehousing conditions during the AM and PM peak-hours is included in **Figure 26** and **Figure 27**, respectively.

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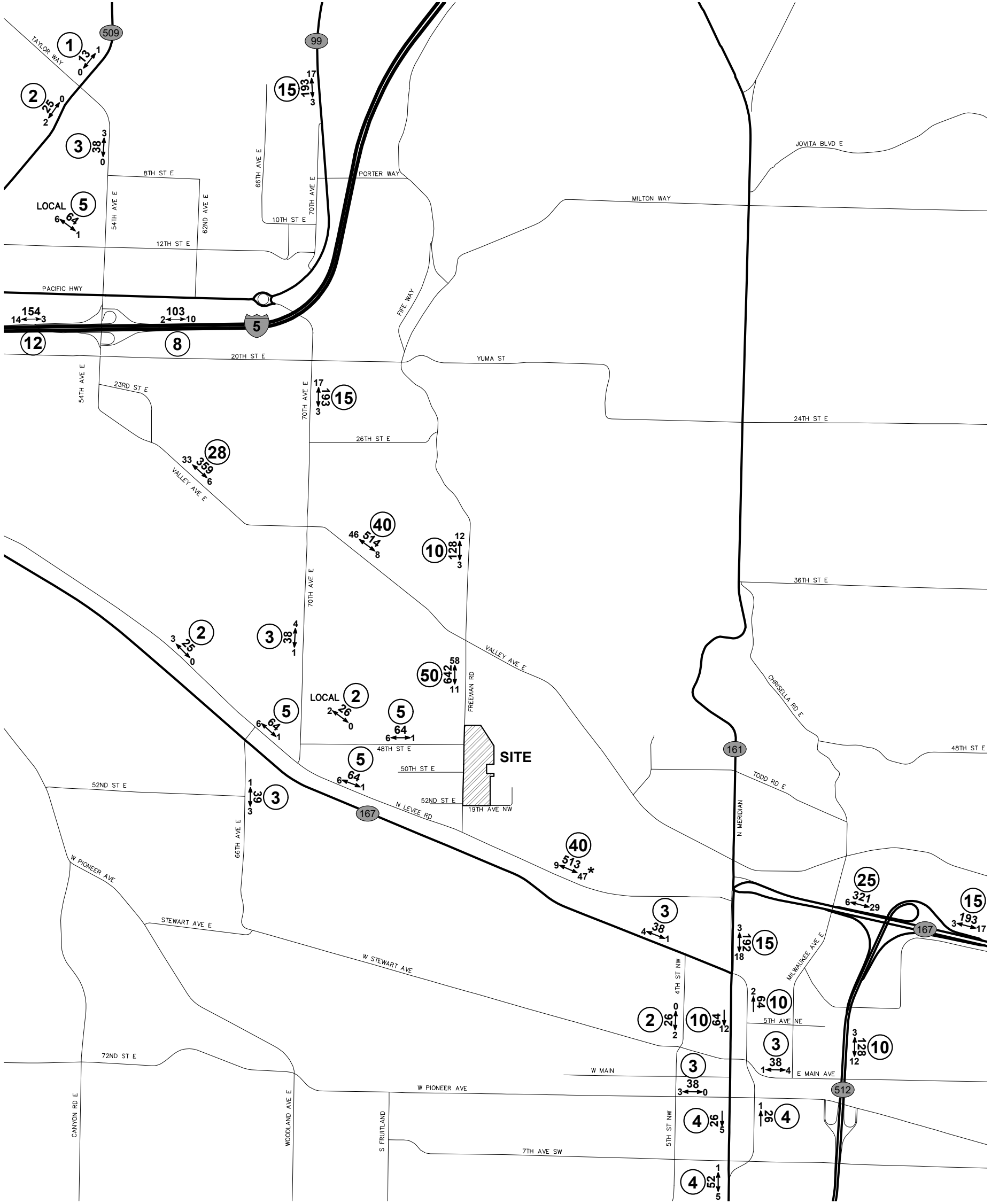
**FREEMAN ROAD LOGISTICS
 (INDUSTRIAL PARK)
 ITE LUC 130**

CITY OF PUYALLUP

LEGEND

- AWDT** NEW DAILY TRAFFIC
- AM ← PEAK** NEW PEAK-HOUR TRIPS
- XX** TRIP DISTRIBUTION

FIGURE 22
 DEVELOPMENT
 TRIP DISTRIBUTION
 AM PEAK-HOUR
 CAR TRIPS



**FREEMAN ROAD LOGISTICS
(INDUSTRIAL PARK)
ITE LUC 130**

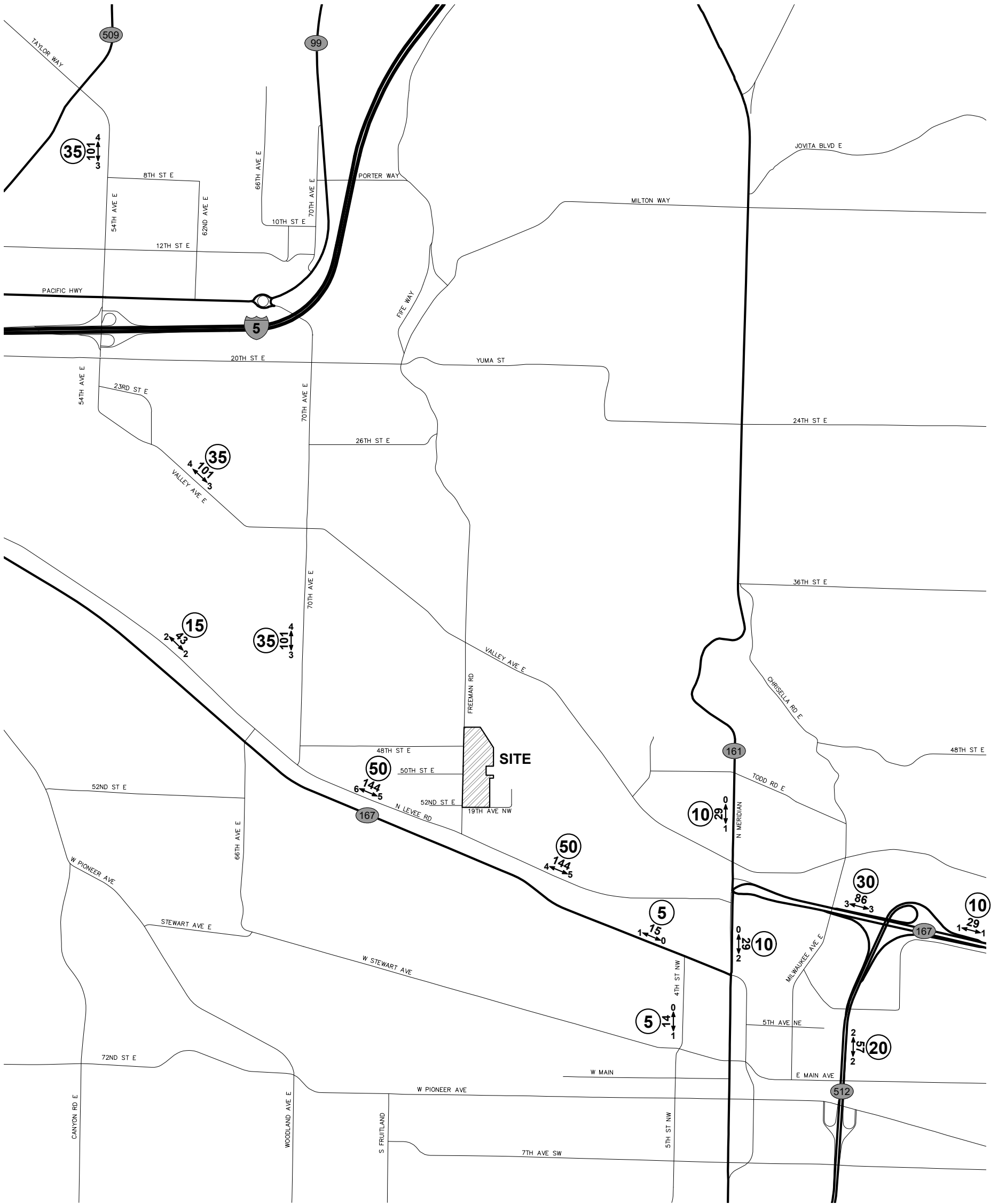
CITY OF PUYALLUP

LEGEND

- AWDT** NEW DAILY TRAFFIC
- PM ← PEAK** NEW PEAK-HOUR TRIPS
- (XX)** TRIP DISTRIBUTION
- *** ONE (1) ADDITIONAL OUTBOUND TRIP

FIGURE 23
DEVELOPMENT
TRIP DISTRIBUTION
PM PEAK-HOUR
CAR TRIPS

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**FREEMAN ROAD LOGISTICS
 (INDUSTRIAL PARK)
 ITE LUC 130**

CITY OF PUYALLUP

LEGEND

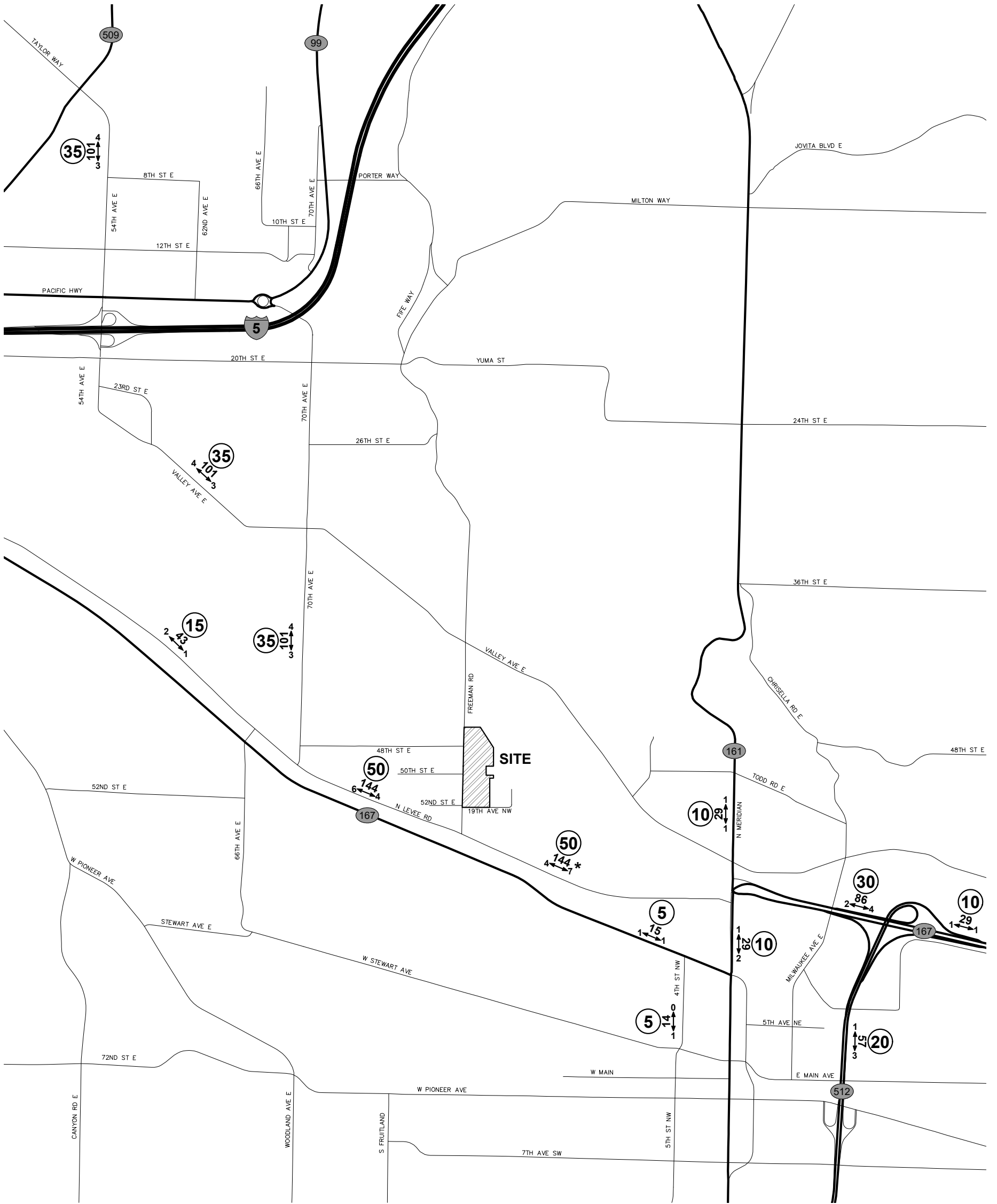
AWDT
 AM ← → PEAK



NEW DAILY TRAFFIC
 NEW PEAK-HOUR TRIPS
 TRIP DISTRIBUTION

FIGURE 24
 DEVELOPMENT
 TRIP DISTRIBUTION
 AM PEAK-HOUR
 TRUCK TRIPS

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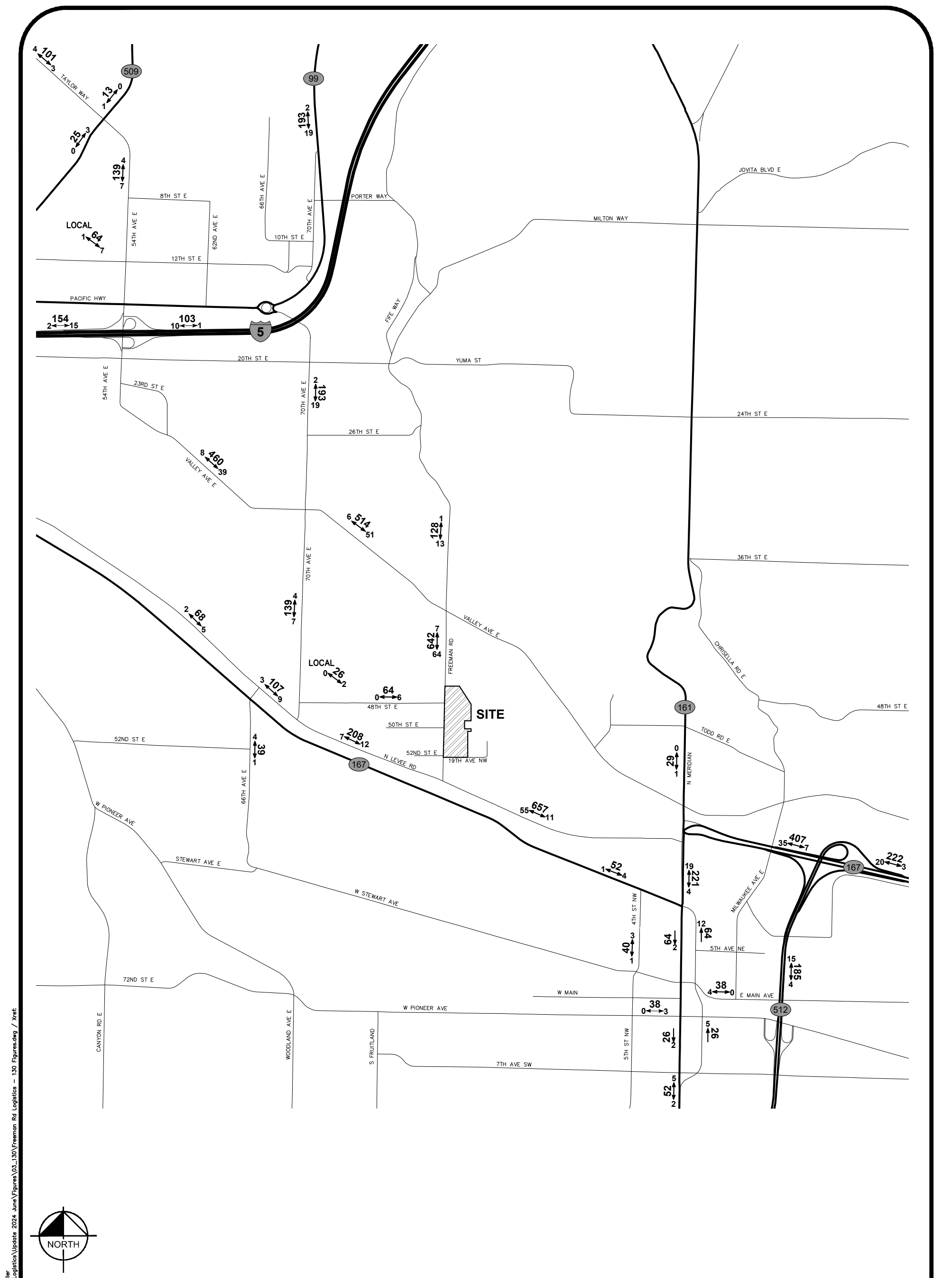
**FREEMAN ROAD LOGISTICS
 (INDUSTRIAL PARK)
 ITE LUC 130**

CITY OF PUYALLUP

LEGEND

- AWDT** NEW DAILY TRAFFIC
- PM ← → PEAK** NEW PEAK-HOUR TRIPS
- (XX)** TRIP DISTRIBUTION
- *** ONE (1) ADDITIONAL OUTBOUND TRIP

FIGURE 25
 DEVELOPMENT
 TRIP DISTRIBUTION
 PM PEAK-HOUR
 TRUCK TRIPS



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**FREEMAN ROAD LOGISTICS
 (INDUSTRIAL PARK)
 ITE LUC 130**

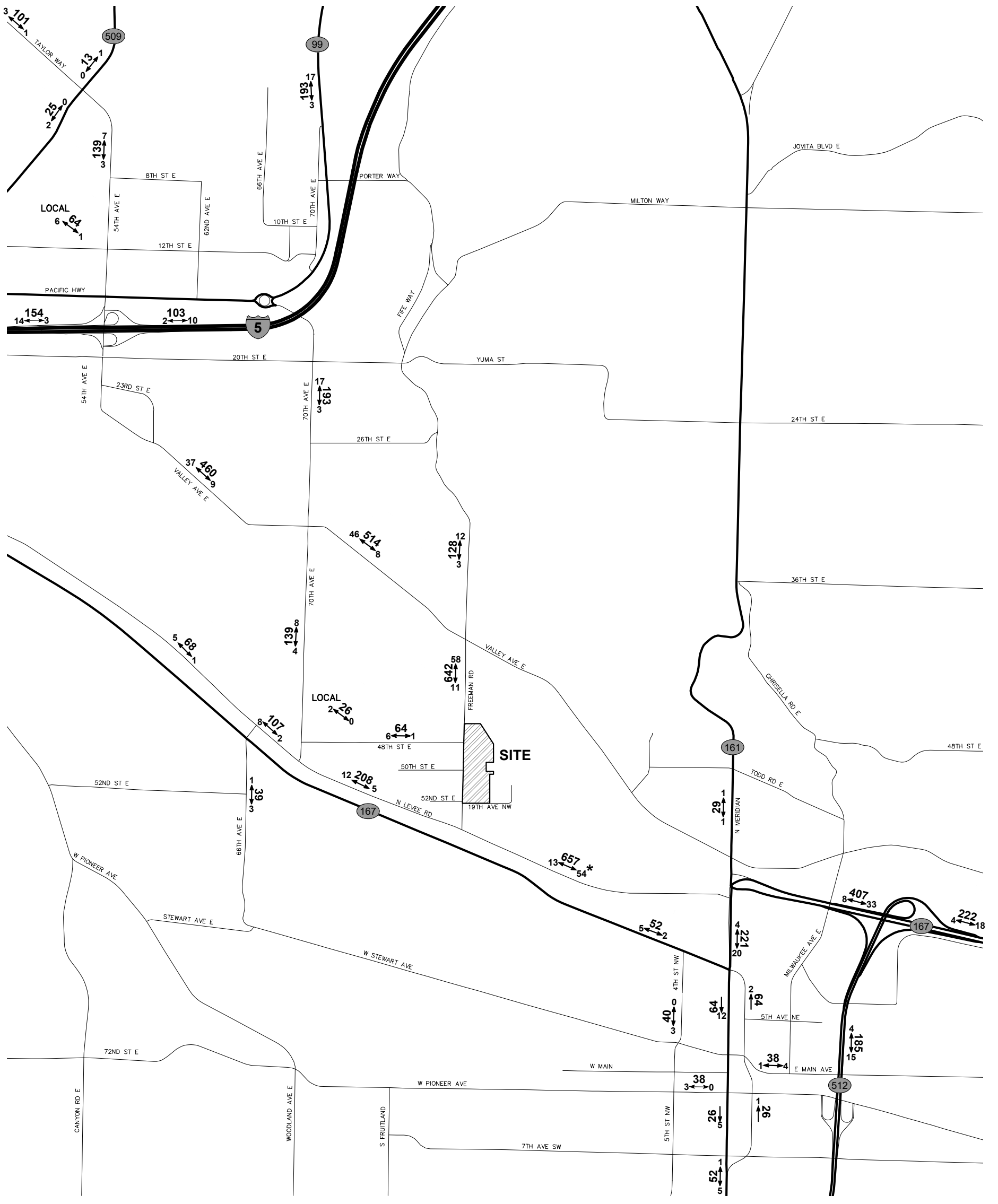
CITY OF PUYALLUP

LEGEND

AWDT NEW DAILY TRAFFIC
AM ↔ PEAK NEW PEAK-HOUR TRIPS
(XX) TRIP DISTRIBUTION

FIGURE 26
 TOTAL DEVELOPMENT
 TRIP DISTRIBUTION
 AM PEAK-HOUR
 CARS AND TRUCKS

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**FREEMAN ROAD LOGISTICS
 (INDUSTRIAL PARK)
 ITE LUC 130**

CITY OF PUYALLUP

LEGEND

- AWDT** NEW DAILY TRAFFIC
- PM ← PEAK** NEW PEAK-HOUR TRIPS
- (XX)** TRIP DISTRIBUTION
- *** ONE (1) ADDITIONAL OUTBOUND TRIP

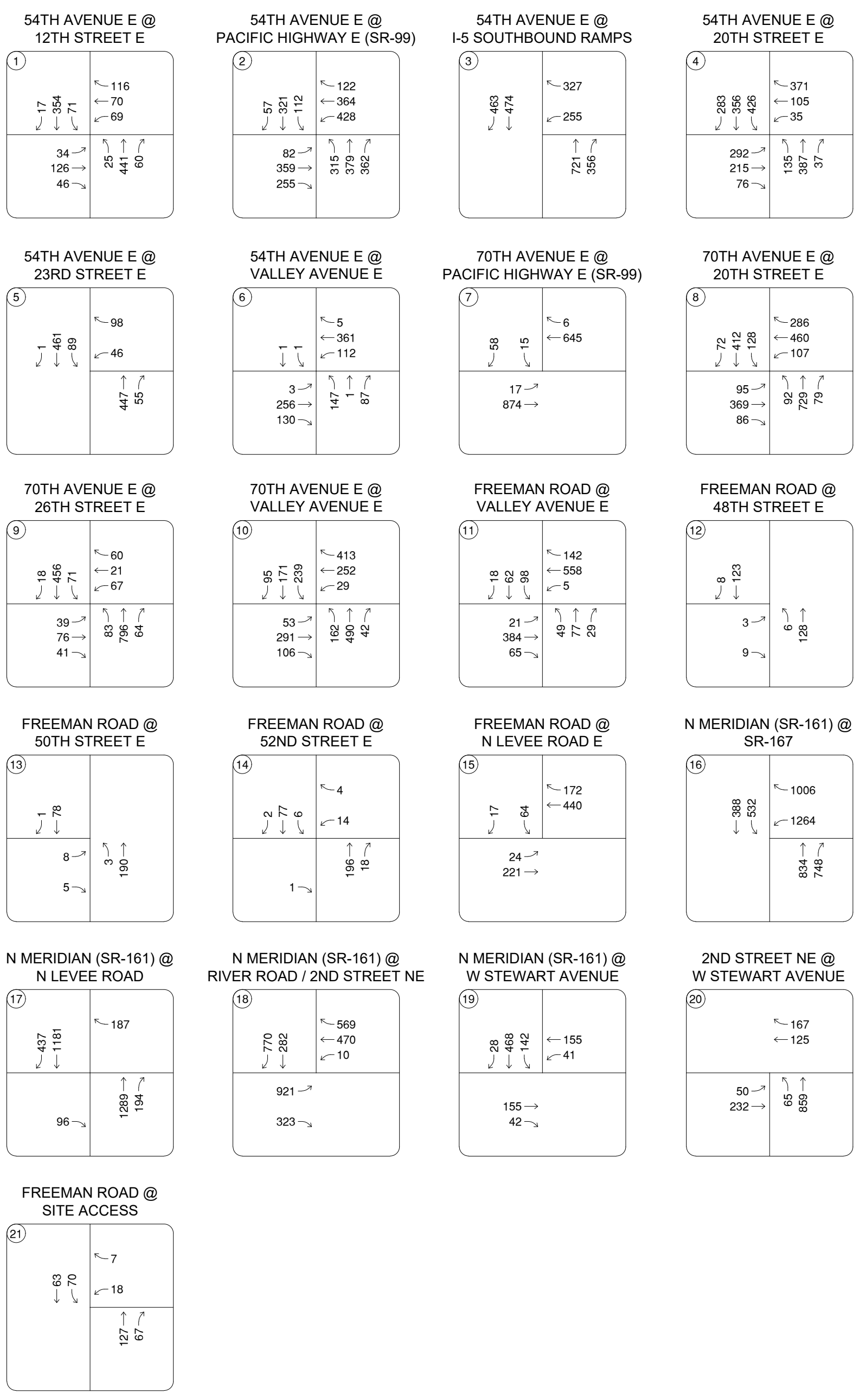
FIGURE 27
 TOTAL DEVELOPMENT
 TRIP DISTRIBUTION
 PM PEAK-HOUR
 CARS AND TRUCKS



8.2 2025 Future with Development

The 2025 future with development turning movements at the study intersections were calculated by adding the trips generated by the Development to the 2025 baseline turning movements. The trips generated by the Development are based on the AM and PM peak-hour trip distributions under the industrial park scenario. Turning movements for the 2025 future with development conditions are shown in **Figure 28** and **Figure 29** for the AM and PM peak hours, respectively. The turning movement calculations have been provided in **Appendix F**.

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**FREEMAN ROAD LOGISTICS
 (INDUSTRIAL PARK)
 ITE LUC 130**

CITY OF PUYALLUP

LEGEND

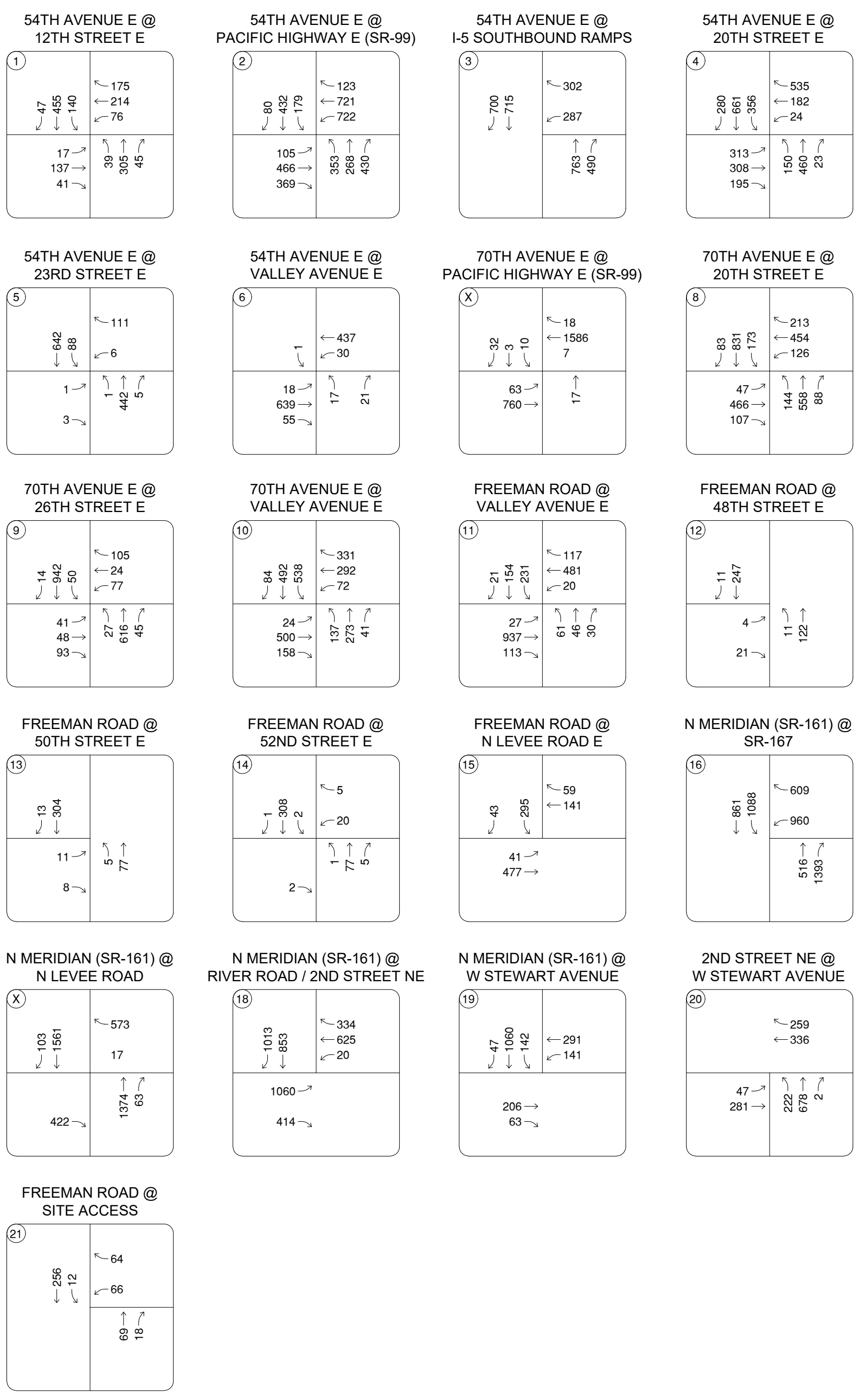
xx → AM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 28

2025 FUTURE WITH DEVELOPMENT
 TURNING MOVEMENTS
 AM PEAK-HOUR



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**FREEMAN ROAD LOGISTICS
 (INDUSTRIAL PARK)
 ITE LUC 130**

CITY OF PUYALLUP

LEGEND

xx → PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 29
 2025 FUTURE WITH DEVELOPMENT
 TURNING MOVEMENTS
 PM PEAK-HOUR



8.3 Level Of Service (LOS) Analysis – Industrial Park

Intersection LOS was analyzed for each of the study intersections for the 2025 future with development scenario. The City of Fife has a LOS standard of LOS D for intersections; however, if an intersection is already forecasted to operate worse than LOS D before development trips are added then a development is allowed to proceed unless it degrades the LOS further with just the development trips (Fife Municipal Code 17.08.030). The City of Puyallup has adopted LOS D as the standard except for the Meridian corridor where LOS E is acceptable (Transportation Element T-3.2). SR-99 has a LOS standard of LOS D.

The future LOS at the study intersections is summarized in **Table 14** and **Table 15** for the AM and PM peak-hours, respectively. The complete LOS for the AM and PM peak-hours have been provided in **Appendix F**.

Table 14: Weekday AM Peak-Hour LOS Summary

	Intersection	Control Type	2025 Baseline Conditions			2025 Future w/ Conditions		
			LOS	Delay	v/c	LOS	Delay	v/c
1.	54 th Avenue E at 12 th Street E	Signal	B	13.0 sec	0.54	B	13.6 sec	0.55
2.	54 th Avenue E at Pacific Highway E (SR-99)	Signal	E	74.9 sec	1.35	E	76.7 sec	1.35
	- With Improvements	Optimized Timings	E	66.9 sec	1.22	E	68.5 sec	1.22
3.	54 th Avenue E at I-5 Southbound Ramps	Signal	B	19.2 sec	0.90	B	19.9 sec	0.91
4.	54 th Avenue E at 20 th Street E	Signal	D	53.9 sec	0.91	D	54.7 sec	0.92
	- With Improvements	Optimized Timings	D	46.5 sec	0.97	D	47.8 sec	0.90
5.	54 th Avenue E at 23 rd Street E	Signal	A	8.0 sec	0.55	A	8.0 sec	0.56
6.	54 th Avenue E at Valley Avenue E	Signal	B	13.4 sec	0.68	B	14.2 sec	0.69
7.	70 th Avenue E at Pacific Highway E (SR-99)	Signal	A	5.6 sec	0.03	A	5.6 sec	0.03
8.	70 th Avenue E at 20 th Street E	Signal	D	44.1 sec	0.89	D	44.2 sec	0.89
9.	70 th Avenue E at 26 th Street E	Signal	C	25.3 sec	0.56	C	25.3 sec	0.56
10.	70 th Avenue E at Valley Avenue E	Signal	D	40.2 sec	0.91	D	40.7 sec	0.93
11.	Freeman Road at Valley Avenue E	Signal	C	20.9 sec	0.50	C	21.0 sec	0.50
	- With 167 Extension	Reduction	B	13.8 sec	0.33	B	14.0 sec	0.32
12.	Freeman Road at 48 th Street E	Minor-Leg Stop-Control	A	9.3 sec	---	A	9.4 sec	---
13.	Freeman Road at 50 th Street E	Minor-Leg Stop-Control	A	9.4 sec	---	A	9.9 sec	---
14.	Freeman Road at 52 nd Street E	Minor-Leg Stop-Control	B	11.0 sec	---	B	12.0 sec	---
15.	Freeman Road at N Levee Road E	Minor-Leg Stop-Control	C	18.3 sec	---	C	20.8 sec	---
	- With Improvements	SB Split + AWSC	C	21.5 sec	---	C	23.2 sec	---
	- With 167 Extension	Reduction	B	13.2 sec	---	B	14.0 sec	---
16.	N Meridian (SR-161) at SR-167	Signal	F	123.4 sec	1.77	F	131.1 sec	1.82
17.	N Meridian (SR-161) at N Levee Road	Minor-Leg Stop-Control	C	23.9 sec	---	C	24.6 sec	---
18.	N Meridian (SR-161) at River Road/2 nd Street NE	Signal	D	44.2 sec	1.05	D	45.1 sec	1.05
19.	N Meridian (SR-161) at W Stewart Avenue	Signal	C	28.5 sec	1.10	C	28.5 sec	1.10
20.	2 nd Street NE at W Stewart Avenue	Signal	B	18.3 sec	0.68	B	18.4 sec	0.69
21.	Freeman Road at Site Access	Minor-Leg Stop-Control	---	---	---	B	10.9 sec	---

Table 15: Weekday PM Peak-Hour LOS Summary

	Intersection	Control Type	2025 Baseline Conditions			2025 Future w/ Conditions		
			LOS	Delay	v/c	LOS	Delay	v/c
1.	54 th Avenue E at 12 th Street E	Signal	B	16.2 sec	0.63	B	16.3 sec	0.63
2.	54 th Avenue E at Pacific Highway E (SR-99)	Signal	F	134.8 sec	2.03	F	135.1 sec	2.03
	- With Improvements	Optimized Timings	E	75.5 sec	1.30	E	77.0 sec	1.30
3.	54 th Avenue E at I-5 Southbound Ramps	Signal	C	31.0 sec	0.94	C	31.2 sec	0.94
4.	54 th Avenue E at 20 th Street E	Signal	E	63.0 sec	0.96	E	65.0 sec	0.99
	- With Improvements	Optimized Timings	E	58.7 sec	0.97	E	61.8 sec	1.00
5.	54 th Avenue E at 23 rd Street E	Signal	A	7.9 sec	0.49	A	8.2 sec	0.49
6.	54 th Avenue E at Valley Avenue E	Signal	A	3.7 sec	0.48	A	3.8 sec	0.48
7.	70 th Avenue E at Pacific Highway E (SR-99)	Signal	B	15.8 sec	0.13	B	14.4 sec	0.13
8.	70 th Avenue E at 20 th Street E	Signal	D	48.2 sec	0.94	D	48.4 sec	0.95
9.	70 th Avenue E at 26 th Street E	Signal	B	19.5 sec	0.54	B	19.5 sec	0.55
10.	70 th Avenue E at Valley Avenue E	Signal	D	45.4 sec	0.82	D	45.4 sec	0.83
11.	Freeman Road at Valley Avenue E	Signal	C	26.5 sec	0.73	C	28.8 sec	0.75
	- With 167 Extension	Reduction	C	20.4 sec	0.56	C	22.4 sec	0.59
12.	Freeman Road at 48 th Street E	Minor-Leg Stop-Control	B	10.1 sec	---	B	10.3 sec	---
13.	Freeman Road at 50 th Street E	Minor-Leg Stop-Control	B	10.6 sec	---	B	11.4 sec	---
14.	Freeman Road at 52 nd Street E	Minor-Leg Stop-Control	B	11.3 sec	---	B	12.3 sec	---
15.	Freeman Road at N Levee Road E	Minor-Leg Stop-Control	D	34.5 sec	---	F	59.5 sec	---
	- With Improvements	SB Split + AWSC	C	24.4 sec	---	C	22.9 sec	---
	- With 167 Extension	Reduction	B	13.9 sec	---	C	15.5 sec	---
16.	N Meridian (SR-161) at SR-167	Signal	F	142.8 sec	1.60	F	149.1 sec	1.64
17.	N Meridian (SR-161) at N Levee Road	Minor-Leg Stop-Control	F	273.3 sec	---	F	314.2 sec	---
18.	N Meridian (SR-161) at River Road/2 nd Street NE	Signal	E	61.6 sec	1.15	E	63.1 sec	1.16
	- With Improvements	Optimized Timings	E	60.3 sec	1.05	E	60.8 sec	1.05
19.	N Meridian (SR-161) at W Stewart Avenue	Signal	C	22.5 sec	0.78	C	22.5 sec	0.78
20.	2 nd Street NE at W Stewart Avenue	Signal	C	25.3 sec	0.83	C	25.4 sec	0.83
21.	Freeman Road at Site Access	Minor-Leg Stop-Control	---	---	---	B	10.9 sec	---

9. LAND USE CODE 140 – MANUFACTURING

9.1 Trip Generation

Trip generation calculations for the Development are based on national statistics contained in the ITE’s *Trip Generation, 11th Edition (2021)*. The average trip generation rates for LUC 140, Manufacturing, and LUC 210, Single-Family Detached Housing, have been used for the trip generation calculations of the Development for this scenario. The trip generation calculations are summarized in **Table 16**.

Table 16: Total Vehicle Trip Generation Summary

Land Use	Size	ADTs	AM Peak-Hour Trips			PM Peak-Hour Trips		
			In	Out	Total	In	Out	Total
Manufacturing (Building A) LUC 140	238,525 SF	1,132.99	123.27	38.93	162.20	54.72	121.79	176.51
Manufacturing (Building B) LUC 140	266,911 SF	1,1267.83	137.94	43.56	181.50	61.23	132.28	197.51
Single-Family Detached LUC 210	-14 units	-132.02	-2.55	-7.25	-9.80	-8.29	-4.87	-13.16
TOTAL		2,268.80	258.66	75.24	333.90	107.66	253.20	360.86

Under the Manufacturing use, the Development is anticipated to generate approximately 2,269 new daily trips with 334 new AM peak-hour trips and 361 new PM peak-hour trips.

The ITE provides specific trip generation rates for heavy trucks for the specified land uses. The Development’s expected truck trip generation are summarized in **Table 17**.

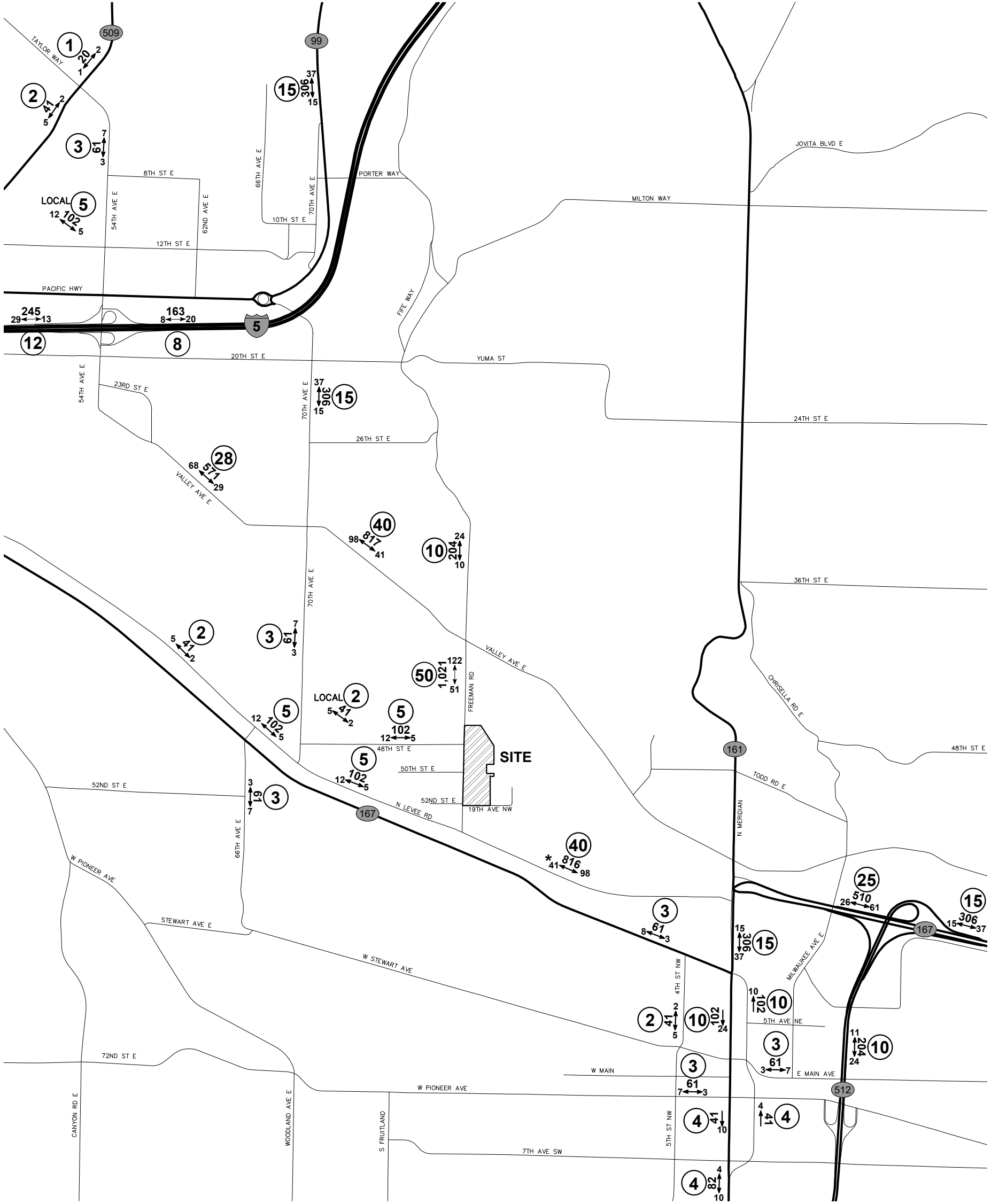
Table 17: Truck Trip Generation Summary

505,436 SF Manufacturing LUC 140	Average Daily Trips			AM Peak-Hour Trips			PM Peak-Hour Trips		
	In	Out	Total	In	Out	Total	In	Out	Total
Generation Rate	0.45 trips per 1,000 SF			0.03 trips per 1,000 SF			0.03 trips per 1,000 SF		
Splits	50%	50%	100%	56%	44%	100%	41%	59%	100%
Trips	113.73	113.72	227.45	8.50	6.67	15.17	6.22	8.95	15.17

Under the Manufacturing land use, the Development is anticipated to generate approximately 227 new average daily truck trips with 15 new AM peak-hour truck trips and 15 new PM peak-hour truck trips. The trip generation calculations — including truck trip generation rates — are included in the **Appendix G**.

The car trip distribution under manufacturing conditions for the AM and PM peak-hours is included in **Figure 30** and **Figure 31**. The truck trip distribution under warehousing conditions for the AM and PM peak-hours is included in **Figure 32** and **Figure 33**. A summary of the total site traffic under warehousing conditions during the AM and PM peak-hours is included in **Figure 34** and **Figure 35**, respectively.

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**FREEMAN ROAD LOGISTICS
 (MANUFACTURING)
 ITE LUC 140**

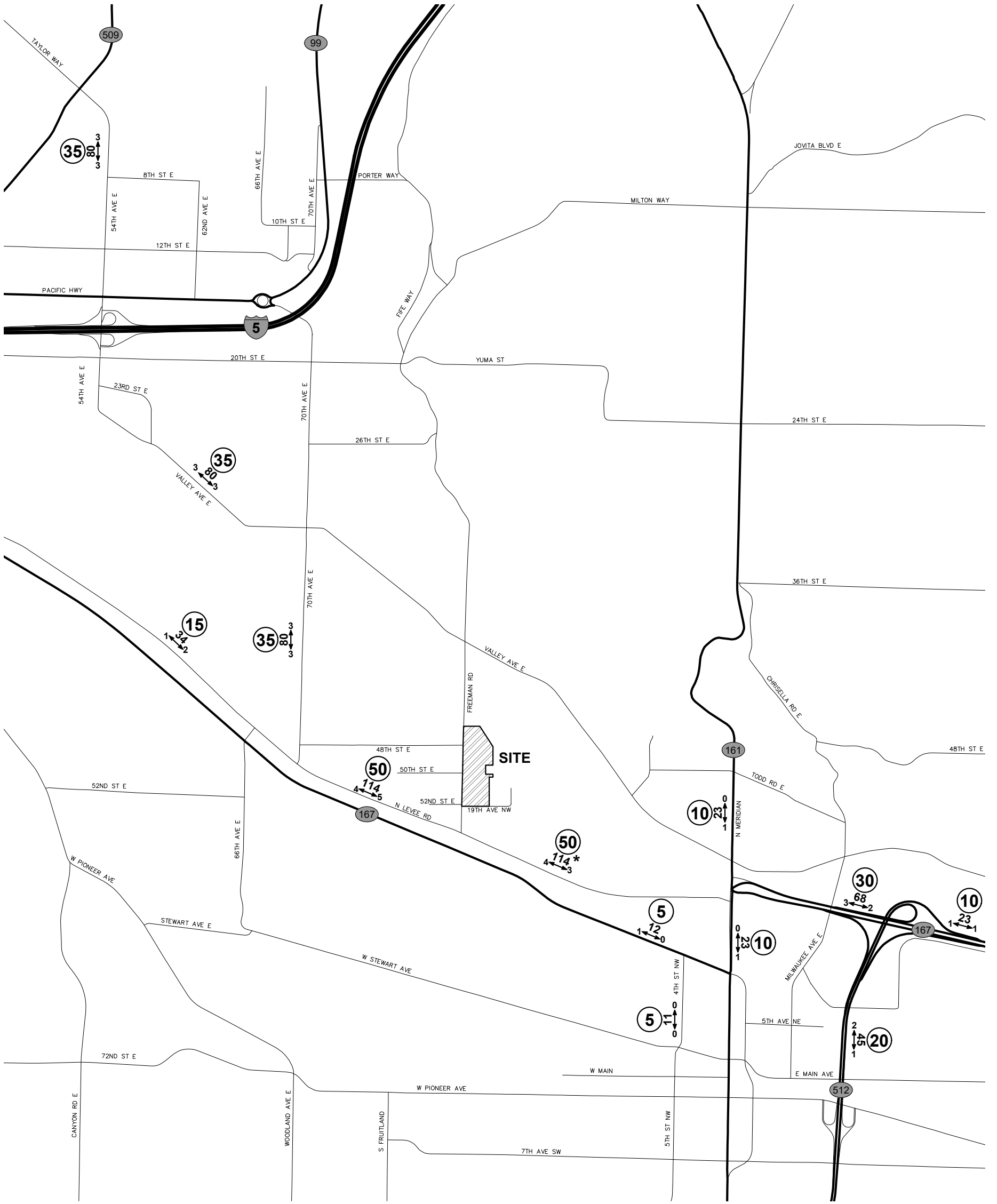
CITY OF PUYALLUP

LEGEND

- AWDT** NEW DAILY TRAFFIC
- PM ← PEAK** NEW PEAK-HOUR TRIPS
- XX** TRIP DISTRIBUTION
- *** ONE (1) ADDITIONAL INBOUND TRIP

FIGURE 31
 DEVELOPMENT
 TRIP DISTRIBUTION
 PM PEAK-HOUR
 CAR TRIPS

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**FREEMAN ROAD LOGISTICS
 (MANUFACTURING)
 ITE LUC 140**

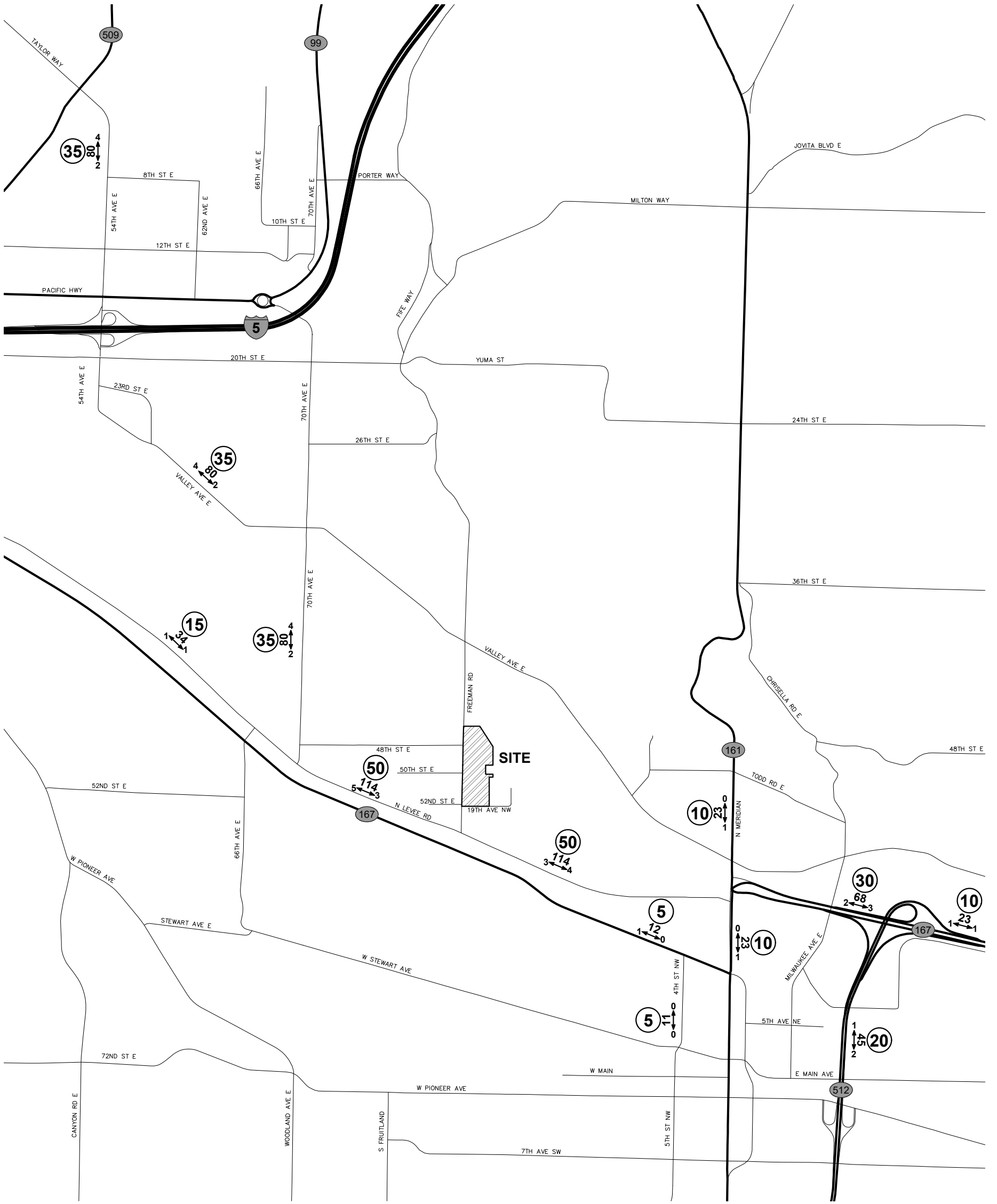
CITY OF PUYALLUP

LEGEND

- AWDT** NEW DAILY TRAFFIC
- AM ← PEAK** NEW PEAK-HOUR TRIPS
- (XX)** TRIP DISTRIBUTION
- *** ONE (1) ADDITIONAL AWDT

FIGURE 32
 DEVELOPMENT
 TRIP DISTRIBUTION
 AM PEAK-HOUR
 TRUCK TRIPS

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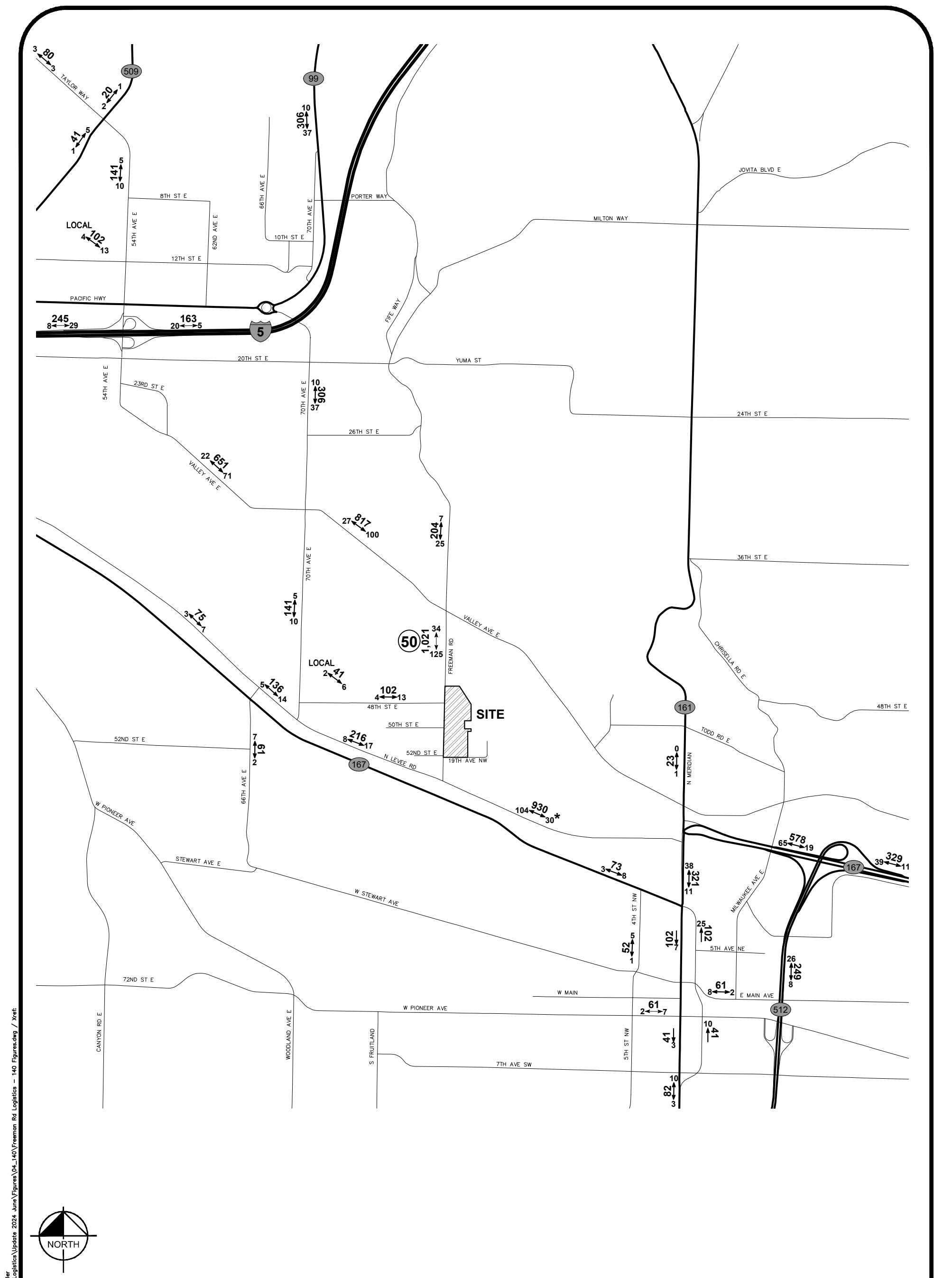
**FREEMAN ROAD LOGISTICS
 (MANUFACTURING)
 ITE LUC 140**

CITY OF PUYALLUP

LEGEND

- AWDT** NEW DAILY TRAFFIC
- PM ← → PEAK** NEW PEAK-HOUR TRIPS
- (XX)** TRIP DISTRIBUTION

FIGURE 33
 DEVELOPMENT
 TRIP DISTRIBUTION
 PM PEAK-HOUR
 TRUCK TRIPS



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**FREEMAN ROAD LOGISTICS
 (MANUFACTURING)
 ITE LUC 140**

CITY OF PUYALLUP

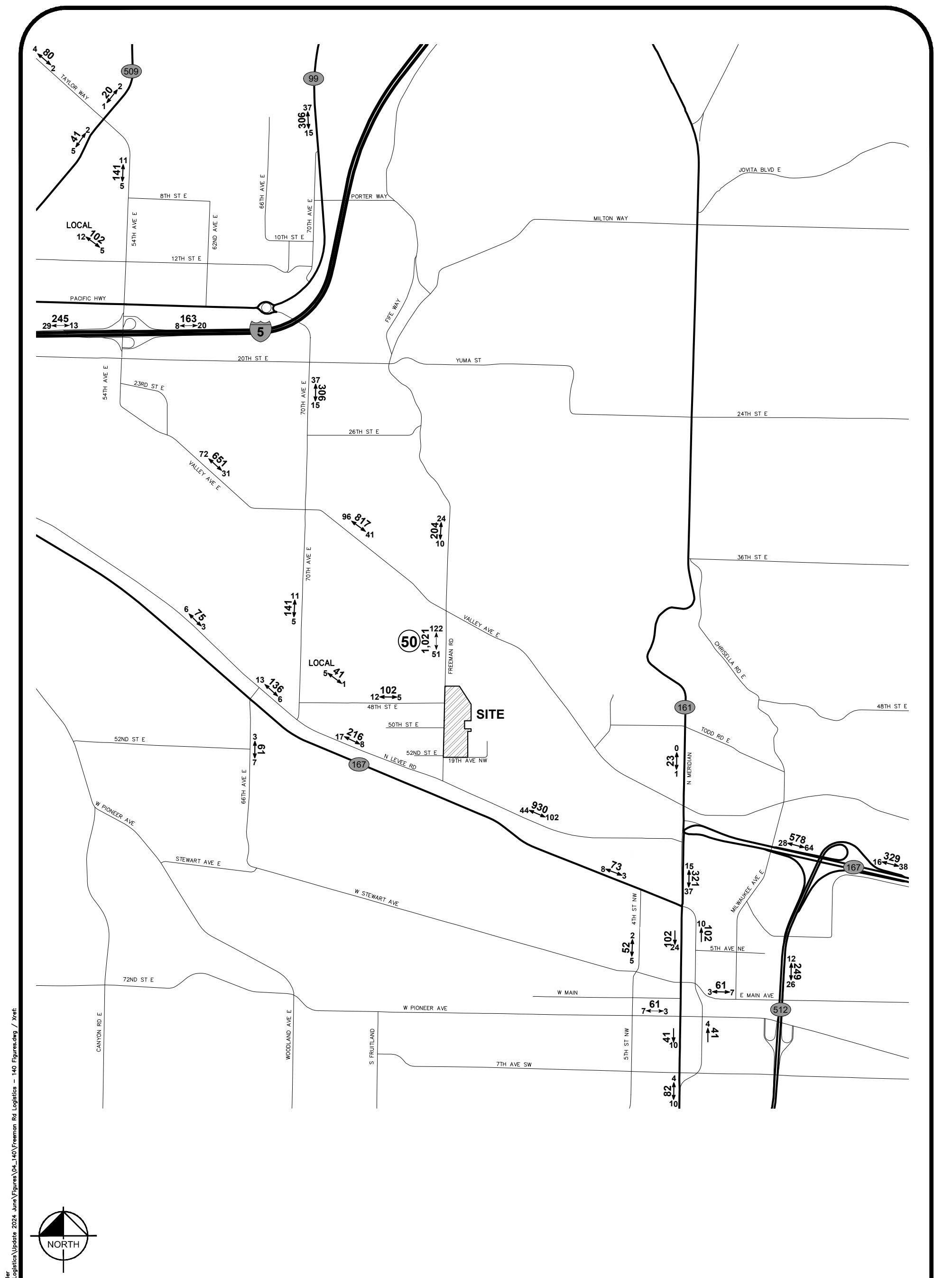
LEGEND

AWDT NEW DAILY TRAFFIC
AM NEW PEAK-HOUR TRIPS
PEAK

XX TRIP DISTRIBUTION

* ONE (1) ADDITIONAL OUTBOUND TRIP

FIGURE 34
 TOTAL DEVELOPMENT
 TRIP DISTRIBUTION
 AM PEAK-HOUR
 CARS AND TRUCKS



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**FREEMAN ROAD LOGISTICS
 (MANUFACTURING)
 ITE LUC 140**

CITY OF PUYALLUP

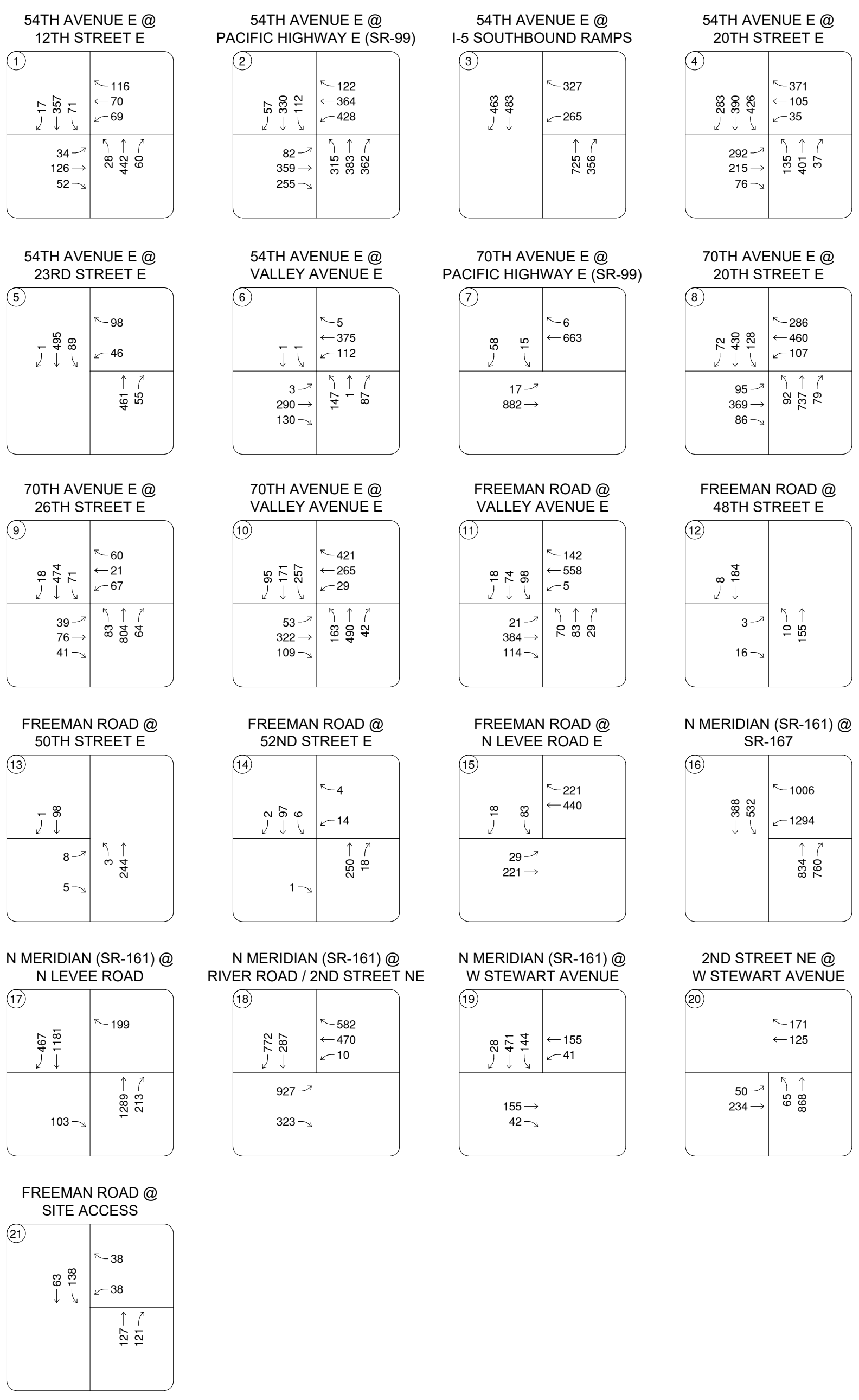
- LEGEND**
- AWDT** NEW DAILY TRAFFIC
 - PM ← PEAK** NEW PEAK-HOUR TRIPS
 - XX** TRIP DISTRIBUTION

FIGURE 35
 TOTAL DEVELOPMENT
 TRIP DISTRIBUTION
 PM PEAK-HOUR
 CARS AND TRUCKS

9.2 2025 Future with Development

The 2025 future with development turning movements at the study intersections were calculated by adding the trips generated by the Development to the 2025 baseline turning movements. The trips generated by the Development are based on the AM and PM peak-hour trip distributions under the manufacturing scenario. Turning movements for the 2025 future with development conditions are shown in **Figure 36** and **Figure 37** for the AM and PM peak hours, respectively. The turning movement calculations have been provided in **Appendix G**.

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**FREEMAN ROAD LOGISTICS
 (MANUFACTURING)
 ITE LUC 140**

CITY OF PUYALLUP

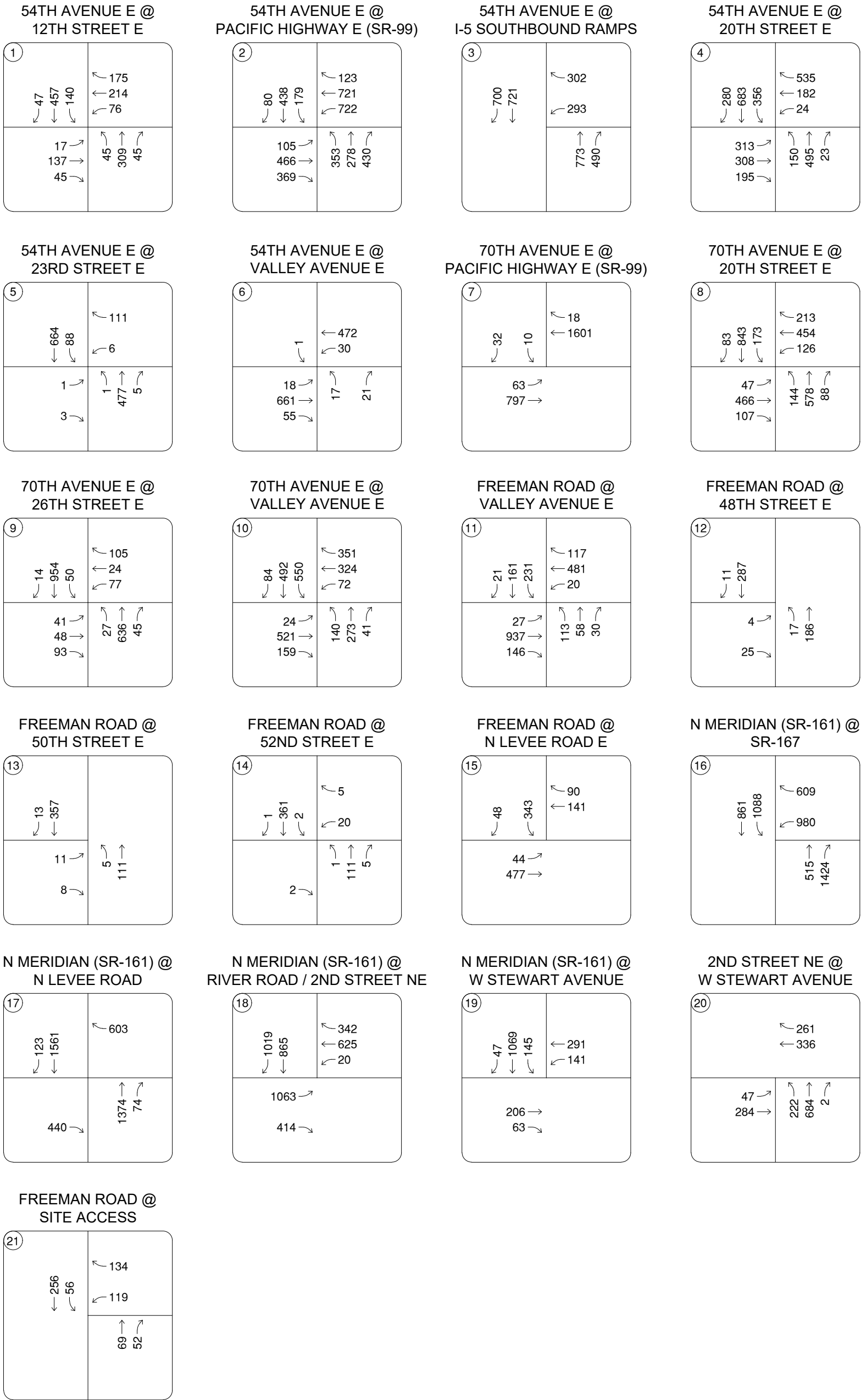
LEGEND

xx → AM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 36

2025 FUTURE WITH DEVELOPMENT
 TURNING MOVEMENTS
 AM PEAK-HOUR





**FREEMAN ROAD LOGISTICS
 (MANUFACTURING)
 ITE LUC 140**

LEGEND

xx → PM PEAK-HOUR TURNING MOVEMENT VOLUMES

FIGURE 37
 2025 FUTURE WITH DEVELOPMENT
 TURNING MOVEMENTS
 PM PEAK-HOUR

CITY OF PUYALLUP

9.3 Level Of Service (LOS) Analysis – Manufacturing

Intersection LOS was analyzed for each of the study intersections for the 2025 future with development scenario. The City of Fife has a LOS standard of LOS D for intersections; however, if an intersection is already forecasted to operate worse than LOS D before development trips are added then a development is allowed to proceed unless it degrades the LOS further with just the development trips (Fife Municipal Code 17.08.030). The City of Puyallup has adopted LOS D as the standard except for the Meridian corridor where LOS E is acceptable (Transportation Element T-3.2). SR-99 has a LOS standard of LOS D.

The future LOS at the study intersections is summarized in **Table 18** and **Table 19** for the AM and PM peak-hours, respectively. The complete LOS for the AM and PM peak-hours have been provided in **Appendix G**.

Table 18: Weekday AM Peak-Hour LOS Summary

Intersection	Control Type	2025 Baseline Conditions			2025 Future w/ Conditions		
		LOS	Delay	v/c	LOS	Delay	v/c
1. 54 th Avenue E at 12 th Street E	Signal	B	13.0 sec	0.54	B	12.8 sec	0.43
2. 54 th Avenue E at Pacific Highway E (SR-99)	Signal	E	74.9 sec	1.35	E	77.8 sec	1.35
- With Improvements	Optimized Timings	E	66.9 sec	1.22	E	69.4 sec	1.22
3. 54 th Avenue E at I-5 Southbound Ramps	Signal	B	19.2 sec	0.90	C	20.7 sec	0.93
4. 54 th Avenue E at 20 th Street E	Signal	D	53.9 sec	0.91	E	55.6 sec	0.93
- With Improvements	Optimized Timings	D	46.5 sec	0.97	D	49.4 sec	0.91
5. 54 th Avenue E at 23 rd Street E	Signal	A	8.0 sec	0.55	A	8.2 sec	0.57
6. 54 th Avenue E at Valley Avenue E	Signal	B	13.4 sec	0.68	B	15.2 sec	0.70
7. 70 th Avenue E at Pacific Highway E (SR-99)	Signal	A	5.6 sec	0.03	A	5.6 sec	0.03
8. 70 th Avenue E at 20 th Street E	Signal	D	44.1 sec	0.89	D	44.4 sec	0.89
9. 70 th Avenue E at 26 th Street E	Signal	C	25.3 sec	0.56	C	25.3 sec	0.56
10. 70 th Avenue E at Valley Avenue E	Signal	D	40.2 sec	0.91	D	40.8 sec	0.94
11. Freeman Road at Valley Avenue E	Signal	C	20.9 sec	0.50	C	21.5 sec	0.51
- With 167 Extension	Reduction	B	13.8 sec	0.33	B	14.6 sec	0.34
12. Freeman Road at 48 th Street E	Minor-Leg Stop-Control	A	9.3 sec	---	A	9.9 sec	---
13. Freeman Road at 50 th Street E	Minor-Leg Stop-Control	A	9.4 sec	---	B	10.3 sec	---
14. Freeman Road at 52 nd Street E	Minor-Leg Stop-Control	B	11.0 sec	---	B	13.0 sec	---
15. Freeman Road at N Levee Road E	Minor-Leg Stop-Control	C	18.3 sec	---	C	24.7 sec	---
- With Improvements	SB Split + AWSC	C	21.5 sec	---	D	32.2 sec	---
- With 167 Extension	Reduction	B	13.2 sec	---	C	15.1 sec	---
16. N Meridian (SR-161) at SR-167	Signal	F	123.4 sec	1.77	F	137.7 sec	1.87
17. N Meridian (SR-161) at N Levee Road	Minor-Leg Stop-Control	C	23.9 sec	---	D	26.0 sec	---
18. N Meridian (SR-161) at River Road/2 nd Street NE	Signal	D	44.2 sec	1.05	D	45.8 sec	1.06
19. N Meridian (SR-161) at W Stewart Avenue	Signal	C	28.5 sec	1.10	C	28.3 sec	1.10
20. 2 nd Street NE at W Stewart Avenue	Signal	B	18.3 sec	0.68	B	18.5 sec	0.69
21. Freeman Road at Site Access	Minor-Leg Stop-Control	---	---	---	B	12.5 sec	---

Table 19: Weekday PM Peak-Hour LOS Summary

	Intersection	Control Type	2025 Baseline Conditions			2025 Future w/ Conditions		
			LOS	Delay	v/c	LOS	Delay	v/c
1.	54 th Avenue E at 12 th Street E	Signal	B	16.2 sec	0.63	B	16.3 sec	0.63
2.	54 th Avenue E at Pacific Highway E (SR-99)	Signal	F	134.8 sec	2.03	F	135.4 sec	2.03
	- With Improvements	Optimized Timings	E	75.5 sec	1.30	E	78.5 sec	1.30
3.	54 th Avenue E at I-5 Southbound Ramps	Signal	C	31.0 sec	0.94	C	31.6 sec	0.95
4.	54 th Avenue E at 20 th Street E	Signal	E	63.0 sec	0.96	E	68.9 sec	1.07
	- With Improvements	Optimized Timings	E	58.7 sec	0.97	E	65.5 sec	0.99
5.	54 th Avenue E at 23 rd Street E	Signal	A	7.9 sec	0.49	A	8.6 sec	0.51
6.	54 th Avenue E at Valley Avenue E	Signal	A	3.7 sec	0.48	A	3.9 sec	0.50
7.	70 th Avenue E at Pacific Highway E (SR-99)	Signal	B	15.8 sec	0.13	B	15.8 sec	0.13
8.	70 th Avenue E at 20 th Street E	Signal	D	48.2 sec	0.94	D	48.9 sec	0.95
9.	70 th Avenue E at 26 th Street E	Signal	B	19.5 sec	0.54	B	19.6 sec	0.55
10.	70 th Avenue E at Valley Avenue E	Signal	D	45.4 sec	0.82	D	45.4 sec	0.83
11.	Freeman Road at Valley Avenue E	Signal	C	26.5 sec	0.73	C	33.6 sec	0.84
	- With 167 Extension	Reduction	C	20.4 sec	0.56	C	24.7 sec	0.63
12.	Freeman Road at 48 th Street E	Minor-Leg Stop-Control	B	10.1 sec	---	B	10.8 sec	---
13.	Freeman Road at 50 th Street E	Minor-Leg Stop-Control	B	10.6 sec	---	B	12.2 sec	---
14.	Freeman Road at 52 nd Street E	Minor-Leg Stop-Control	B	11.3 sec	---	B	13.6 sec	---
15.	Freeman Road at N Levee Road E	Minor-Leg Stop-Control	D	34.5 sec	---	F	108.3 sec	---
	- With Improvements	SB Split + AWSC	C	24.4 sec	---	D	28.1 sec	---
	- With 167 Extension	Reduction	B	13.9 sec	---	C	17.4 sec	---
16.	N Meridian (SR-161) at SR-167	Signal	F	142.8 sec	1.60	F	156.8 sec	1.67
17.	N Meridian (SR-161) at N Levee Road	Minor-Leg Stop-Control	F	273.3 sec	---	F	350.8 sec	---
18.	N Meridian (SR-161) at River Road/2 nd Street NE	Signal	E	61.6 sec	1.15	E	64.3 sec	1.17
	- With Improvements	Optimized Timings	E	60.3 sec	1.05	E	60.9 sec	1.05
19.	N Meridian (SR-161) at W Stewart Avenue	Signal	C	22.5 sec	0.78	C	22.5 sec	0.78
20.	2 nd Street NE at W Stewart Avenue	Signal	C	25.3 sec	0.83	C	25.4 sec	0.83
21.	Freeman Road at Site Access	Minor-Leg Stop-Control	---	---	---	B	14.0 sec	---

10. FUTURE IMPROVEMENT ALTERNATIVES

The LOS analysis shows several intersections would operate at an acceptable LOS D or better with the exception Freeman Road at N Levee Road E and study intersections along N Meridian (SR-161) and 54th Avenue. Improvements in the analysis include a separate southbound left and right turn channelization at the intersection of N Levee Road at Freeman Road as part of the Development operating as a minor-leg stop-controlled (MLSC) intersection. The length of required southbound channelization varies based on the anticipated use and if an all-way stop-controlled (AWSC) intersection implemented. For each of the uses the required queuing is as follows:

- High-Cube Transload and Short-Term Warehouse – 139 feet for MLSC and 75 feet as AWSC
- Warehousing – 157 feet for MLSC and 75 feet as AWSC
- Industrial Park – 210 feet for MLSC and 100 feet as AWSC
- Manufacturing – 344 feet for MLSC and 150 feet as AWSC

A 155 foot turn pocket is proposed in addition to an 80 foot taper (40 feet is minimum required). This satisfies the queuing demand for both warehousing uses and the queuing demand for industrial park and manufacturing if the intersection is converted to AWSC. The American Association of State Highway and Transportation Officials (AASHTO) Green Book 7th Edition (2018) Section 9.5.3.5 identifies Case E – Intersections with All-Way Stop Control states “At intersections with all-way stop control, first stopped vehicle on one approach should be visible to the drivers of the first stopped vehicles on each of the approaches. There are no other sight distance criteria applicable to intersections with all-way stop control and, indeed, all-way stop control may be the best option at a limited number of intersections where sight distance for other control types cannot be attained.

The intersection of Freeman Road at N Levee Road is expected to operate at a failing LOS E with 34.5 seconds of delay for the southbound approach during the baseline conditions before the Development and LOS F with as high as 108.3 seconds of delay with the Development. If a separate southbound left and right channelization is added the intersection will operate at acceptable LOS D. The implementation of an AWSC intersection, if necessary, would be an interim improvement before the final construction of SR-167 Completion Project at which time, new analysis could show how much volume has shifted away from Levee Road and may allow for the removal of the all-way stop-control.

Additional improvements proposed at intersections that are anticipated to operate below an acceptable LOS were optimized signal timings. This improvement raised one intersection (54th Avenue E at 20th Street E) to an acceptable level in the AM peak-hour only. The remaining intersections are shown to remain below acceptable levels of service. The City of Fife has a LOS standard of LOS D for intersections; however, if an intersection is already forecasted to operate worse than LOS D before development trips are added then a development is allowed to proceed unless it degrades the LOS further with just the development trips. This condition affects two of the failing intersections within the City of Fife.

Future improvements and extension of SR-167 have been detailed in the *Puget Sound Gateway Construction and Implementation Plan* provided by WSDOT in September 2018. These improvements are anticipated to reduce the total volume of vehicles travelling along Freeman Road within the Development’s frontage. These proposed reductions of 31% north/south and 15% east/west at Valley Avenue E and 29% north/south and 18% east/west at N Levee Road E have been applied to the intersections on either end of Freeman Road to display the LOS anticipated when improvements to SR-167 have been completed.

11. UNION PACIFIC RAILROAD CROSSING

Video of the Union Pacific Railroad crossing south of Valley Avenue was observed for five hours during peak travel periods (6-9am and 4-6pm). During those five hours of video no trains were observed, and no gate closings occurred. We also reached out to Union Pacific Railroad several times to determine if the railroad had additional information pertaining the crossing, such as the allowed speed along the segment, how many trains per day, actual data on the number of times and length the crossings are down. At the time of the report no additional information was received. Based on observations during the peak-hours the rail crossing does not appear to significantly affect operations of the Freeman Road and Valley Avenue.

Northbound queues for the 2025 Future with development conditions were reviewed at the Freeman Road and Valley Avenue intersection both with and without the SR-167 Extension. A summary of the 50th and 95th percentile queue results for each land use condition are shown in **Table 20**, **Table 21**, **Table 22**, and **Table 23**, respectively.

Table 20: Northbound Freeman Road at Valley Avenue Queues – High-Cube Short-Term Warehouse

Scenario	Queue Capacity [ft]	2025 Baseline		2025 Future with Development	
		50 th -Percentile	95 th -Percentile	50 th -Percentile	95 th -Percentile
AM Peak					
Without SR-167 Extension	150 ft	43	111	42	110
With SR-167 Extension	150 ft	29	87	15	57
PM Peak					
Without SR-167 Extension	150 ft	19	67	22	72
With SR-167 Extension	150 ft	14	53	13	53

Table 21: Northbound Freeman Road at Valley Avenue Queues - Warehousing

Scenario	Queue Capacity [ft]	2025 Baseline		2025 Future with Development	
		50 th -Percentile	95 th -Percentile	50 th -Percentile	95 th -Percentile
AM Peak					
Without SR-167 Extension	150 ft	43	111	43	111
With SR-167 Extension	150 ft	29	87	16	59
PM Peak					
Without SR-167 Extension	150 ft	19	67	23	74
With SR-167 Extension	150 ft	14	53	13	53

Table 22: Northbound Freeman Road at Valley Avenue Queues – Industrial Park

Scenario	Queue Capacity [ft]	2025 Baseline		2025 Future with Development	
		50 th -Percentile	95 th -Percentile	50 th -Percentile	95 th -Percentile
AM Peak					
Without SR-167 Extension	150 ft	43	111	43	112
With SR-167 Extension	150 ft	29	87	17	60
PM Peak					
Without SR-167 Extension	150 ft	19	67	31	86
With SR-167 Extension	150 ft	14	53	16	61

Table 23: Northbound Freeman Road at Valley Avenue Queues - Manufacturing

Scenario	Queue Capacity [ft]	2025 Baseline		2025 Future with Development	
		50 th -Percentile	95 th -Percentile	50 th -Percentile	95 th -Percentile
AM Peak					
Without SR-167 Extension	150 ft	43	111	47	118
With SR-167 Extension	150 ft	29	87	20	66
PM Peak					
Without SR-167 Extension	150 ft	19	67	40	101
With SR-167 Extension	150 ft	14	53	22	71

Queuing results from the intersection analysis show 2025 northbound 95th-percentile queues at the signal are expected to be contained within the existing striped storage during the critical AM peak hour. Due to the net change in trip generation between the existing residential uses and the proposed industrial uses, the Development is not expected to add significant length to northbound queues during the AM peak hour. SimTraffic was utilized to examine the with Development queuing in more detail for the High-Cube Short Term Warehouse and Warehousing. For the critical AM peak-hour the SimTraffic results for 5 runs shows a 95th-percentile queue of 59 and 65 feet for the northbound left-turn and 138 and 124 feet for the through-right for the respective land uses. Queues would also reduce after the SR-167 Extension is complete and commuter cut-through traffic begins using the new freeway extension. There is a marked stop bar on the south side of the rail crossing to indicate where vehicles should stop when the top 5% of northbound queues do extend past the rail crossing. No changes to the rail crossing should be required as a condition of approval for the Development. There is no interconnect between the signalized intersection and rail crossing, attempts to contact Union Pacific Railroad have gone unanswered.

12. COLLISION ANALYSIS

Collision data was obtained from WSDOT for the time period between January 1, 2018 through December 31, 2022. This is the most recent full five-year collision data available from WSDOT. The data shows a total of 539 collisions at the 20 study intersections. The number of collisions and types of collisions at the study intersections are summarized in **Table 24**.

Table 24: Collision Type Summary

Intersection	Collision Type						Total Collisions
	Rear-End	Sideswipe	At-Angle	Opp. Dir	Same Dir	Other/Fixed Object	
1. 54 th Avenue E at 12 th Street E	1	2	17	10	0	0	30
2. 54 th Avenue E at Pacific Highway E (SR-99)	16	12	14	6	3	5	56
3. 54 th Avenue E at I-5 Southbound Ramps	9	5	22	1	1	2	40
4. 54 th Avenue E at 20 th Street E	5	14	13	2	8	1	43
5. 54 th Avenue E at 23 rd Street E	2	0	0	1	0	0	3
6. 54 th Avenue E at Valley Avenue E	4	0	0	0	0	0	4
7. 70 th Avenue E at Pacific Highway E (SR-99)	2	0	13	19	2	2	38
8. 70 th Avenue E at 20 th Street E	4	2	3	1	1	1	12
9. 70 th Avenue E at 26 th Street E	1	0	0	0	0	1	2
10. 70 th Avenue E at Valley Avenue E	5	1	4	1	1	1	14
11. Freeman Road at Valley Avenue E	7	0	5	0	0	0	12
12. Freeman Road at 48 th Street E	1	0	0	0	0	0	1
13. Freeman Road at 50 th Street E	0	0	0	0	0	0	0
14. Freeman Road at 52 nd Street E	0	0	0	0	0	0	0
15. Freeman Road at N Levee Road E	3	0	2	0	0	2	7
16. N Meridian (SR-161) at SR-167	14	16	12	2	6	5	55
17. N Meridian (SR-161) at N Levee Road	15	2	4	0	3	3	27
18. N Meridian (SR-161) at River Road/2 nd Street NE	12	5	13	1	3	2	36
19. N Meridian (SR-161) at W Stewart Avenue	3	1	6	1	1	4	16
20. 2 nd Street NE at W Stewart Avenue	1	0	4	0	7	5	17

Rear-end and at-angle collisions are the most common collisions at the study intersections. There was one fatality reported during the five-year period at the study intersections. This occurred at the intersection of N Meridian at River Road/2nd Street NE. The cause of the collision was deemed an at-angle incident with the driving circumstance being not granting right-of-way to the vehicle.

The collision rates at the study intersections have also been evaluated. The collisions per million entering vehicles (MEV) is the standard rate for intersections. The daily trips at the study intersection have been estimated using a rate of ten daily trips to one PM peak-hour trip. The collision rates at the study intersections are summarized in **Table 25**.

Table 25: Collision Rate Summary

Intersection	Total Collisions	Collisions per Year		Collision Rate (per MEV) ³		
		Years	Rate	ADT	Years	Rate
1. 54 th Avenue E at 12 th Street E	30	5	6.0	15,780	5	1.04
2. 54 th Avenue E at Pacific Highway E (SR-99)	56	5	11.2	39,880	5	0.77
3. 54 th Avenue E at I-5 Southbound Ramps	40	5	8.0	30,530	5	0.72
4. 54 th Avenue E at 20 th Street E	43	5	8.6	32,450	5	0.73
5. 54 th Avenue E at 23 rd Street E	3	5	0.6	11,830	5	0.14
6. 54 th Avenue E at Valley Avenue E	4	5	0.8	11,050	5	0.20
7. 70 th Avenue E at Pacific Highway E (SR-99)	38	5	7.6	23,260	5	0.90
8. 70 th Avenue E at 20 th Street E	12	5	2.4	30,820	5	0.21
9. 70 th Avenue E at 26 th Street E	2	5	0.4	19,440	5	0.06
10. 70 th Avenue E at Valley Avenue E	14	5	2.8	27,120	5	0.28
11. Freeman Road at Valley Avenue E	12	5	2.4	20,430	5	0.32
12. Freeman Road at 48 th Street E	1	5	0.2	3,200	5	0.17
13. Freeman Road at 50 th Street E	0	5	0.0	3,150	5	0.00
14. Freeman Road at 52 nd Street E	0	5	0.0	3,190	5	0.00
15. Freeman Road at N Levee Road E	7	5	1.4	9,160	5	0.42
16. N Meridian (SR-161) at SR-167	55	5	11.0	50,750	5	0.60
17. N Meridian (SR-161) at N Levee Road	27	5	5.4	37,980	5	0.39
18. N Meridian (SR-161) at River Road	36	5	7.2	40,480	5	0.49
19. N Meridian (SR-161) at W Stewart Avenue	16	5	3.2	18,260	5	0.48
20. 2 nd Street NE at W Stewart Avenue	17	5	3.4	17,140	5	0.54

Typical collision rate thresholds for intersections are 5 collision per year for unsignalized intersections, 10 collisions per year for signalized intersections, and a collision rate of more than 1.0 collisions per MEV. These thresholds would typically identify when a more detailed collision review may be needed.

³ The collision rate is based on Million Entering Vehicles.

The collision rates show that two of the study intersections in the vicinity of the Development have a rate more than 10 collisions per year and one intersection has a rate greater than 1.0 collisions per MEV. Future improvements to bring these intersections to acceptable levels of service are likely to improve the safety at these locations. The intersection of 54th Avenue at 12th Street E has a collision rate of 1.04 per MEV, but a collision rate of less than 10 collisions per year. The predominant collision type is At Angle and Opposite Direction accounting for 27 of the 30 collisions. A potential safety strategy would be to install protected left turn signal phasing and increase the yellow clearance times. The collision data has been provided in **Appendix G**.

13. ACCESS ANALYSIS

The Development is proposing three access points onto Freeman Road E, one located approximately 415 feet north of 48th Street E, one via the existing 22nd Avenue NW, and the third being an emergency fire access only just north of 19th Avenue NW. Freeman Road E is posted 25 miles per hours (mph) along the site vicinity. To prevent trucks from traveling to and from the north on Freeman Road a temporary landscape island curb line will be constructed on the northeast corner of the access points in addition to C-curbing to be installed along the left-turn centerline that will discourage trucks from turning right out of the site.

13.1 Sight Distance

For the proposed accesses on to Freeman Road E, AASHTO standards require a minimum of 155 feet of stopping sight distance and 280 feet of intersection sight distance for a 25-mph posted speed limit. The proposed access points have over 600 feet of safe stopping sight distance. Standard frontage improvements will be made based on City of Fife standards and code.

14. MITIGATION

14.1 City of Puyallup

The Development will be subject to street impact fees. The City of [Puyallup Municipal Code \(PMC\) Chapter 21.20.130](#) has a street impact fee of \$4,500 per PM peak hour trip. Based on the uses studied in this TIA ranging from warehouse to manufacturing the Development is expected to generate between 37.38 and 360.86 PM peak-hour trips. Therefore, the Development would have a proportional street impact fee ranging from \$168,210.00 for high-cube transload and short-term warehouse to \$1,623,870.00 for manufacturing.

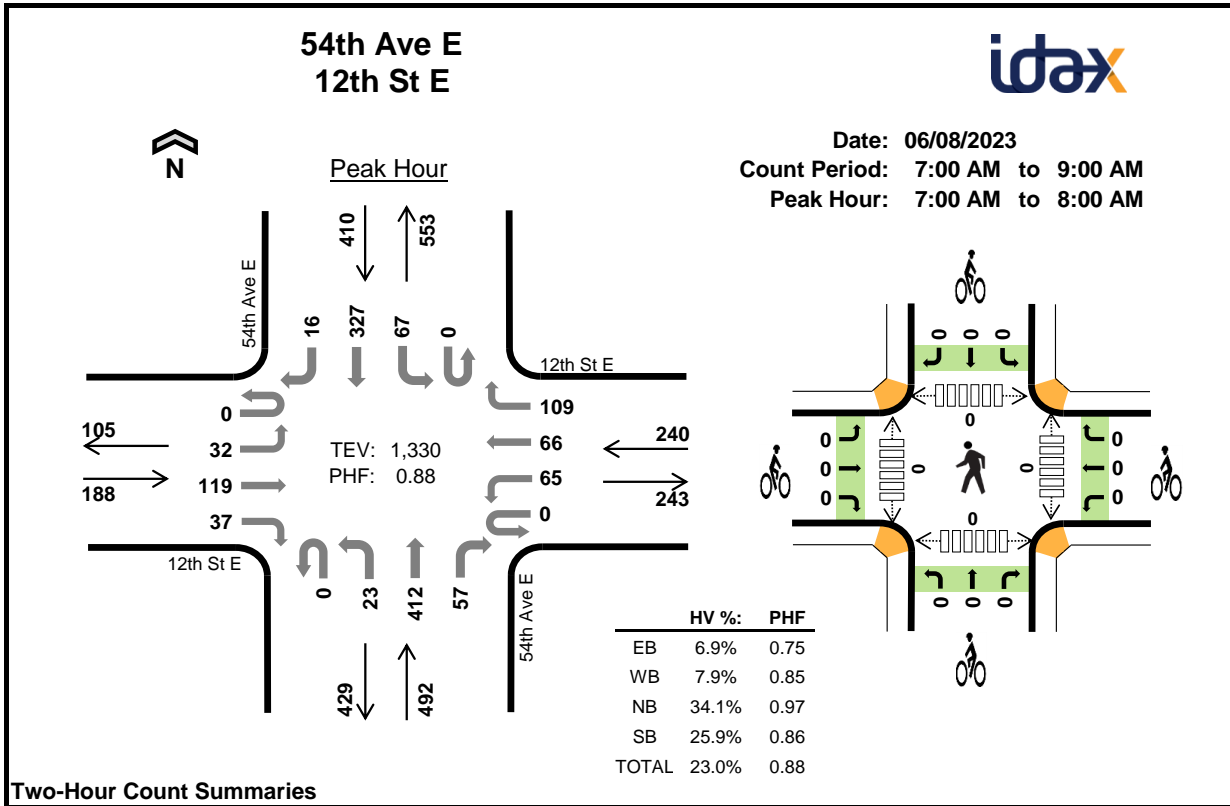
14.2 City of Fife

The Development is not located in the City of Fife and is not subject to Fife mitigation fees without an interlocal agreement between City of Puyallup and City of Fife. However, Freeman Road is located within the City of Fife and will have half-street frontage improvements constructed by the applicant conforming to City of Fife standards. Portions of Freeman Road to be improved by the applicant will be done consistent with the ultimate build-out of the roadway as identified in Project #33 of the City of Fife Six-Year TIP from 2023 to 2028. Typically, the cost of improvements to roadways on a city's TIP are eligible for credit against standard traffic impact fees. Because no credit is available here, the Developer will be over-mitigating for Development impacts by paying impact fees and constructing improvements that are not eligible for credit. To address this issue, the Cities should execute an ILA that would allow Puyallup to share impact fees with Fife for impacts on Fife City streets, with a mechanism for credits to the Developer for construction of improvements.

15. CONCLUSION

The Development is proposed to consist of 505,436 SF of high-cube transload and short-term warehouse use. No tenants have been identified for the site, so the Cities have required this TIA to evaluate three additional potential uses ranging from Warehousing to Manufacturing. The mitigation for each of these uses is identified in this TIA. There are currently 14 residential units on site that will be removed with the proposed Development and have been credited towards the Development's net new trip generation calculations. The Development is anticipated to generate between 37.38 and 360.86 new PM peak-hour trips depending on the tenant. The study intersections analyzed based on scoping discussions with City of Fife and Puyallup staff are expected to operate at an acceptable LOS D or better in the 2025 future with the Development or have minor increases (1 to 11 seconds) in signal delay with the anticipated high-cube transload and short-term warehouse use. The completion of the fully funded SR-167 Extension Project and improvements to the intersection of N Levee Road E at Freeman Road E will further improve the LOS by removing volumes from the local roadways. Based on the current [Development Engineering Fee Schedule](#), commercial/industrial developments have a base rate of \$4,500.00 per PM peak-hour trip. The Development should have a traffic impact fee ranging from \$168,210.00 for high-cube transload and short-term warehouse to \$1,623,870.00 for manufacturing payable to the City of Puyallup after credit for the removal of the 14 existing residential units is taken. The only mitigation to the City of Fife, beyond improvements to Freeman Road to City of Fife standards, should be a southbound split right and left turn lanes with all-way stop control to the intersection of N Levee Road E at Freeman Road E. With mitigation described in this TIA, the impacts of the Development on the Fife and Puyallup street systems are anticipated to be insignificant.

APPENDIX A
AM AND PM COUNT DATA

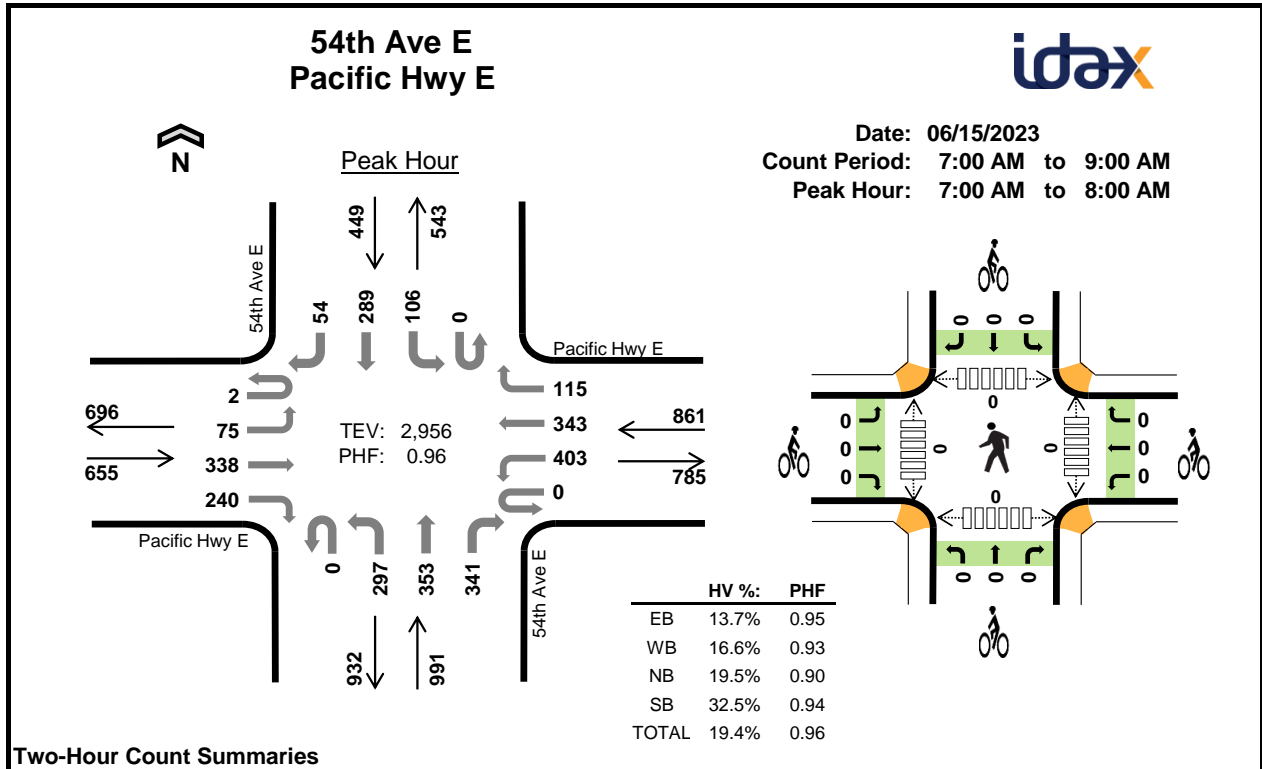


Two-Hour Count Summaries

Interval Start	12th St E Eastbound				12th St E Westbound				54th Ave E Northbound				54th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	6	30	4	0	17	16	19	0	5	102	14	0	16	80	1	310	0	
7:15 AM	0	7	28	4	0	19	20	27	0	10	106	11	0	9	81	4	326	0	
7:30 AM	0	7	25	14	0	12	13	26	0	3	98	20	0	23	72	5	318	0	
7:45 AM	0	12	36	15	0	17	17	37	0	5	106	12	0	19	94	6	376	1,330	
8:00 AM	0	4	20	7	0	16	14	18	0	4	101	14	0	12	76	4	290	1,310	
8:15 AM	0	3	32	9	0	12	30	15	0	10	84	7	0	19	77	6	304	1,288	
8:30 AM	0	9	20	13	0	21	29	21	0	9	82	17	0	22	76	6	325	1,295	
8:45 AM	0	12	26	14	0	9	21	24	0	6	99	15	0	16	68	11	321	1,240	
Count Total	0	60	217	80	0	123	160	187	0	52	778	110	0	136	624	43	2,570	0	
Peak Hour	All	0	32	119	37	0	65	66	109	0	23	412	57	0	67	327	16	1,330	0
	HV	0	0	2	11	0	3	2	14	0	1	163	4	0	5	101	0	306	0
	HV%	-	0%	2%	30%	-	5%	3%	13%	-	4%	40%	7%	-	7%	31%	0%	23%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	3	54	22	79	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	4	35	31	70	0	0	0	0	0	0	0	0	0	0
7:30 AM	10	6	38	18	72	0	0	0	0	0	0	0	0	0	0
7:45 AM	3	6	41	35	85	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	2	57	30	90	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	1	40	42	84	0	0	0	0	0	0	0	0	0	0
8:30 AM	7	9	41	38	95	0	0	0	0	0	0	0	0	0	0
8:45 AM	6	8	49	26	89	0	0	0	0	0	0	0	0	0	0
Count Total	28	39	355	242	664	0	0	0	0	0	0	0	0	0	0
Peak Hour	13	19	168	106	306	0	0	0	0	0	0	0	0	0	0

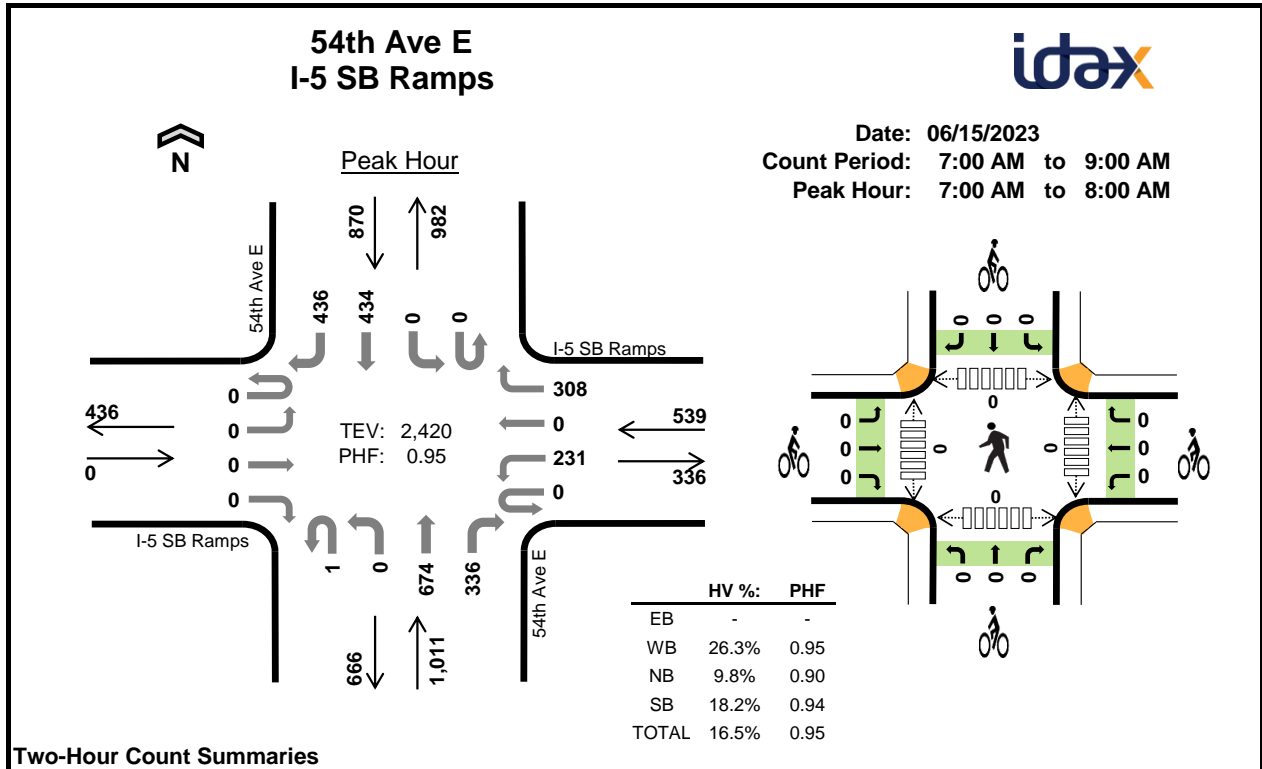


Two-Hour Count Summaries

Interval Start	Pacific Hwy E				Pacific Hwy E				54th Ave E				54th Ave E				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	13	82	55	0	85	87	32	0	54	92	105	0	28	69	16	718	0	
7:15 AM	0	17	91	59	0	106	76	29	0	81	83	73	0	28	78	13	734	0	
7:30 AM	1	21	86	57	0	99	86	30	0	91	88	97	0	30	78	7	771	0	
7:45 AM	1	24	79	69	0	113	94	24	0	71	90	66	0	20	64	18	733	2,956	
8:00 AM	0	12	85	50	0	111	81	34	0	60	84	79	0	31	53	16	696	2,934	
8:15 AM	0	14	73	48	0	97	102	34	0	62	79	61	0	36	76	11	693	2,893	
8:30 AM	1	12	81	71	0	114	93	32	0	63	66	60	0	30	74	12	709	2,831	
8:45 AM	0	20	82	70	0	122	83	31	0	59	68	75	0	30	72	13	725	2,823	
Count Total	3	133	659	479	0	847	702	246	0	541	650	616	0	233	564	106	5,779	0	
Peak Hour	All	2	75	338	240	0	403	343	115	0	297	353	341	0	106	289	54	2,956	0
	HV	0	16	52	22	0	60	32	51	0	11	124	58	0	53	84	9	572	0
	HV%	0%	21%	15%	9%	-	15%	9%	44%	-	4%	35%	17%	-	50%	29%	17%	19%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	15	48	51	40	154	0	0	0	0	0	0	0	0	0	0
7:15 AM	22	29	39	37	127	0	0	0	0	0	0	0	0	0	0
7:30 AM	25	33	54	44	156	0	0	0	0	0	0	0	0	0	0
7:45 AM	28	33	49	25	135	0	0	0	0	0	0	0	0	0	0
8:00 AM	22	46	52	34	154	0	0	0	0	0	0	0	0	0	0
8:15 AM	34	46	47	49	176	0	0	0	0	0	0	0	0	0	0
8:30 AM	28	38	41	48	155	0	0	0	0	0	0	0	0	0	0
8:45 AM	38	58	39	39	174	0	0	0	0	0	0	0	0	0	0
Count Total	212	331	372	316	1,231	0	0	0	0	0	0	0	0	0	0
Peak Hour	90	143	193	146	572	0	0	0	0	0	0	0	0	0	0

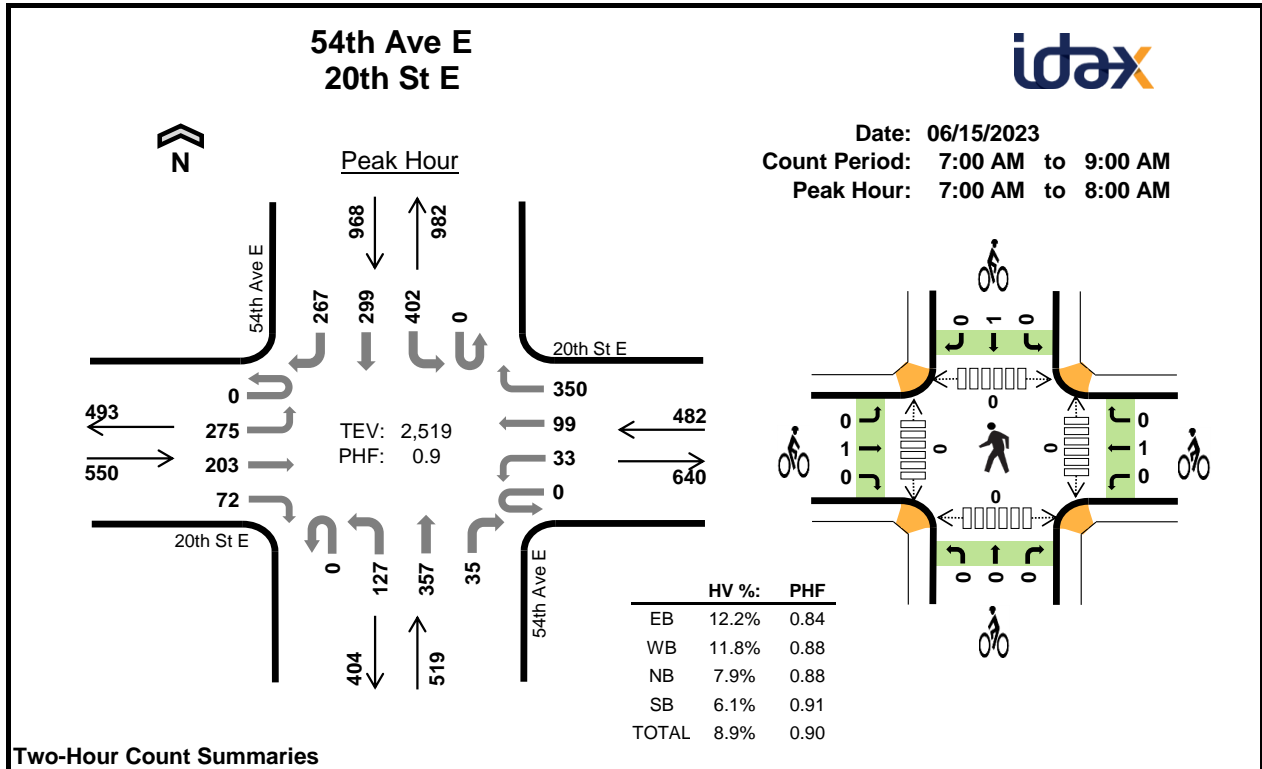


Two-Hour Count Summaries

Interval Start	I-5 SB Ramps Eastbound				I-5 SB Ramps Westbound				54th Ave E Northbound				54th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	60	0	80	0	0	168	87	0	0	106	91	592	0	
7:15 AM	0	0	0	0	0	62	0	78	0	0	170	97	0	0	115	117	639	0	
7:30 AM	0	0	0	0	0	40	0	77	1	0	186	93	0	0	104	109	610	0	
7:45 AM	0	0	0	0	0	69	0	73	0	0	150	59	0	0	109	119	579	2,420	
8:00 AM	0	0	0	0	0	61	0	71	1	1	139	87	0	0	92	114	566	2,394	
8:15 AM	0	0	0	0	0	48	0	71	0	0	121	84	0	0	95	114	533	2,288	
8:30 AM	0	0	0	0	0	52	0	66	0	0	149	93	0	0	126	119	605	2,283	
8:45 AM	0	0	0	0	0	55	0	87	0	0	164	65	0	0	136	123	630	2,334	
Count Total	0	0	0	0	0	447	0	603	2	1	1,247	665	0	0	883	906	4,754	0	
Peak Hour	All	0	0	0	0	0	231	0	308	1	0	674	336	0	0	434	436	2,420	0
	HV	0	0	0	0	0	28	0	114	0	0	73	26	0	0	83	75	399	0
	HV%	-	-	-	-	-	12%	-	37%	0%	-	11%	8%	-	-	19%	17%	16%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	34	22	37	93	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	35	22	38	95	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	35	29	40	104	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	38	26	43	107	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	38	33	37	108	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	28	22	44	94	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	28	35	51	114	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	28	36	48	112	0	0	0	0	0	0	0	0	0	0
Count Total	0	264	225	338	827	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	142	99	158	399	0	0	0	0	0	0	0	0	0	0

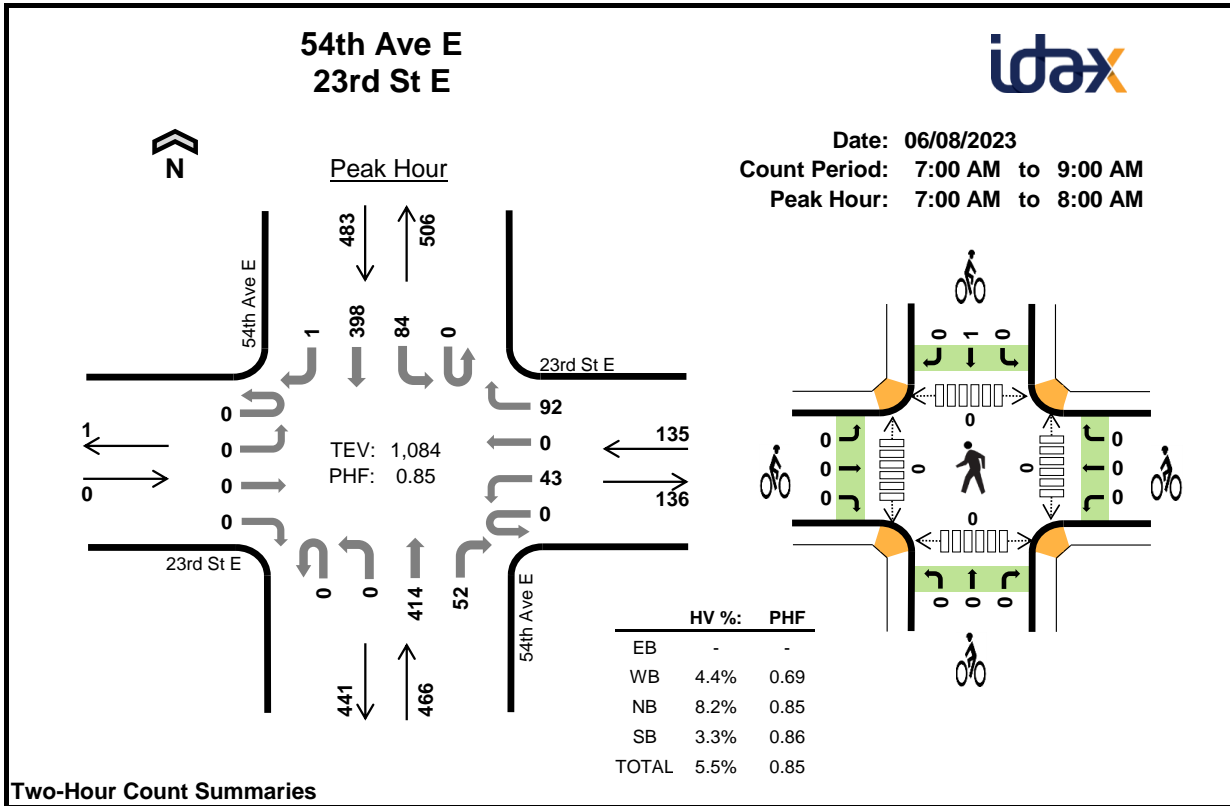


Two-Hour Count Summaries

Interval Start	20th St E Eastbound				20th St E Westbound				54th Ave E Northbound				54th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	53	49	17	0	7	20	83	0	26	77	5	0	79	75	61	552	0	
7:15 AM	0	73	57	20	0	17	22	98	0	30	101	16	0	119	88	60	701	0	
7:30 AM	0	88	56	20	0	7	32	88	0	27	111	9	0	79	77	63	657	0	
7:45 AM	0	61	41	15	0	2	25	81	0	44	68	5	0	125	59	83	609	2,519	
8:00 AM	0	62	52	13	0	8	24	84	0	21	58	6	0	85	57	73	543	2,510	
8:15 AM	0	54	39	13	0	6	16	91	0	20	66	2	0	89	54	57	507	2,316	
8:30 AM	0	63	26	8	0	3	22	102	0	11	78	4	0	82	70	59	528	2,187	
8:45 AM	0	72	43	12	0	0	15	73	0	19	70	3	0	86	57	65	515	2,093	
Count Total	0	526	363	118	0	50	176	700	0	198	629	50	0	744	537	521	4,612	0	
Peak Hour	All	0	275	203	72	0	33	99	350	0	127	357	35	0	402	299	267	2,519	0
	HV	0	42	18	7	0	4	23	30	0	11	24	6	0	16	15	28	224	0
	HV%	-	15%	9%	10%	-	12%	23%	9%	-	9%	7%	17%	-	4%	5%	10%	9%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	10	11	10	6	37	1	0	0	0	1	0	0	0	0	0
7:15 AM	15	21	11	17	64	0	0	0	0	0	0	0	0	0	0
7:30 AM	29	12	8	21	70	0	0	0	0	0	0	0	0	0	0
7:45 AM	13	13	12	15	53	0	1	0	1	2	0	0	0	0	0
8:00 AM	12	14	4	20	50	0	0	0	0	0	0	0	0	0	0
8:15 AM	18	12	6	19	55	0	0	0	0	0	0	0	0	0	0
8:30 AM	10	19	8	17	54	0	0	0	0	0	0	0	0	0	0
8:45 AM	25	15	10	18	68	0	0	0	0	0	0	0	0	0	0
Count Total	132	117	69	133	451	1	1	0	1	3	0	0	0	0	0
Peak Hour	67	57	41	59	224	1	1	0	1	3	0	0	0	0	0

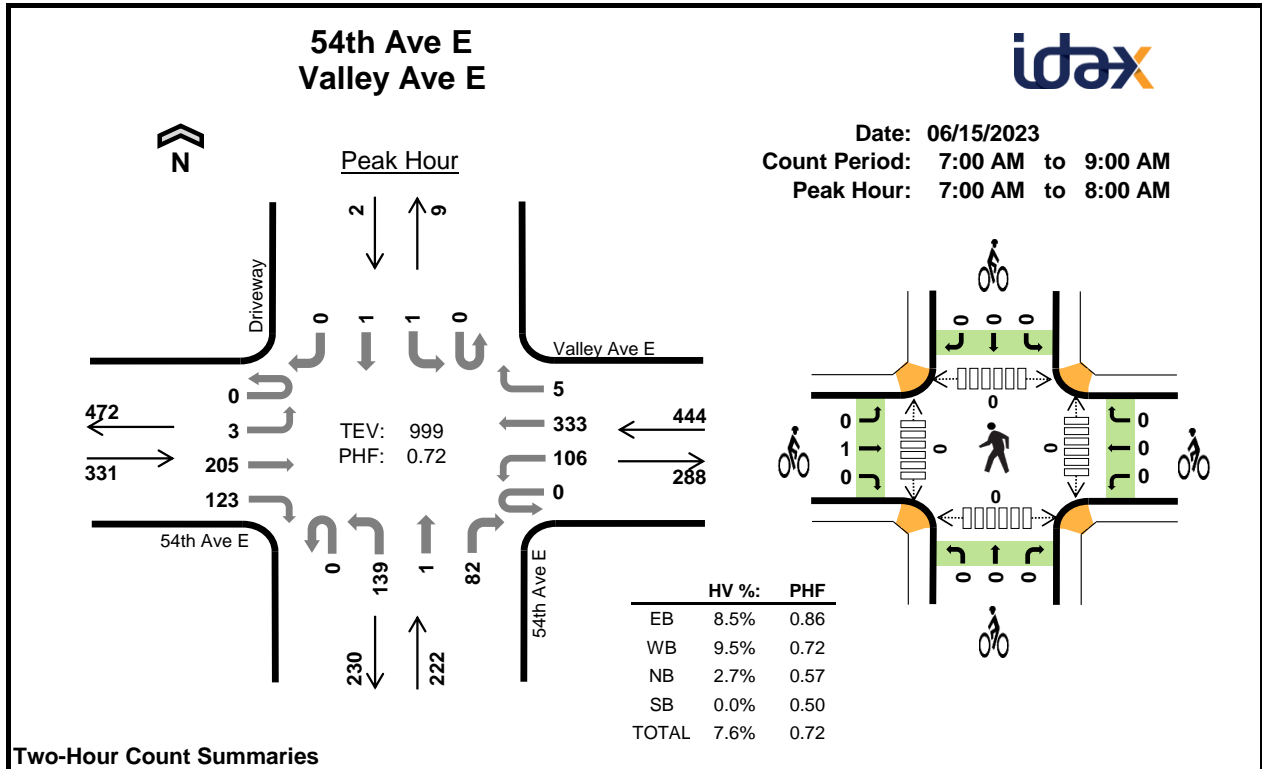


Two-Hour Count Summaries

Interval Start	23rd St E Eastbound				23rd St E Westbound				54th Ave E Northbound				54th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	7	0	16	0	0	67	3	0	15	104	0	212	0	
7:15 AM	0	0	0	0	0	20	0	23	0	0	106	27	0	30	110	1	317	0	
7:30 AM	0	0	0	0	0	12	0	37	0	0	117	20	0	27	102	0	315	0	
7:45 AM	0	0	0	0	0	4	0	16	0	0	124	2	0	12	82	0	240	1,084	
8:00 AM	0	1	0	0	0	3	0	11	0	0	79	3	0	6	64	2	169	1,041	
8:15 AM	0	0	0	0	0	2	0	17	0	0	72	2	0	10	57	2	162	886	
8:30 AM	0	1	0	0	0	1	0	22	0	0	80	5	0	21	58	1	189	760	
8:45 AM	0	0	0	0	0	2	0	19	0	0	57	1	0	18	69	0	166	686	
Count Total	0	2	0	0	0	51	0	161	0	0	702	63	0	139	646	6	1,770	0	
Peak Hour	All	0	0	0	0	0	43	0	92	0	0	414	52	0	84	398	1	1,084	0
	HV	0	0	0	0	0	6	0	0	0	0	28	10	0	1	15	0	60	0
	HV%	-	-	-	-	-	14%	-	0%	-	-	7%	19%	-	1%	4%	0%	6%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	5	4	9	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	5	19	6	30	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	11	4	16	0	0	0	1	1	0	0	0	0	0
7:45 AM	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	7	6	14	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	1	5	5	11	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	10	4	14	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	5	11	16	0	0	0	0	0	0	0	0	0	0
Count Total	0	8	65	42	115	0	0	0	1	1	0	0	0	0	0
Peak Hour	0	6	38	16	60	0	0	0	1	1	0	0	0	0	0

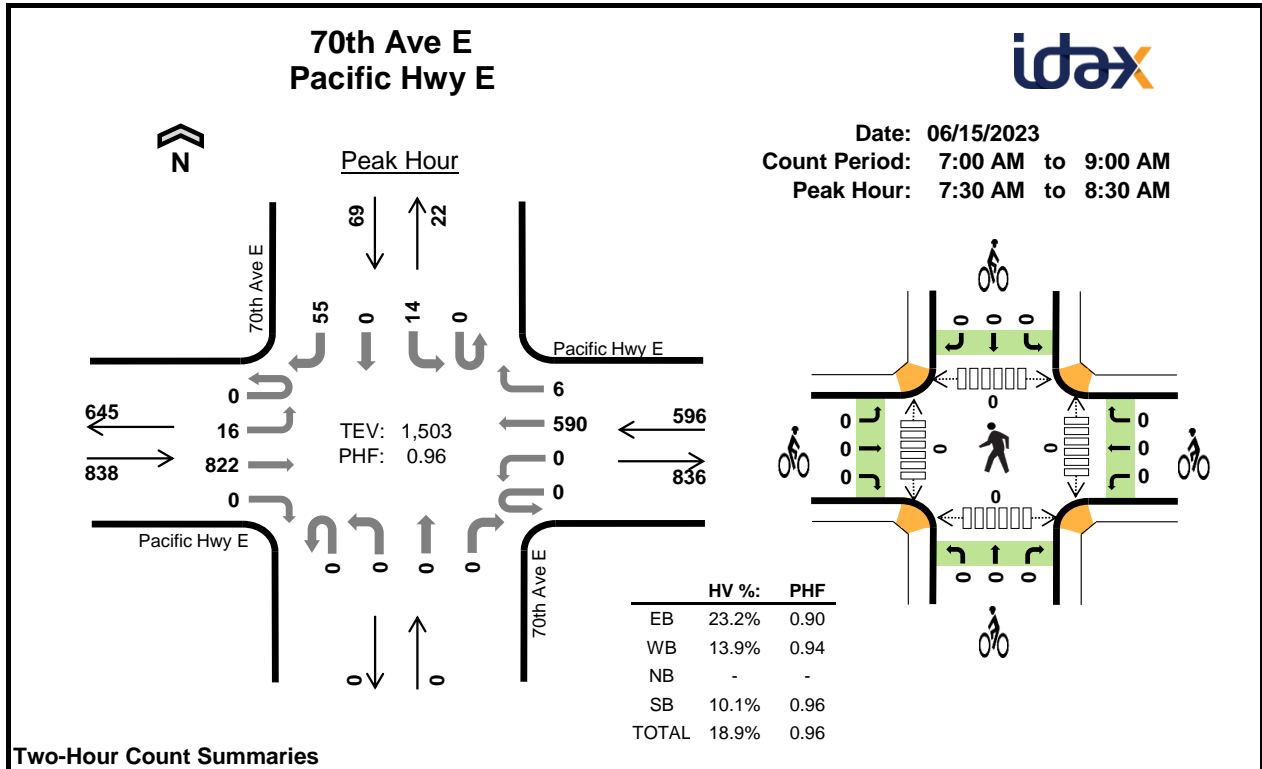


Two-Hour Count Summaries

Interval Start	54th Ave E				Valley Ave E				54th Ave E				Driveway				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	51	38	0	18	77	2	0	16	0	9	0	0	0	0	211	0	
7:15 AM	0	0	49	47	0	53	100	2	0	65	1	31	0	1	0	0	349	0	
7:30 AM	0	0	57	33	0	32	78	0	0	45	0	37	0	0	1	0	283	0	
7:45 AM	0	3	48	5	0	3	78	1	0	13	0	5	0	0	0	0	156	999	
8:00 AM	0	1	45	8	0	5	46	0	0	7	0	4	0	2	0	0	118	906	
8:15 AM	0	2	48	5	0	4	57	3	0	9	0	3	0	0	0	0	131	688	
8:30 AM	0	2	49	7	0	6	61	0	0	10	0	6	0	0	0	0	141	546	
8:45 AM	0	1	46	3	0	2	56	1	0	5	0	3	0	0	0	0	117	507	
Count Total	0	9	393	146	0	123	553	9	0	170	1	98	0	3	1	0	1,506	0	
Peak Hour	All	0	3	205	123	0	106	333	5	0	139	1	82	0	1	1	0	999	0
	HV	0	0	23	5	0	1	41	0	0	5	0	1	0	0	0	0	76	0
	HV%	-	0%	11%	4%	-	1%	12%	0%	-	4%	0%	1%	-	0%	0%	-	8%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	6	9	3	0	18	1	0	0	0	1	0	0	0	0	0
7:15 AM	10	16	2	0	28	0	0	0	0	0	0	0	0	0	
7:30 AM	7	9	1	0	17	0	0	0	0	0	0	0	0	0	
7:45 AM	5	8	0	0	13	0	0	0	0	0	0	0	0	0	
8:00 AM	3	4	0	0	7	0	0	0	0	0	0	0	0	0	
8:15 AM	10	4	0	0	14	0	0	1	0	1	0	0	0	0	
8:30 AM	3	6	3	0	12	0	0	0	0	0	0	0	0	0	
8:45 AM	5	6	1	0	12	0	0	0	0	0	0	0	0	0	
Count Total	49	62	10	0	121	1	0	1	0	2	0	0	0	0	
Peak Hour	28	42	6	0	76	1	0	0	0	1	0	0	0	0	

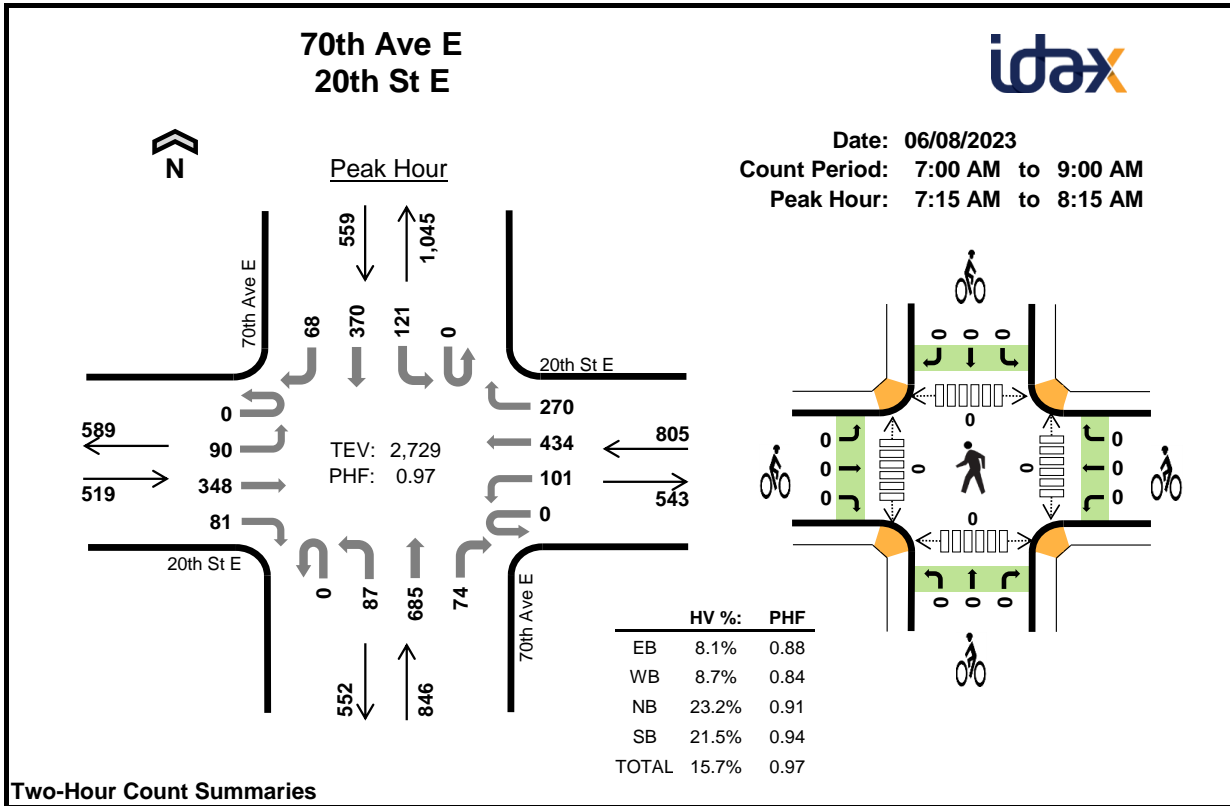


Two-Hour Count Summaries

Interval Start	Pacific Hwy E Eastbound				Pacific Hwy E Westbound				70th Ave E Northbound				70th Ave E Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	3	179	0	0	0	118	0	0	0	0	0	0	4	0	12	316	0
7:15 AM	0	2	200	0	0	0	141	1	0	0	0	0	0	6	0	19	369	0
7:30 AM	0	6	226	0	0	0	140	3	0	0	0	0	0	1	0	17	393	0
7:45 AM	0	4	204	0	0	0	156	3	0	0	0	0	0	5	0	10	382	1,460
8:00 AM	0	1	191	0	0	0	148	0	0	0	0	0	0	3	0	15	358	1,502
8:15 AM	0	5	201	0	0	0	146	0	0	0	0	0	0	5	0	13	370	1,503
8:30 AM	0	5	163	0	0	0	163	1	0	0	0	0	0	0	0	14	346	1,456
8:45 AM	0	13	183	0	0	0	144	1	0	0	0	0	0	2	0	12	355	1,429
Count Total	0	39	1,547	0	0	0	1,156	9	0	0	0	0	0	26	0	112	2,889	0
Peak Hour	All	0	16	822	0	0	590	6	0	0	0	0	0	14	0	55	1,503	0
	HV	0	3	191	0	0	82	1	0	0	0	0	0	1	0	6	284	0
	HV%	-	19%	23%	-	-	14%	17%	-	-	-	-	-	7%	-	11%	19%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	41	21	0	2	64	0	0	0	0	0	0	0	0	0	0
7:15 AM	38	17	0	0	55	0	0	0	0	0	0	0	0	0	0
7:30 AM	51	22	0	0	73	0	0	0	0	0	0	0	0	0	0
7:45 AM	42	21	0	4	67	0	0	0	0	0	0	0	0	0	0
8:00 AM	53	24	0	2	79	0	0	0	0	0	0	0	0	0	0
8:15 AM	48	16	0	1	65	0	0	0	0	0	0	0	0	0	0
8:30 AM	35	20	0	1	56	0	0	0	0	0	0	0	0	0	0
8:45 AM	53	26	0	2	81	0	0	0	0	0	0	0	0	0	0
Count Total	361	167	0	12	540	0	0	0	0	0	0	0	0	0	0
Peak Hour	194	83	0	7	284	0	0	0	0	0	0	0	0	0	0

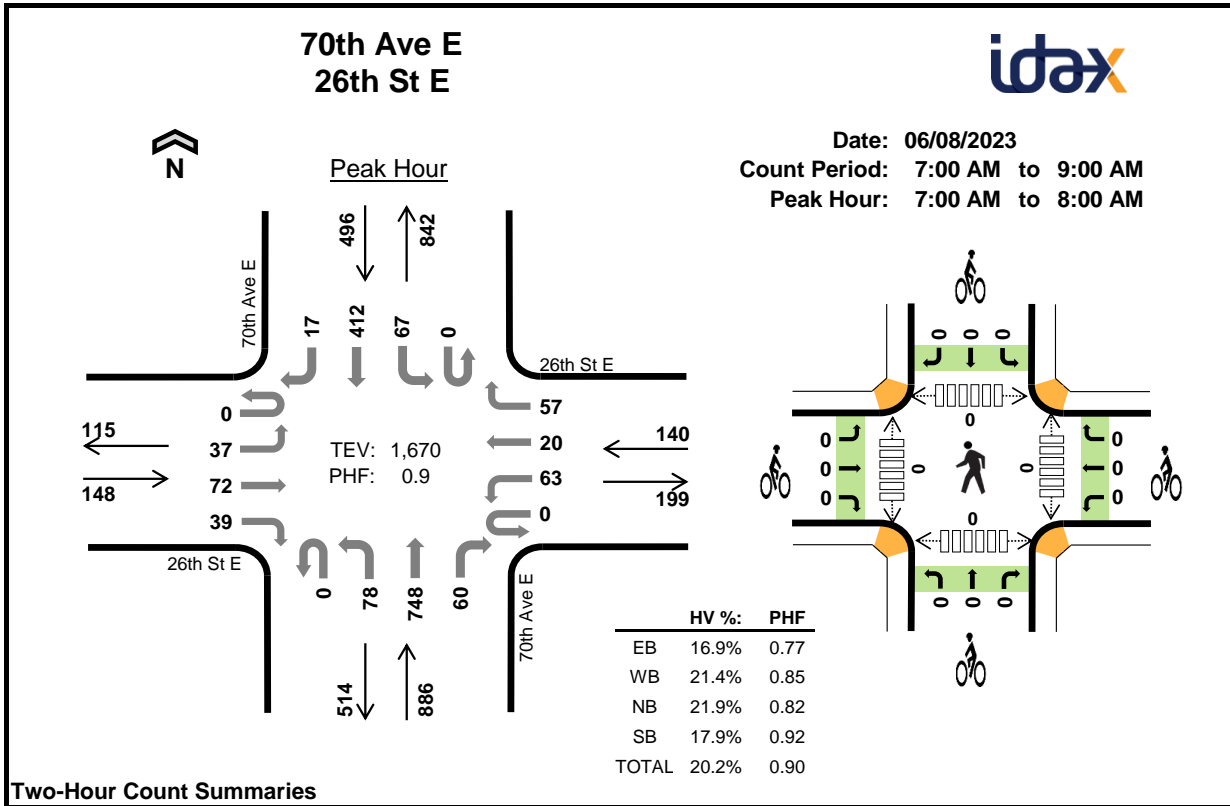


Two-Hour Count Summaries

Interval Start	20th St E Eastbound				20th St E Westbound				70th Ave E Northbound				70th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	22	69	22	0	29	112	38	0	21	153	21	0	12	63	11	573	0	
7:15 AM	0	17	94	19	0	39	149	53	0	13	173	12	0	27	80	24	700	0	
7:30 AM	0	25	105	18	0	19	116	63	0	24	175	25	0	23	87	20	700	0	
7:45 AM	0	29	86	21	0	16	95	77	0	18	199	16	0	38	104	7	706	2,679	
8:00 AM	0	19	63	23	0	27	74	77	0	32	138	21	0	33	99	17	623	2,729	
8:15 AM	0	8	85	20	0	3	91	52	0	23	130	12	0	23	67	10	524	2,553	
8:30 AM	0	12	71	25	0	16	88	51	0	27	139	15	0	19	72	15	550	2,403	
8:45 AM	0	22	79	14	0	17	65	46	0	34	131	31	0	22	99	19	579	2,276	
Count Total	0	154	652	162	0	166	790	457	0	192	1,238	153	0	197	671	123	4,955	0	
Peak Hour	All	0	90	348	81	0	101	434	270	0	87	685	74	0	121	370	68	2,729	0
	HV	0	11	21	10	0	7	28	35	0	15	176	5	0	39	81	0	428	0
	HV%	-	12%	6%	12%	-	7%	6%	13%	-	17%	26%	7%	-	32%	22%	0%	16%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	14	13	56	20	103	0	0	0	0	0	0	0	0	0	0
7:15 AM	15	10	43	17	85	0	0	0	0	0	0	0	0	0	0
7:30 AM	8	13	51	29	101	0	0	0	0	0	0	0	0	0	0
7:45 AM	8	17	53	39	117	0	0	0	0	0	0	0	0	0	0
8:00 AM	11	30	49	35	125	0	0	0	0	0	0	0	0	0	0
8:15 AM	12	10	42	28	92	0	0	0	0	0	0	0	0	0	0
8:30 AM	13	9	63	29	114	0	0	0	0	0	0	0	0	0	0
8:45 AM	14	13	65	41	133	0	0	0	0	0	0	0	0	0	0
Count Total	95	115	422	238	870	0	0	0	0	0	0	0	0	0	0
Peak Hour	42	70	196	120	428	0	0	0	0	0	0	0	0	0	0

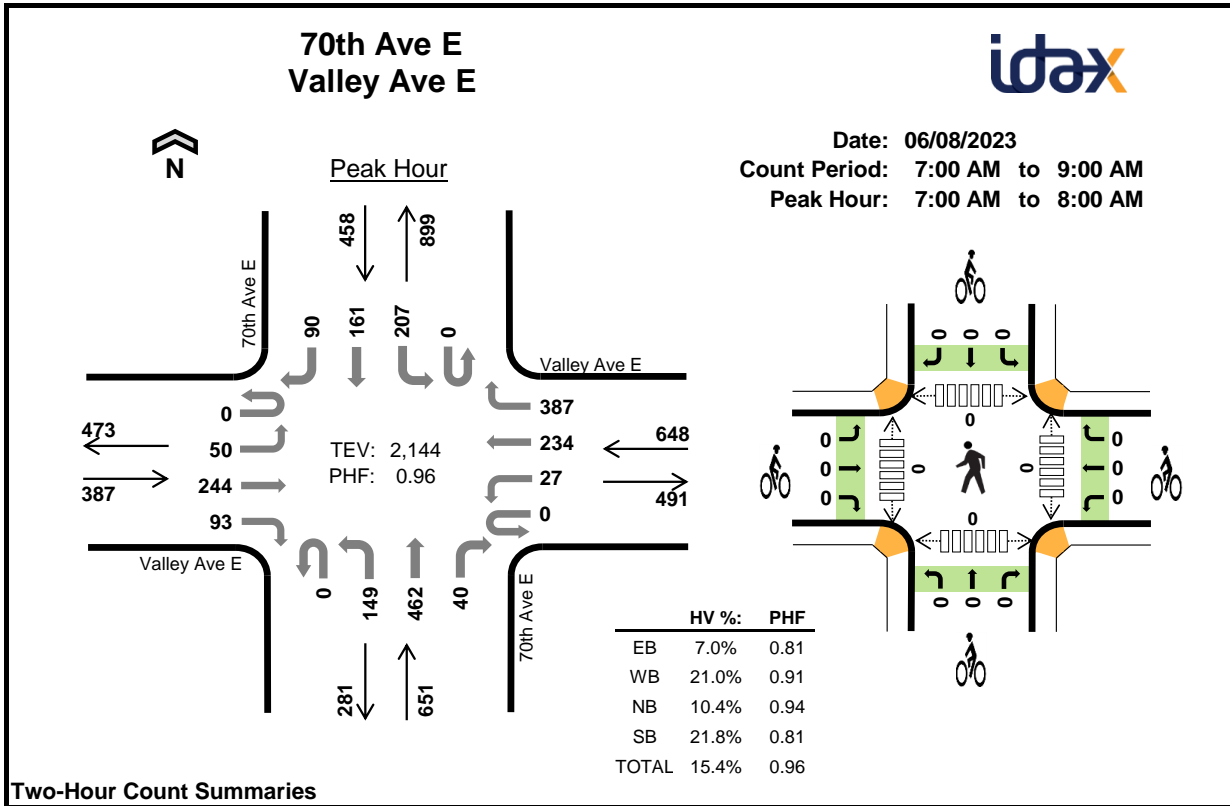


Two-Hour Count Summaries

Interval Start	26th St E Eastbound				26th St E Westbound				70th Ave E Northbound				70th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	11	20	5	0	14	5	9	0	20	190	15	0	14	86	6	395	0	
7:15 AM	0	12	19	17	0	21	7	13	0	27	155	12	0	20	100	5	408	0	
7:30 AM	0	5	17	7	0	11	4	16	0	20	233	18	0	16	116	3	466	0	
7:45 AM	0	9	16	10	0	17	4	19	0	11	170	15	0	17	110	3	401	1,670	
8:00 AM	0	8	15	11	0	6	5	29	0	12	140	9	0	19	107	4	365	1,640	
8:15 AM	0	3	19	8	0	4	13	27	0	12	143	14	1	10	67	4	325	1,557	
8:30 AM	0	6	11	10	0	9	14	29	0	7	155	11	0	10	81	8	351	1,442	
8:45 AM	0	7	5	8	0	9	13	33	0	8	172	16	0	6	107	5	389	1,430	
Count Total	0	61	122	76	0	91	65	175	0	117	1,358	110	1	112	774	38	3,100	0	
Peak Hour	All	0	37	72	39	0	63	20	57	0	78	748	60	0	67	412	17	1,670	0
	HV	0	13	6	6	0	8	3	19	0	23	164	7	0	8	80	1	338	0
	HV%	-	35%	8%	15%	-	13%	15%	33%	-	29%	22%	12%	-	12%	19%	6%	20%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	6	11	52	25	94	0	0	0	0	0	0	0	0	0	0
7:15 AM	9	7	39	16	71	0	0	0	0	0	0	0	0	0	0
7:30 AM	3	4	58	23	88	0	0	0	0	0	0	0	0	0	0
7:45 AM	7	8	45	25	85	0	0	0	0	0	0	0	0	0	0
8:00 AM	4	6	39	27	76	0	0	0	0	0	0	0	0	0	0
8:15 AM	5	22	31	21	79	0	0	0	0	0	0	0	0	0	0
8:30 AM	6	34	48	26	114	0	0	0	0	0	0	0	0	0	0
8:45 AM	6	29	38	37	110	0	0	0	0	0	0	0	0	0	0
Count Total	46	121	350	200	717	0	0	0	0	0	0	0	0	0	0
Peak Hour	25	30	194	89	338	0	0	0	0	0	0	0	0	0	0

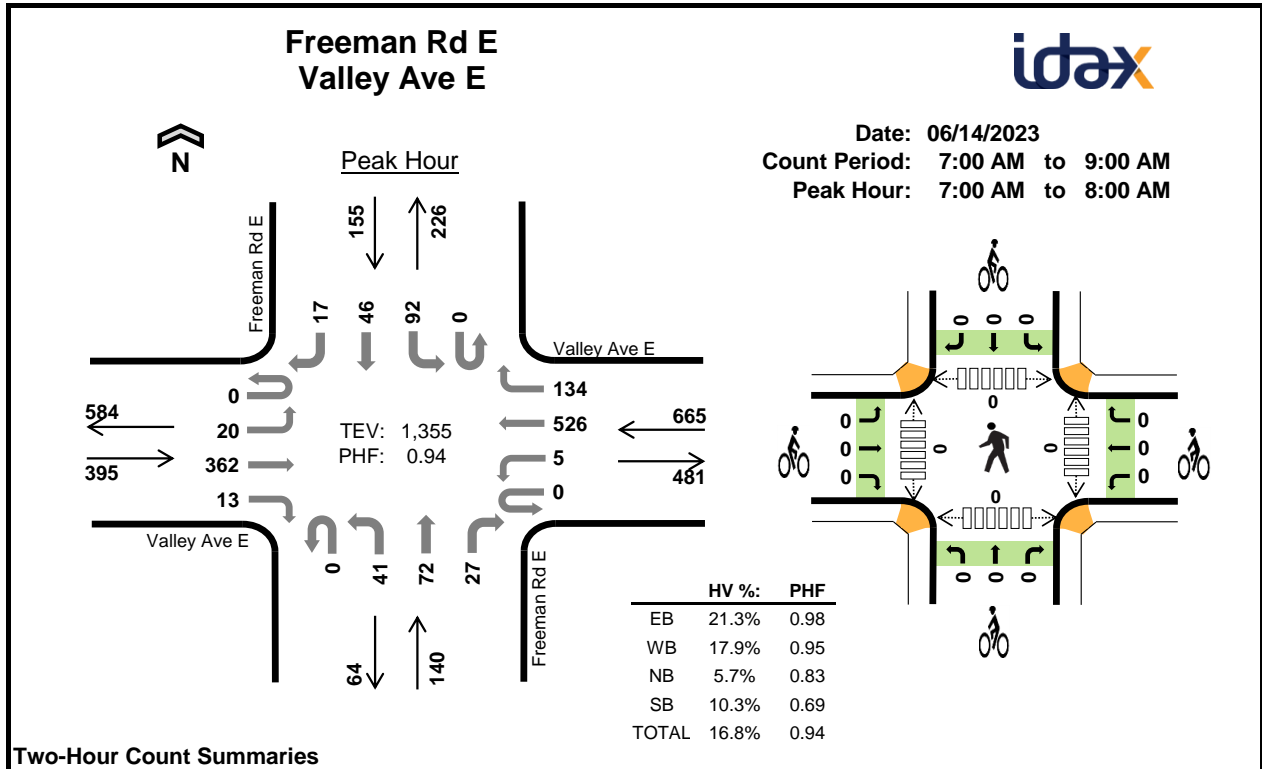


Two-Hour Count Summaries

Interval Start	Valley Ave E Eastbound				Valley Ave E Westbound				70th Ave E Northbound				70th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	6	66	22	0	3	69	106	0	27	125	14	0	39	40	8	525	0	
7:15 AM	0	13	59	19	0	10	47	93	0	42	117	15	0	43	49	49	556	0	
7:30 AM	0	24	68	27	0	7	64	98	0	40	114	5	0	51	31	25	554	0	
7:45 AM	0	7	51	25	0	7	54	90	0	40	106	6	0	74	41	8	509	2,144	
8:00 AM	0	10	40	22	0	11	49	86	0	17	79	7	0	65	52	9	447	2,066	
8:15 AM	0	4	39	23	0	7	49	78	0	36	100	14	0	53	29	10	442	1,952	
8:30 AM	0	5	28	16	0	10	52	80	0	18	97	15	0	37	36	10	404	1,802	
8:45 AM	0	8	60	25	0	7	56	75	0	27	90	8	0	75	43	4	478	1,771	
Count Total	0	77	411	179	0	62	440	706	0	247	828	84	0	437	321	123	3,915	0	
Peak Hour	All	0	50	244	93	0	27	234	387	0	149	462	40	0	207	161	90	2,144	0
	HV	0	10	14	3	0	5	15	116	0	9	48	11	0	69	24	7	331	0
	HV%	-	20%	6%	3%	-	19%	6%	30%	-	6%	10%	28%	-	33%	15%	8%	15%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	7	41	22	23	93	0	0	0	0	0	0	0	0	0	0
7:15 AM	7	27	16	22	72	0	0	0	0	0	0	0	0	0	0
7:30 AM	9	32	17	21	79	0	0	0	0	0	0	0	0	0	0
7:45 AM	4	36	13	34	87	0	0	0	0	0	0	0	0	0	0
8:00 AM	10	36	12	29	87	0	0	0	0	0	0	0	0	0	0
8:15 AM	6	28	23	17	74	0	0	0	0	0	0	0	0	0	0
8:30 AM	6	33	24	25	88	0	0	0	0	0	0	0	0	0	0
8:45 AM	17	34	16	37	104	0	0	0	0	0	0	0	0	0	0
Count Total	66	267	143	208	684	0	0	0	0	0	0	0	0	0	0
Peak Hour	27	136	68	100	331	0	0	0	0	0	0	0	0	0	0

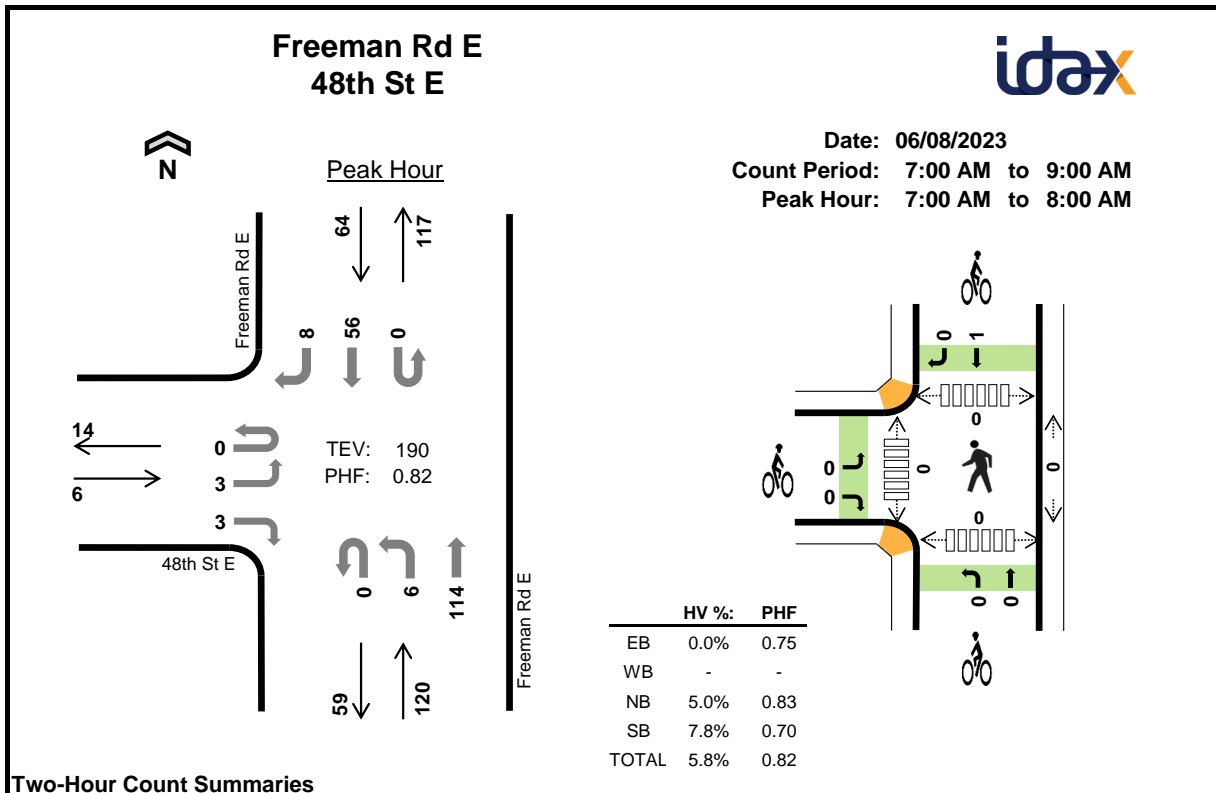


Two-Hour Count Summaries

Interval Start	Valley Ave E Eastbound				Valley Ave E Westbound				Freeman Rd E Northbound				Freeman Rd E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	1	90	1	0	2	123	30	0	12	12	5	0	25	4	3	308	0	
7:15 AM	0	8	90	3	0	1	142	24	0	5	20	8	0	12	12	5	330	0	
7:30 AM	0	4	94	3	0	1	136	38	0	12	24	6	0	24	10	4	356	0	
7:45 AM	0	7	88	6	0	1	125	42	0	12	16	8	0	31	20	5	361	1,355	
8:00 AM	0	3	89	3	0	0	112	25	0	7	8	2	0	43	9	3	304	1,351	
8:15 AM	0	3	87	1	0	5	123	34	0	5	8	6	0	29	9	1	311	1,332	
8:30 AM	0	6	87	2	0	4	92	22	0	3	6	5	0	13	7	9	256	1,232	
8:45 AM	0	3	79	5	0	1	108	17	0	4	5	12	0	25	4	3	266	1,137	
Count Total	0	35	704	24	0	15	961	232	0	60	99	52	0	202	75	33	2,492	0	
Peak Hour	All	0	20	362	13	0	5	526	134	0	41	72	27	0	92	46	17	1,355	0
	HV	0	2	81	1	0	0	110	9	0	0	6	2	0	11	2	3	227	0
	HV%	-	10%	22%	8%	-	0%	21%	7%	-	0%	8%	7%	-	12%	4%	18%	17%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	20	25	1	4	50	0	0	0	0	0	0	0	0	0	0
7:15 AM	20	40	2	3	65	0	0	0	0	0	0	0	0	0	0
7:30 AM	18	37	3	2	60	0	0	0	0	0	0	0	0	0	0
7:45 AM	26	17	2	7	52	0	0	0	0	0	0	0	0	0	0
8:00 AM	22	27	1	8	58	0	0	0	0	0	0	0	0	0	0
8:15 AM	26	23	3	8	60	0	0	0	0	0	0	0	0	0	0
8:30 AM	30	22	2	4	58	0	0	0	1	1	0	0	0	0	0
8:45 AM	19	25	4	7	55	0	0	0	0	0	0	0	0	0	0
Count Total	181	216	18	43	458	0	0	0	1	1	0	0	0	0	0
Peak Hour	84	119	8	16	227	0	0	0	0	0	0	0	0	0	0

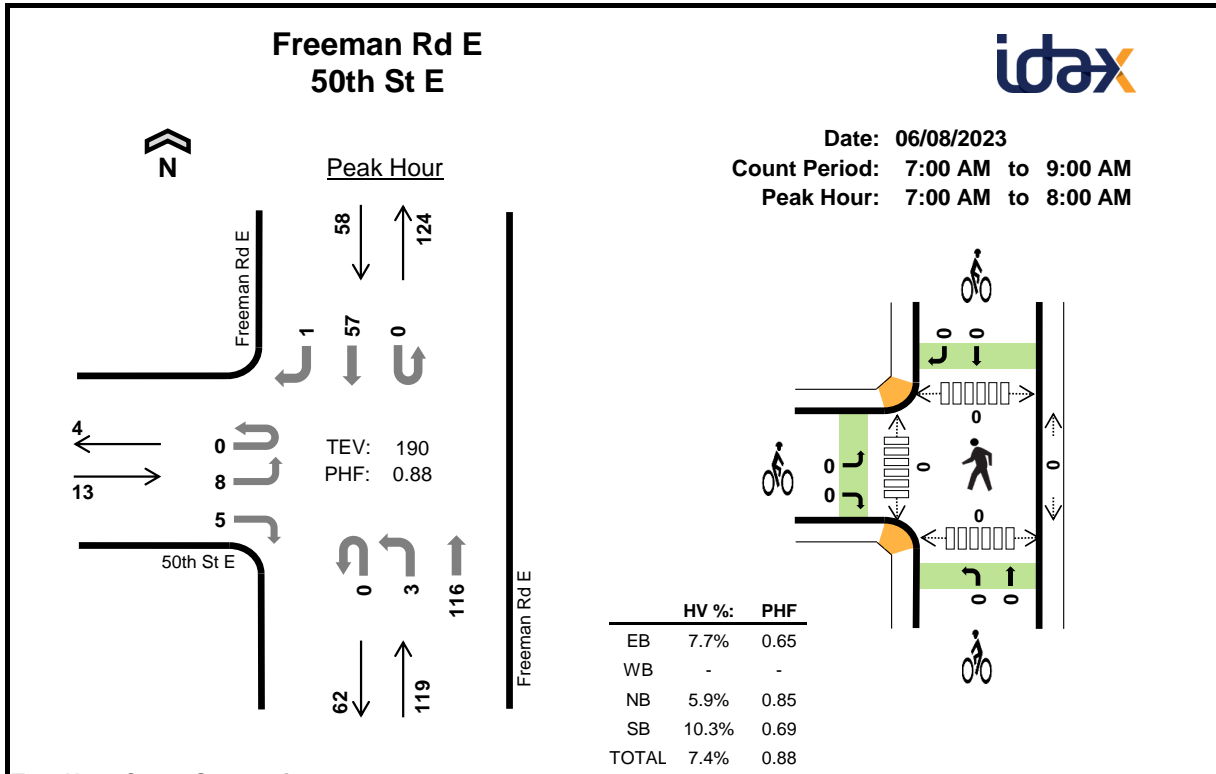


Two-Hour Count Summaries

Interval Start	48th St E				0				Freeman Rd E				Freeman Rd E				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	1	0	1	0	0	0	0	0	2	27	0	0	0	8	1	40	0	
7:15 AM	0	1	0	0	0	0	0	0	0	2	25	0	0	0	21	2	51	0	
7:30 AM	0	0	0	1	0	0	0	0	0	0	28	0	0	0	10	2	41	0	
7:45 AM	0	1	0	1	0	0	0	0	0	2	34	0	0	0	17	3	58	190	
8:00 AM	0	0	0	1	0	0	0	0	0	1	17	0	0	0	11	1	31	181	
8:15 AM	0	1	0	0	0	0	0	0	0	0	17	0	0	0	11	2	31	161	
8:30 AM	0	1	0	1	0	0	0	0	0	0	17	0	0	0	6	1	26	146	
8:45 AM	0	1	0	0	0	0	0	0	0	2	15	0	0	0	13	0	31	119	
Count Total	0	6	0	5	0	0	0	0	0	9	180	0	0	0	97	12	309	0	
Peak Hour	All	0	3	0	3	0	0	0	0	0	6	114	0	0	0	56	8	190	0
	HV	0	0	0	0	0	0	0	0	0	6	0	0	0	0	4	1	11	0
	HV%	-	0%	-	0%	-	-	-	-	-	0%	5%	-	-	-	7%	13%	6%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	2	2	4	0	0	0	1	1	0	0	0	0	0
8:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	14	7	21	0	0	0	1	1	0	0	0	0	0
Peak Hr	0	0	6	5	11	0	0	0	1	1	0	0	0	0	0

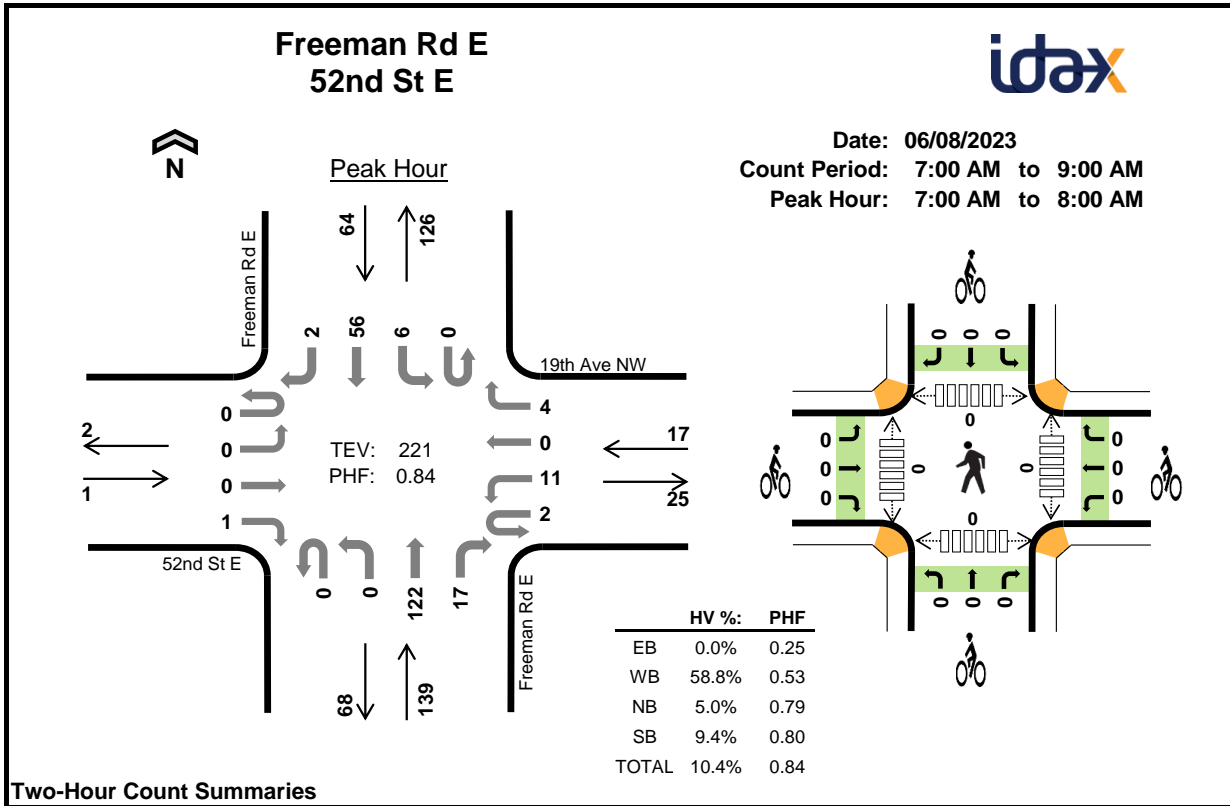


Two-Hour Count Summaries

Interval Start	50th St E				0				Freeman Rd E				Freeman Rd E				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	2	0	1	0	0	0	0	0	1	24	0	0	0	8	0	36	0	
7:15 AM	0	3	0	2	0	0	0	0	0	0	28	0	0	0	20	1	54	0	
7:30 AM	0	1	0	1	0	0	0	0	0	1	30	0	0	0	13	0	46	0	
7:45 AM	0	2	0	1	0	0	0	0	0	1	34	0	0	0	16	0	54	190	
8:00 AM	0	1	0	0	0	0	0	0	0	0	18	0	0	0	15	0	34	188	
8:15 AM	0	2	0	1	0	0	0	0	0	0	16	0	0	0	11	0	30	164	
8:30 AM	0	2	0	2	0	0	0	0	0	2	14	0	0	0	6	1	27	145	
8:45 AM	0	1	0	3	0	0	0	0	0	1	14	0	0	0	11	1	31	122	
Count Total	0	14	0	11	0	0	0	0	0	6	178	0	0	0	100	3	312	0	
Peak Hour	All	0	8	0	5	0	0	0	0	0	3	116	0	0	0	57	1	190	0
	HV	0	0	0	1	0	0	0	0	0	1	6	0	0	0	6	0	14	0
	HV%	-	0%	-	20%	-	-	-	-	-	33%	5%	-	-	-	11%	0%	7%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	3	0	4	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	0	1	0	0	0	1	1	0	0	0	0	0
8:15 AM	0	0	4	1	5	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0
Count Total	1	0	14	10	25	0	0	0	1	1	0	0	0	0	0
Peak Hr	1	0	7	6	14	0	0	0	0	0	0	0	0	0	0

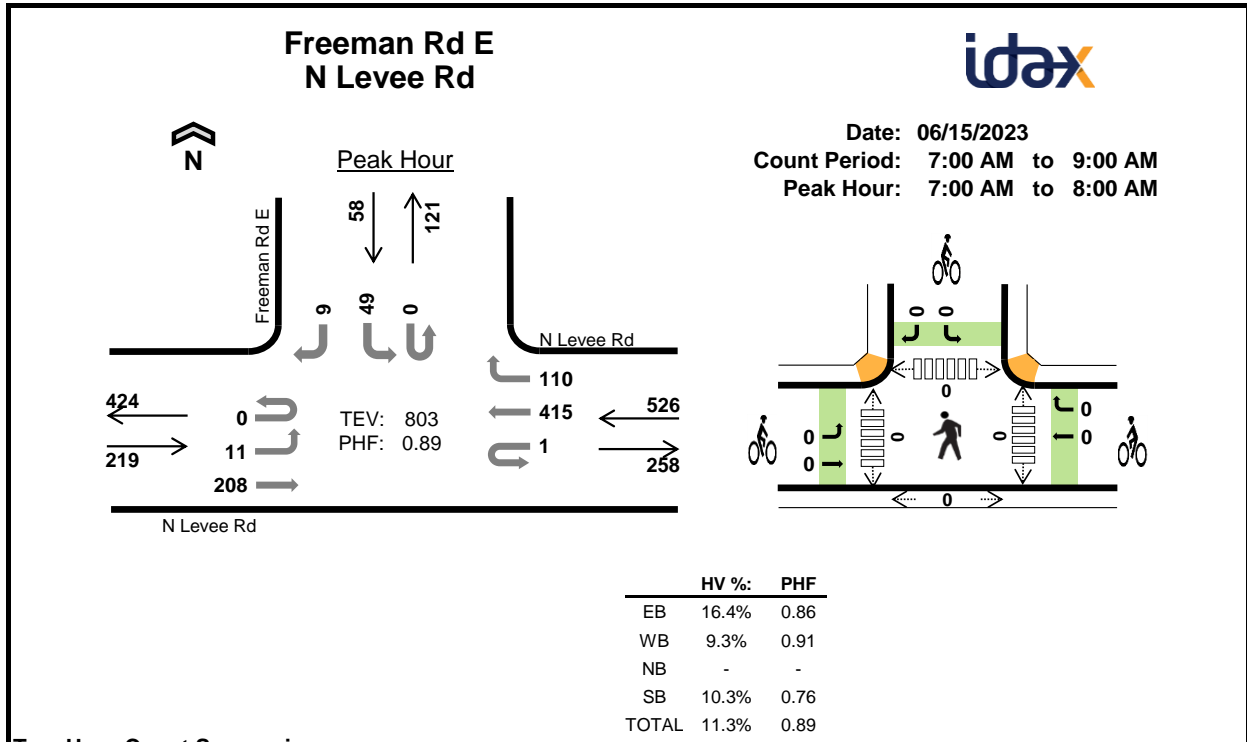


Two-Hour Count Summaries

Interval Start	52nd St E				19th Ave NW				Freeman Rd E				Freeman Rd E				15-min Total	Rolling One Hour	
	Eastbound		Westbound		Westbound		Northbound		Northbound		Southbound		Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	0	2	0	1	0	0	24	7	0	2	8	0	44	0	
7:15 AM	0	0	0	1	0	6	0	2	0	0	25	5	0	2	16	2	59	0	
7:30 AM	0	0	0	0	0	2	0	0	0	0	33	1	0	1	15	0	52	0	
7:45 AM	0	0	0	0	2	1	0	1	0	0	40	4	0	1	17	0	66	221	
8:00 AM	0	0	0	0	0	2	0	2	0	0	19	1	0	1	13	0	38	215	
8:15 AM	0	0	0	0	0	3	0	3	0	0	13	3	0	2	9	0	33	189	
8:30 AM	0	0	0	1	0	2	0	0	0	0	17	2	0	0	8	0	30	167	
8:45 AM	0	0	0	0	0	2	0	3	0	0	11	2	0	0	14	0	32	133	
Count Total	0	0	0	2	2	20	0	12	0	0	182	25	0	9	100	2	354	0	
Peak Hour	All	0	0	0	1	2	11	0	4	0	0	122	17	0	6	56	2	221	0
	HV	0	0	0	0	0	8	0	2	0	0	5	2	0	1	5	0	23	0
	HV%	-	-	-	0%	0%	73%	-	50%	-	-	4%	12%	-	17%	9%	0%	10%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	3	1	1	5	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	4	1	1	6	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	1	2	4	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	2	4	2	8	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	3	1	0	4	0	0	0	1	1	0	0	0	0	0
8:15 AM	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	2	1	2	5	0	0	0	0	0	0	0	0	0	0
Count Total	0	17	13	9	39	0	0	0	1	1	0	0	0	0	0
Peak Hour	0	10	7	6	23	0	0	0	0	0	0	0	0	0	0



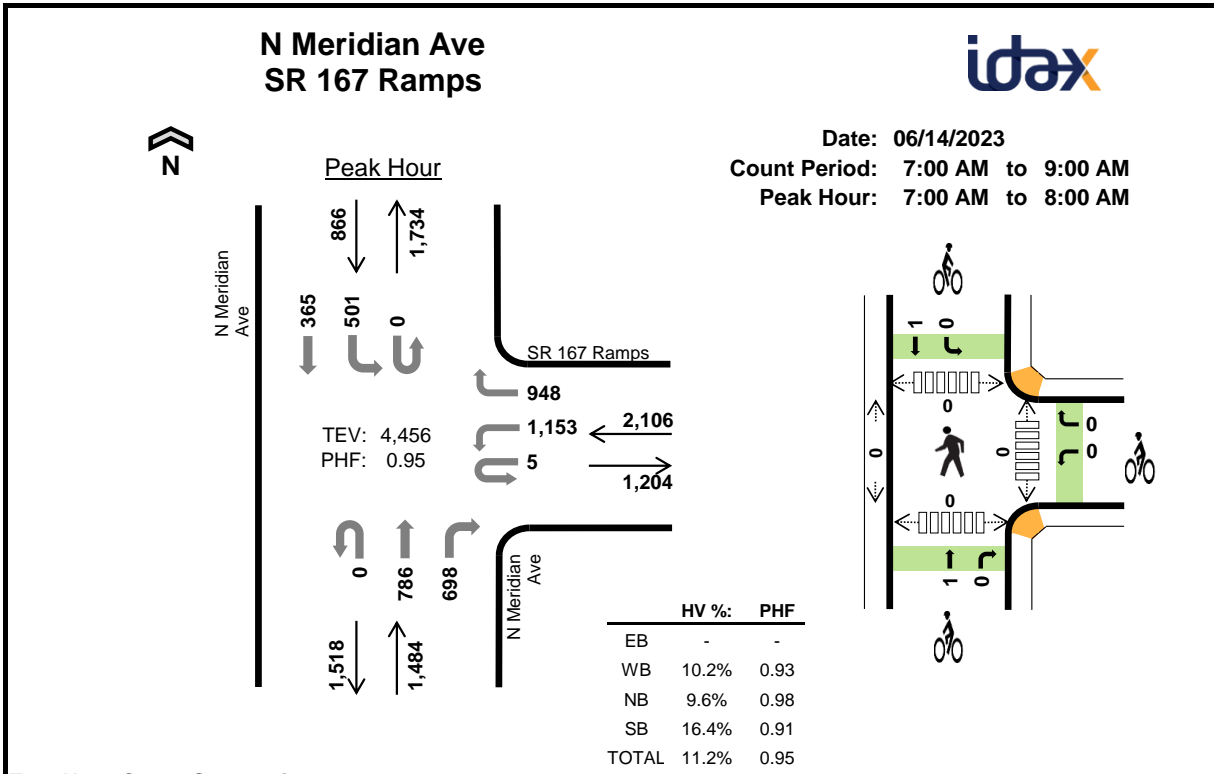
	HV %:	PHF
EB	16.4%	0.86
WB	9.3%	0.91
NB	-	-
SB	10.3%	0.76
TOTAL	11.3%	0.89

Two-Hour Count Summaries

Interval Start	N Levee Rd Eastbound				N Levee Rd Westbound				0 Northbound				Freeman Rd E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	1	52	0	0	0	91	25	0	0	0	0	0	6	0	0	175	0	
7:15 AM	0	3	48	0	1	0	108	16	0	0	0	0	0	13	0	2	191	0	
7:30 AM	0	3	61	0	0	0	101	43	0	0	0	0	0	14	0	4	226	0	
7:45 AM	0	4	47	0	0	0	115	26	0	0	0	0	0	16	0	3	211	803	
8:00 AM	0	5	44	0	0	0	83	23	0	0	0	0	0	16	0	2	173	801	
8:15 AM	0	6	43	0	0	0	78	12	0	0	0	0	0	14	0	3	156	766	
8:30 AM	0	3	50	0	0	0	56	13	0	0	0	0	0	10	0	6	138	678	
8:45 AM	0	5	53	0	0	0	61	12	0	0	0	0	0	13	0	3	147	614	
Count Total	0	30	398	0	1	0	693	170	0	0	0	0	0	102	0	23	1,417	0	
Peak Hour	All	0	11	208	0	1	0	415	110	0	0	0	0	0	49	0	9	803	0
	HV	0	1	35	0	0	0	45	4	0	0	0	0	0	6	0	0	91	0
	HV%	-	9%	17%	-	0%	-	11%	4%	-	-	-	-	-	12%	-	0%	11%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	6	12	0	1	19	0	0	0	0	0	0	0	0	0	0
7:15 AM	9	12	0	1	22	0	0	0	0	0	0	0	0	0	0
7:30 AM	13	12	0	1	26	0	0	0	0	0	0	0	0	0	0
7:45 AM	8	13	0	3	24	0	0	0	0	0	0	0	0	0	0
8:00 AM	4	10	0	3	17	0	0	0	0	0	0	0	0	0	0
8:15 AM	7	18	0	0	25	0	0	0	0	0	0	0	0	0	0
8:30 AM	8	9	0	1	18	0	0	0	0	0	0	0	0	0	0
8:45 AM	6	11	0	0	17	0	0	0	0	0	0	0	0	0	0
Count Total	61	97	0	10	168	0	0	0	0	0	0	0	0	0	0
Peak Hr	36	49	0	6	91	0	0	0	0	0	0	0	0	0	0

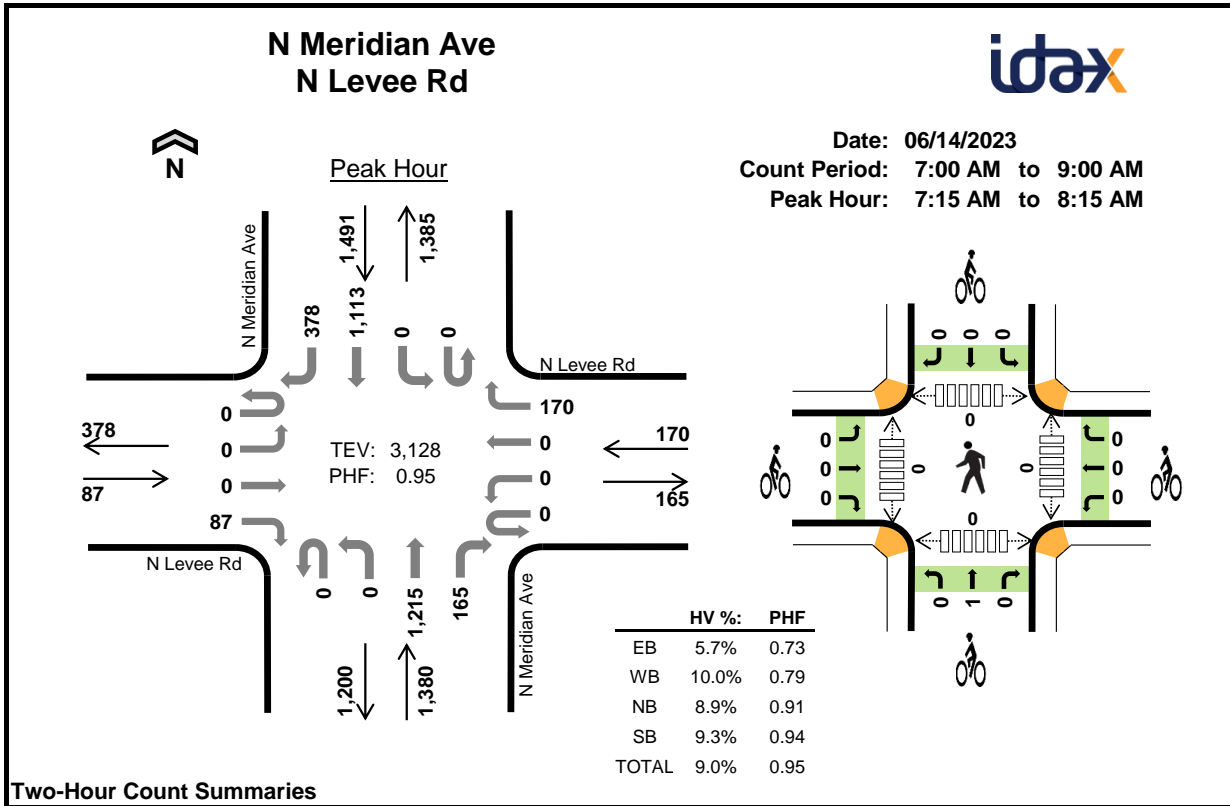


Two-Hour Count Summaries

Interval Start	0				SR 167 Ramps				N Meridian Ave				N Meridian Ave				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	0	2	235	0	246	0	0	190	172	0	126	73	0	1,044	0	
7:15 AM	0	0	0	0	0	302	0	207	0	0	205	172	0	122	76	0	1,084	0	
7:30 AM	0	0	0	0	0	317	0	250	0	0	197	174	0	134	98	0	1,170	0	
7:45 AM	0	0	0	0	3	299	0	245	0	0	194	180	0	119	118	0	1,158	4,456	
8:00 AM	0	0	0	0	4	232	0	210	0	0	126	177	0	128	131	0	1,008	4,420	
8:15 AM	0	0	0	0	1	254	0	216	0	0	118	157	0	116	96	0	958	4,294	
8:30 AM	0	0	0	0	2	243	0	241	0	0	125	141	0	144	90	0	986	4,110	
8:45 AM	0	0	0	0	2	241	0	214	0	0	99	134	0	128	105	0	923	3,875	
Count Total	0	0	0	0	14	2,123	0	1,829	0	0	1,254	1,307	0	1,017	787	0	8,331	0	
Peak Hour	All	0	0	0	0	5	1,153	0	948	0	0	786	698	0	501	365	0	4,456	0
	HV	0	0	0	0	0	118	0	97	0	0	67	76	0	112	30	0	500	0
	HV%	-	-	-	-	0%	10%	-	10%	-	-	9%	11%	-	22%	8%	-	11%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	58	47	35	140	0	0	0	1	1	0	0	0	0	0
7:15 AM	0	54	39	31	124	0	0	1	0	1	0	0	0	0	0
7:30 AM	0	55	32	37	124	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	48	25	39	112	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	54	27	52	133	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	47	22	38	107	0	0	0	1	1	0	0	0	0	0
8:30 AM	0	57	25	39	121	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	59	25	46	130	0	0	0	0	0	0	0	0	0	0
Count Total	0	432	242	317	991	0	0	1	2	3	0	0	0	0	0
Peak Hr	0	215	143	142	500	0	0	1	1	2	0	0	0	0	0

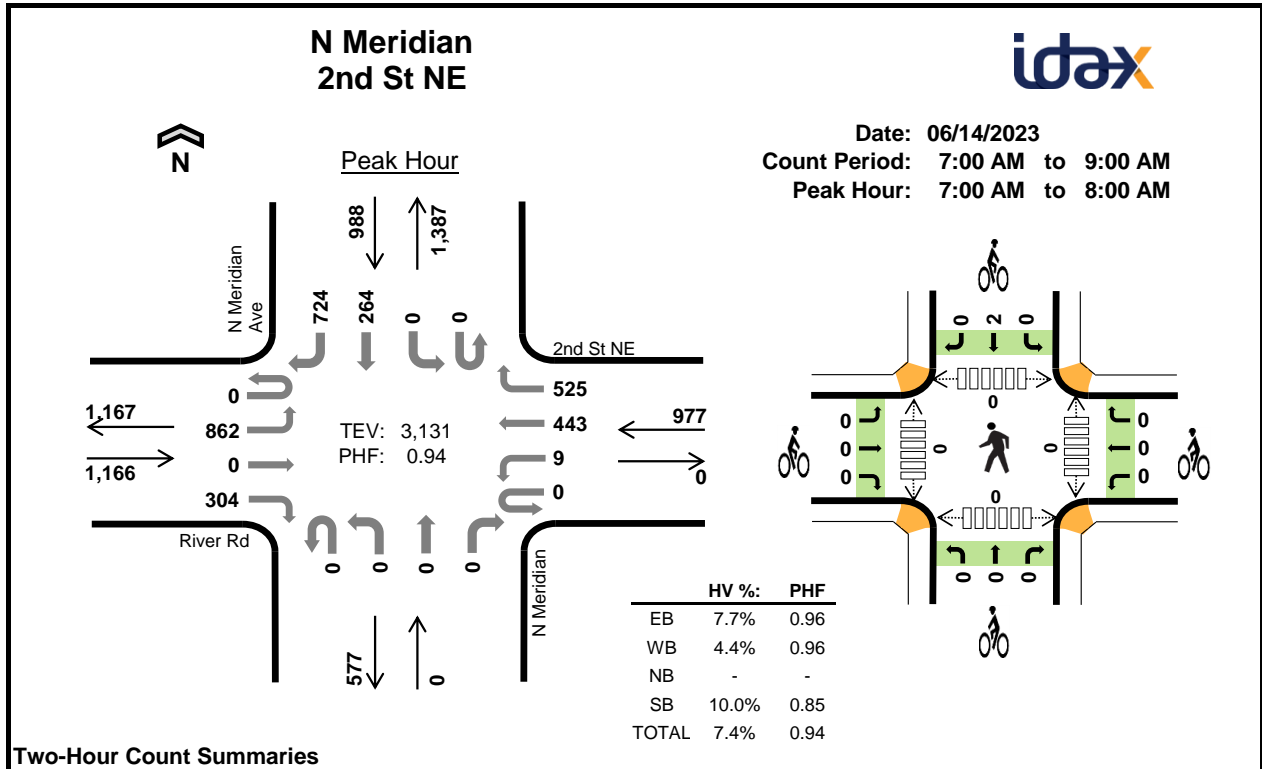


Two-Hour Count Summaries

Interval Start	N Levee Rd Eastbound				N Levee Rd Westbound				N Meridian Ave Northbound				N Meridian Ave Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	7	0	0	0	44	0	0	304	35	0	0	198	94	682	0	
7:15 AM	0	0	0	19	0	0	0	41	0	0	327	34	0	0	264	95	780	0	
7:30 AM	0	0	0	12	0	0	0	54	0	0	303	40	0	0	283	115	807	0	
7:45 AM	0	0	0	26	0	0	0	36	0	0	333	46	0	0	286	99	826	3,095	
8:00 AM	0	0	0	30	0	0	0	39	0	0	252	45	0	0	280	69	715	3,128	
8:15 AM	0	0	0	20	0	0	0	31	0	0	240	42	0	0	257	81	671	3,019	
8:30 AM	0	0	0	11	0	0	0	20	0	0	245	51	0	0	259	57	643	2,855	
8:45 AM	0	0	0	22	0	0	0	21	0	0	212	54	0	0	272	66	647	2,676	
Count Total	0	0	0	147	0	0	0	286	0	0	2,216	347	0	0	2,099	676	5,771	0	
Peak Hour	All	0	0	0	87	0	0	0	170	0	0	1,215	165	0	0	1,113	378	3,128	0
	HV	0	0	0	5	0	0	0	17	0	0	101	22	0	0	104	34	283	0
	HV%	-	-	-	6%	-	-	-	10%	-	-	8%	13%	-	-	9%	9%	9%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	8	40	35	84	1	0	0	1	2	0	0	0	0	0
7:15 AM	0	8	30	29	67	0	0	1	0	1	0	0	0	0	0
7:30 AM	0	4	34	37	75	0	0	0	0	0	0	0	0	0	0
7:45 AM	2	3	29	39	73	0	0	0	0	0	0	0	0	0	0
8:00 AM	3	2	30	33	68	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	4	26	36	66	0	0	0	1	1	0	0	0	0	0
8:30 AM	2	1	32	28	63	0	0	0	0	0	0	0	0	0	0
8:45 AM	2	2	32	45	81	0	0	0	0	0	0	0	0	0	0
Count Total	10	32	253	282	577	1	0	1	2	4	0	0	0	0	0
Peak Hour	5	17	123	138	283	0	0	1	0	1	0	0	0	0	0

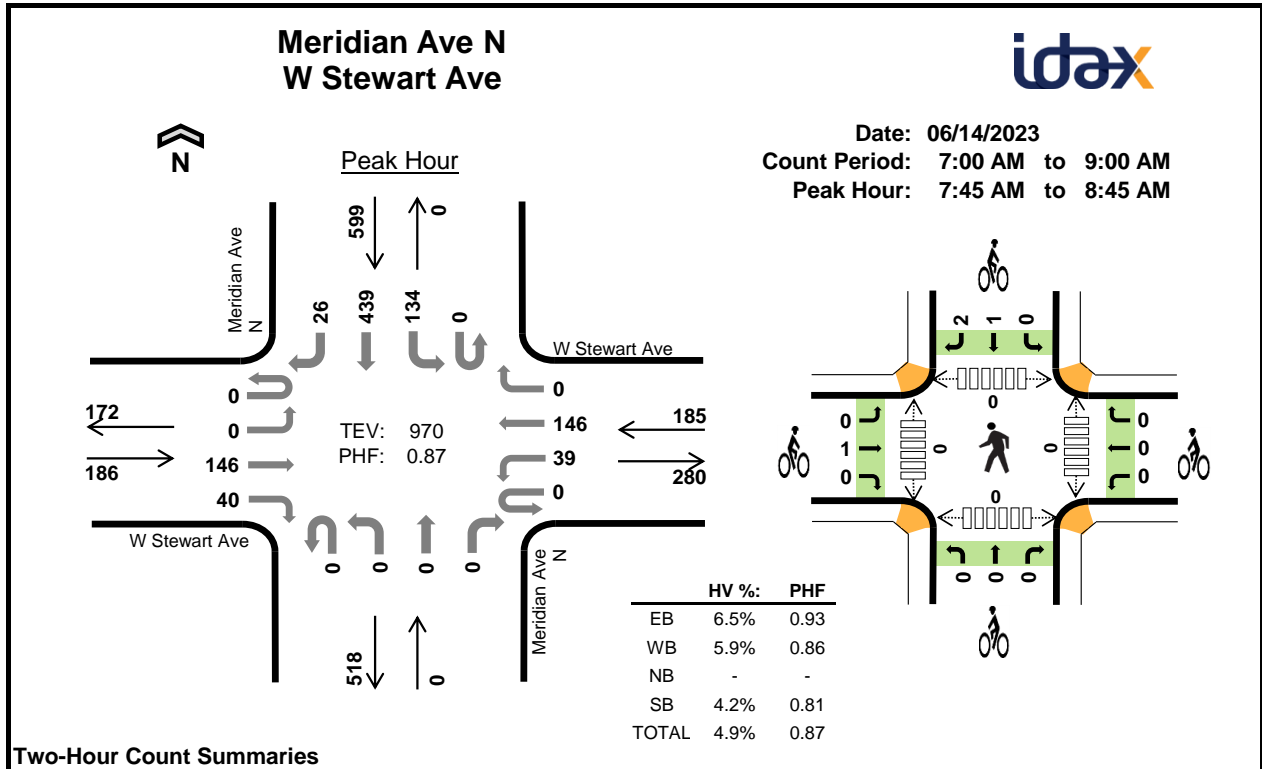


Two-Hour Count Summaries

Interval Start	River Rd				2nd St NE				N Meridian				N Meridian Ave				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	237	0	68	0	1	102	141	0	0	0	0	0	0	43	145	737	0	
7:15 AM	0	201	0	63	0	2	113	139	0	0	0	0	0	0	62	169	749	0	
7:30 AM	0	211	0	82	0	2	111	123	0	0	0	0	0	0	75	204	808	0	
7:45 AM	0	213	0	91	0	4	117	122	0	0	0	0	0	0	84	206	837	3,131	
8:00 AM	0	174	0	67	0	0	111	95	0	0	0	0	0	0	87	191	725	3,119	
8:15 AM	0	155	0	67	0	4	117	81	0	0	0	0	0	0	66	170	660	3,030	
8:30 AM	0	161	0	68	0	4	135	84	0	0	0	0	0	0	81	188	721	2,943	
8:45 AM	0	156	0	80	0	4	99	61	0	0	0	0	0	0	92	159	651	2,757	
Count Total	0	1,508	0	586	0	21	905	846	0	0	0	0	0	0	590	1,432	5,888	0	
Peak Hour	All	0	862	0	304	0	9	443	525	0	0	0	0	0	0	264	724	3,131	0
	HV	0	79	0	11	0	0	15	28	0	0	0	0	0	0	15	84	232	0
	HV%	-	9%	-	4%	-	0%	3%	5%	-	-	-	-	-	-	6%	12%	7%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	20	9	0	18	47	0	0	0	0	0	0	0	0	0	0
7:15 AM	25	12	0	23	60	0	0	0	2	2	0	0	0	0	0
7:30 AM	25	14	0	28	67	0	0	0	0	0	0	0	0	0	0
7:45 AM	20	8	0	30	58	0	0	0	0	0	0	0	0	0	0
8:00 AM	24	14	0	26	64	0	0	0	0	0	0	0	0	0	0
8:15 AM	15	12	0	21	48	0	0	0	0	0	0	0	0	0	0
8:30 AM	20	9	0	26	55	0	0	0	0	0	0	0	0	0	0
8:45 AM	30	5	0	27	62	0	0	0	0	0	0	0	0	0	0
Count Total	179	83	0	199	461	0	0	0	2	2	0	0	0	0	0
Peak Hour	90	43	0	99	232	0	0	0	2	2	0	0	0	0	0

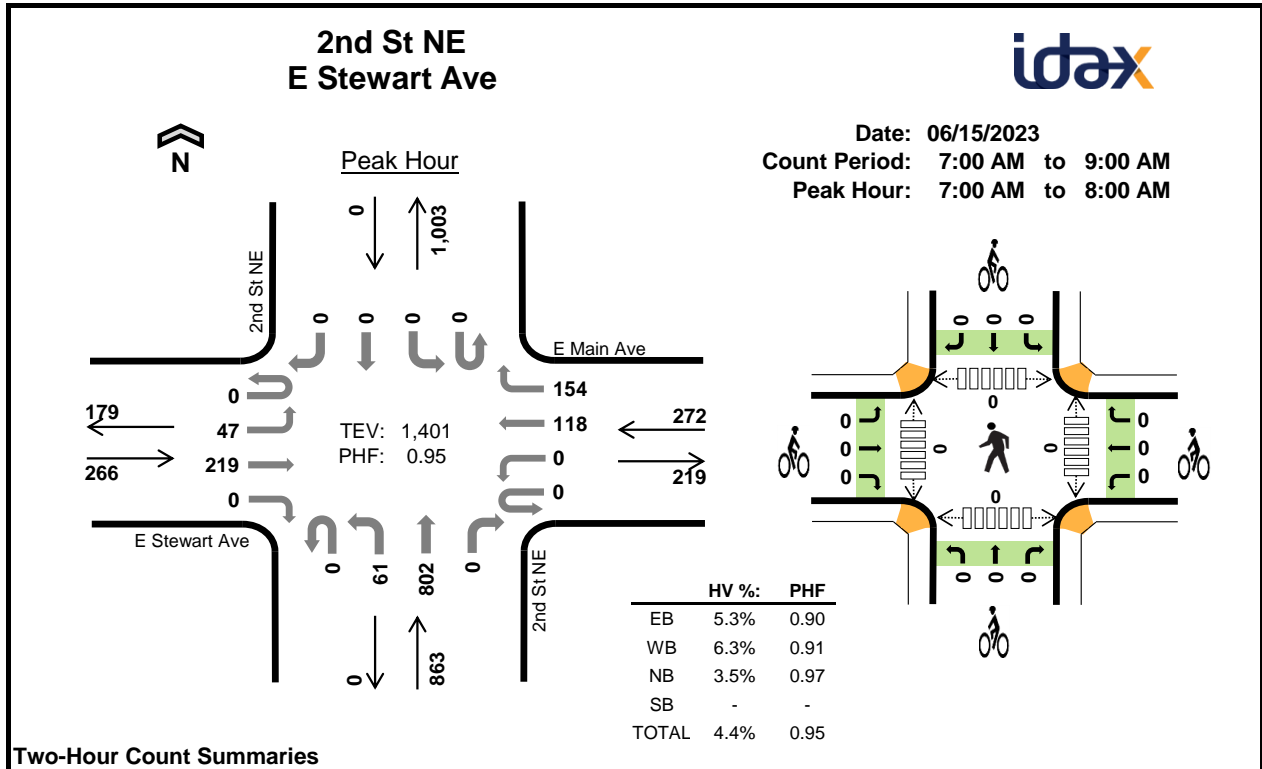


Two-Hour Count Summaries

Interval Start	W Stewart Ave Eastbound				W Stewart Ave Westbound				Meridian Ave N Northbound				Meridian Ave N Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	37	3	0	11	23	0	0	0	0	0	0	20	81	4	179	0	
7:15 AM	0	0	31	4	0	14	25	0	0	0	0	0	0	17	97	3	191	0	
7:30 AM	0	0	22	10	0	7	27	0	0	0	0	0	0	24	110	7	207	0	
7:45 AM	0	0	29	9	0	13	41	0	0	0	0	0	0	44	133	9	278	855	
8:00 AM	0	0	41	9	0	9	41	0	0	0	0	0	0	35	103	4	242	918	
8:15 AM	0	0	39	9	0	6	32	0	0	0	0	0	0	28	106	4	224	951	
8:30 AM	0	0	37	13	0	11	32	0	0	0	0	0	0	27	97	9	226	970	
8:45 AM	0	0	34	7	0	10	30	0	0	0	0	0	0	32	116	6	235	927	
Count Total	0	0	270	64	0	81	251	0	0	0	0	0	0	227	843	46	1,782	0	
Peak Hour	All	0	0	146	40	0	39	146	0	0	0	0	0	0	134	439	26	970	0
	HV	0	0	10	2	0	0	11	0	0	0	0	0	0	4	17	4	48	0
	HV%	-	-	7%	5%	-	0%	8%	-	-	-	-	-	-	3%	4%	15%	5%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	3	1	0	3	7	0	0	0	0	0	0	0	0	0	0
7:15 AM	5	3	0	6	14	0	0	0	0	0	0	0	0	0	0
7:30 AM	3	1	0	6	10	0	0	0	0	0	0	0	0	0	0
7:45 AM	5	1	0	10	16	0	0	0	1	1	0	0	0	0	0
8:00 AM	2	3	0	9	14	0	0	0	0	0	0	0	0	0	0
8:15 AM	3	6	0	2	11	0	0	0	0	0	0	0	0	0	0
8:30 AM	2	1	0	4	7	1	0	0	2	3	0	0	0	0	0
8:45 AM	3	2	0	9	14	0	0	0	0	0	0	0	0	0	0
Count Total	26	18	0	49	93	1	0	0	3	4	0	0	0	0	0
Peak Hour	12	11	0	25	48	1	0	0	3	4	0	0	0	0	0

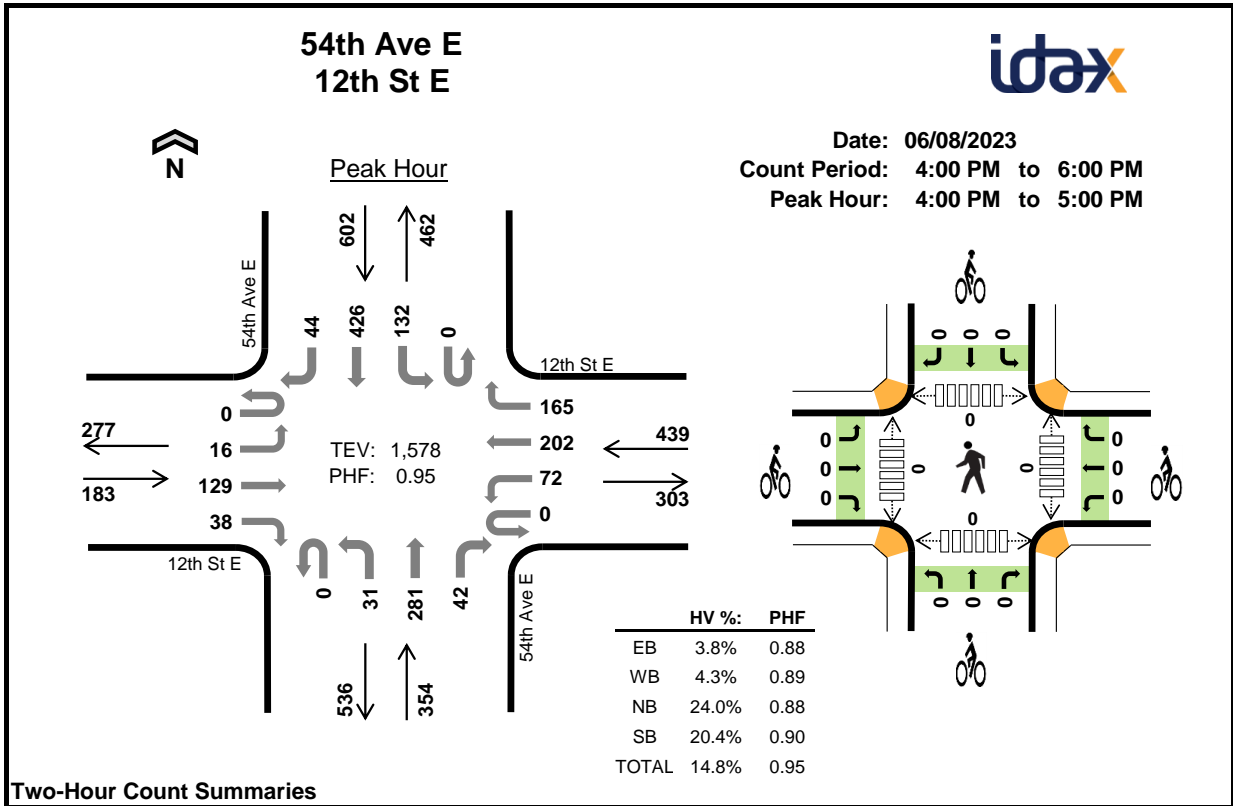


Two-Hour Count Summaries

Interval Start	E Stewart Ave				E Main Ave				2nd St NE				2nd St NE				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	10	47	0	0	0	26	35	0	12	201	0	0	0	0	0	331	0	
7:15 AM	0	13	61	0	0	0	28	40	0	24	198	0	0	0	0	0	364	0	
7:30 AM	0	13	48	0	0	0	31	37	0	10	199	0	0	0	0	0	338	0	
7:45 AM	0	11	63	0	0	0	33	42	0	15	204	0	0	0	0	0	368	1,401	
8:00 AM	0	15	58	0	0	0	31	36	0	18	132	0	0	0	0	0	290	1,360	
8:15 AM	0	7	32	0	0	0	37	37	0	8	145	0	0	0	0	0	266	1,262	
8:30 AM	0	12	51	0	0	0	31	42	0	27	161	0	0	0	0	0	324	1,248	
8:45 AM	0	17	59	0	0	0	38	32	0	20	141	0	0	0	0	0	307	1,187	
Count Total	0	98	419	0	0	0	255	301	0	134	1,381	0	0	0	0	0	2,588	0	
Peak Hour	All	0	47	219	0	0	0	118	154	0	61	802	0	0	0	0	1,401	0	
	HV	0	1	13	0	0	0	5	12	0	6	24	0	0	0	0	0	61	0
	HV%	-	2%	6%	-	-	-	4%	8%	-	10%	3%	-	-	-	-	-	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	4	5	6	0	15	0	0	0	0	0	0	0	0	0	0
7:15 AM	6	3	7	0	16	0	0	0	0	0	0	0	0	0	0
7:30 AM	1	6	11	0	18	0	0	0	0	0	0	0	0	0	0
7:45 AM	3	3	6	0	12	0	0	0	0	0	0	0	0	0	0
8:00 AM	6	11	11	0	28	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	6	13	0	20	0	0	0	0	0	0	0	0	0	0
8:30 AM	4	5	2	0	11	0	0	0	0	0	0	0	0	0	0
8:45 AM	5	5	3	0	13	0	0	0	0	0	0	0	0	0	0
Count Total	30	44	59	0	133	0	0	0	0	0	0	0	0	0	0
Peak Hour	14	17	30	0	61	0	0	0	0	0	0	0	0	0	0

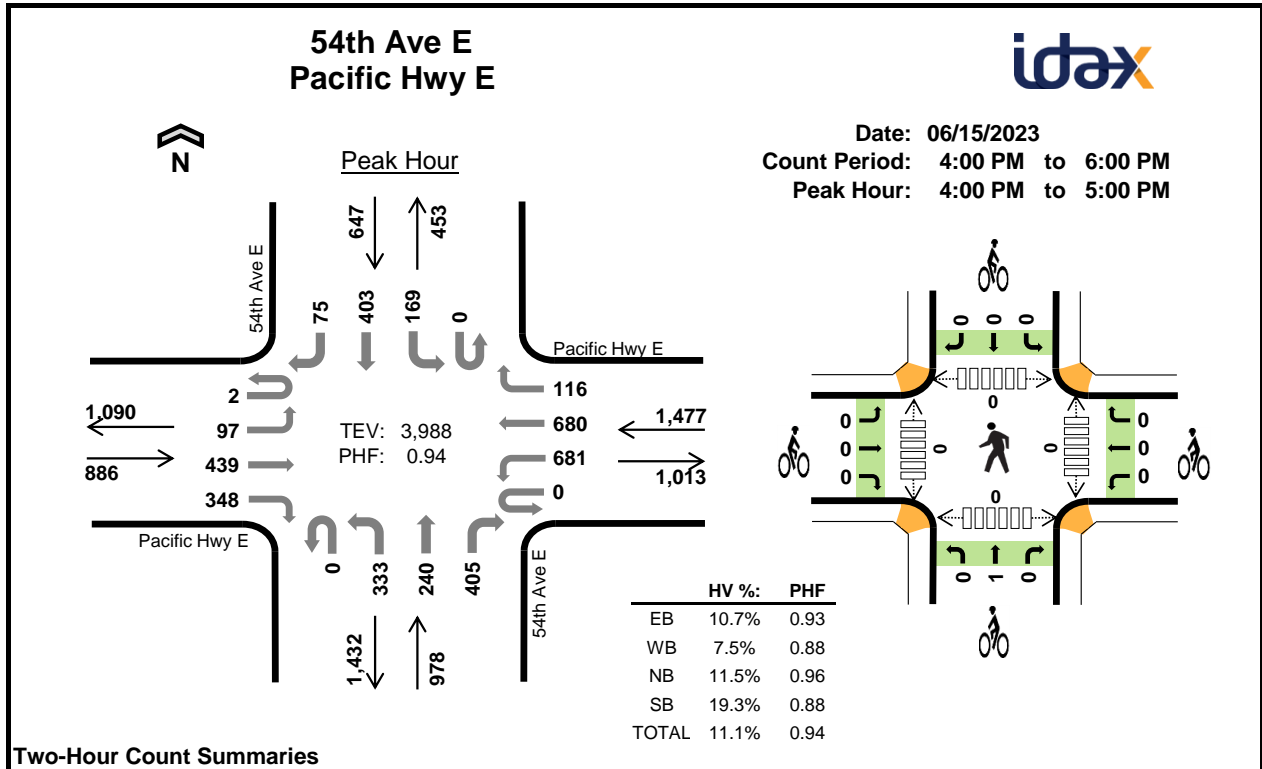


Two-Hour Count Summaries

Interval Start	12th St E Eastbound				12th St E Westbound				54th Ave E Northbound				54th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	2	30	8	0	26	54	43	0	9	64	12	0	36	116	15	415	0	
4:15 PM	0	4	34	10	0	9	54	46	0	11	78	12	0	38	107	14	417	0	
4:30 PM	0	7	29	7	0	20	49	40	0	3	76	8	0	39	106	7	391	0	
4:45 PM	0	3	36	13	0	17	45	36	0	8	63	10	0	19	97	8	355	1,578	
5:00 PM	0	9	32	7	0	14	54	45	0	12	67	16	0	26	94	6	382	1,545	
5:15 PM	0	4	29	9	0	26	55	40	0	10	78	11	0	22	102	8	394	1,522	
5:30 PM	0	2	35	9	0	19	49	19	0	13	73	9	0	13	75	4	320	1,451	
5:45 PM	0	0	14	9	0	15	26	16	0	7	49	7	0	11	48	3	205	1,301	
Count Total	0	31	239	72	0	146	386	285	0	73	548	85	0	204	745	65	2,879	0	
Peak Hour	All	0	16	129	38	0	72	202	165	0	31	281	42	0	132	426	44	1,578	0
	HV	0	0	6	1	0	2	6	11	0	2	79	4	0	11	109	3	234	0
	HV%	-	0%	5%	3%	-	3%	3%	7%	-	6%	28%	10%	-	8%	26%	7%	15%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	7	21	29	59	0	0	0	0	0	0	0	0	0	0
4:15 PM	2	3	26	41	72	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	5	22	33	61	0	0	0	0	0	0	0	0	0	0
4:45 PM	2	4	16	20	42	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	8	15	24	47	0	0	0	0	0	0	0	0	0	0
5:15 PM	3	10	19	26	58	0	0	0	0	0	0	0	0	0	0
5:30 PM	4	4	12	20	40	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	2	12	11	26	0	0	0	0	0	0	0	0	0	0
Count Total	15	43	143	204	405	0	0	0	0	0	0	0	0	0	0
Peak Hour	7	19	85	123	234	0	0	0	0	0	0	0	0	0	0

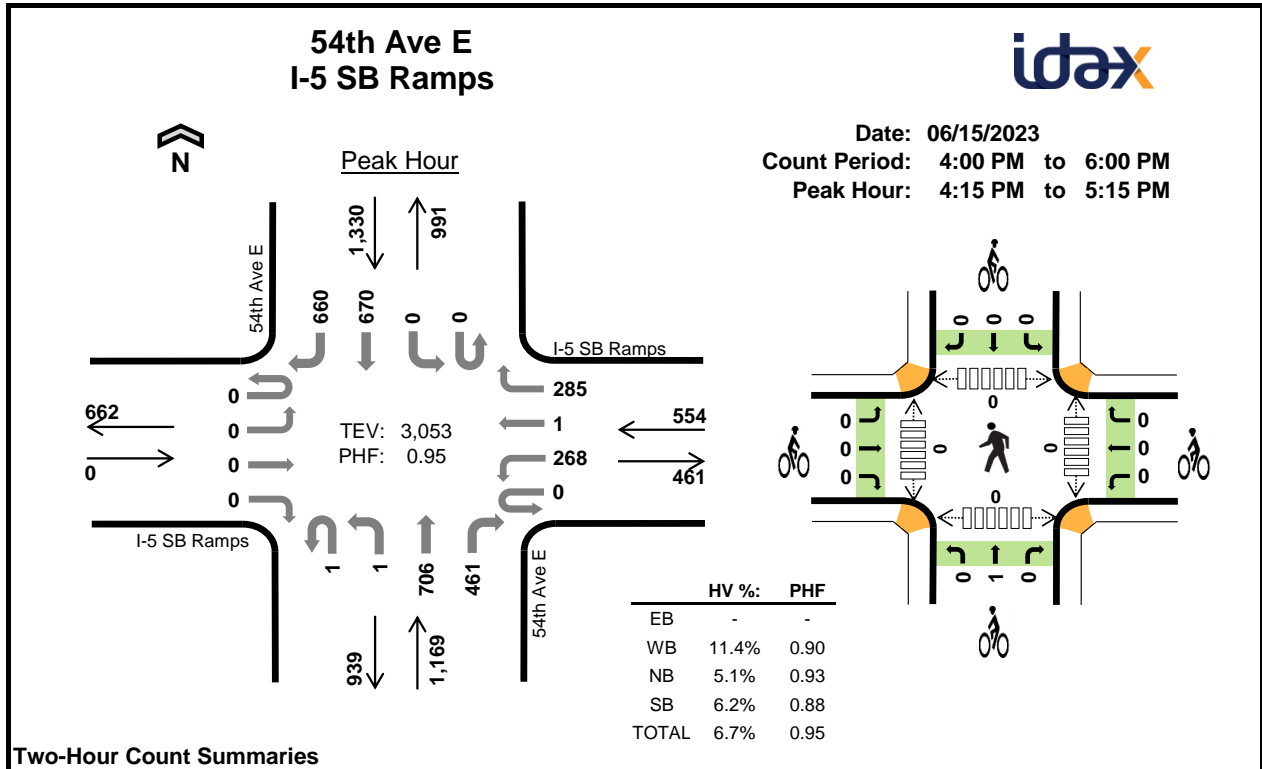


Two-Hour Count Summaries

Interval Start	Pacific Hwy E Eastbound				Pacific Hwy E Westbound				54th Ave E Northbound				54th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	28	102	96	0	165	171	28	0	86	66	95	0	37	127	19	1,020	0	
4:15 PM	0	20	106	82	0	202	182	34	0	91	52	111	0	45	115	21	1,061	0	
4:30 PM	1	25	127	85	0	169	153	24	0	86	56	111	0	51	85	17	990	0	
4:45 PM	1	24	104	85	0	145	174	30	0	70	66	88	0	36	76	18	917	3,988	
5:00 PM	0	27	118	101	0	147	180	23	0	77	56	106	0	25	98	11	969	3,937	
5:15 PM	0	25	107	69	0	139	162	29	0	62	62	91	0	31	101	7	885	3,761	
5:30 PM	0	17	89	77	0	154	171	38	0	103	70	136	0	21	88	20	984	3,755	
5:45 PM	0	15	83	65	0	159	174	24	0	62	40	85	0	25	53	18	803	3,641	
Count Total	2	181	836	660	0	1,280	1,367	230	0	637	468	823	0	271	743	131	7,629	0	
Peak Hour	All	2	97	439	348	0	681	680	116	0	333	240	405	0	169	403	75	3,988	0
	HV	0	2	73	20	0	39	33	39	0	8	46	58	0	72	44	9	443	0
	HV%	0%	2%	17%	6%	-	6%	5%	34%	-	2%	19%	14%	-	43%	11%	12%	11%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	27	34	37	32	130	0	0	0	0	0	0	0	0	0	0
4:15 PM	21	29	24	33	107	0	0	0	0	0	0	0	0	0	0
4:30 PM	24	28	34	38	124	0	0	0	0	0	0	0	0	0	0
4:45 PM	23	20	17	22	82	0	0	1	0	1	0	0	0	0	0
5:00 PM	13	17	16	16	62	0	0	0	0	0	0	0	0	0	0
5:15 PM	10	14	20	13	57	0	0	0	0	0	0	0	0	0	0
5:30 PM	13	21	29	15	78	0	0	0	0	0	0	0	0	0	0
5:45 PM	10	14	15	18	57	0	0	0	0	0	0	0	0	0	0
Count Total	141	177	192	187	697	0	0	1	0	1	0	0	0	0	0
Peak Hour	95	111	112	125	443	0	0	1	0	1	0	0	0	0	0

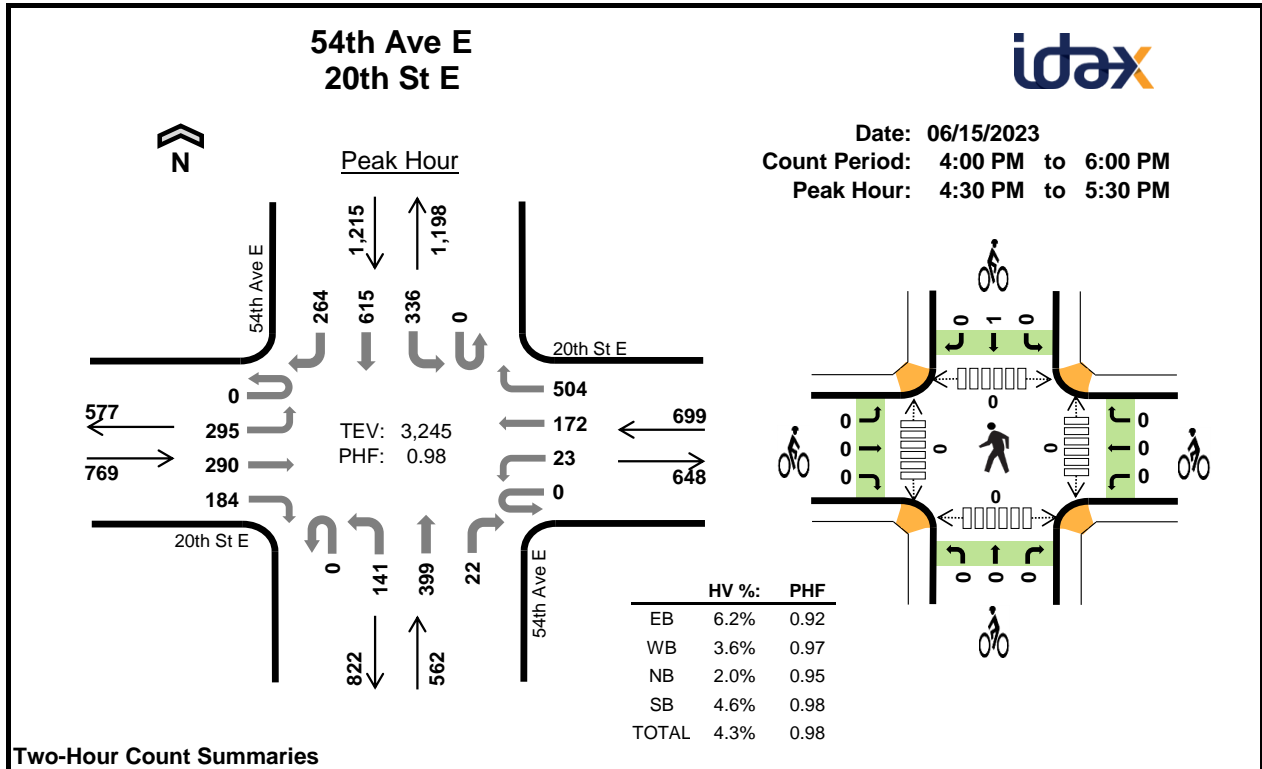


Two-Hour Count Summaries

Interval Start	I-5 SB Ramps Eastbound				I-5 SB Ramps Westbound				54th Ave E Northbound				54th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	51	0	71	0	1	164	99	0	0	179	135	700	0	
4:15 PM	0	0	0	0	0	66	0	71	0	0	175	110	0	0	169	209	800	0	
4:30 PM	0	0	0	0	0	67	0	68	0	1	189	125	0	0	164	178	792	0	
4:45 PM	0	0	0	0	0	61	1	66	0	0	172	116	0	0	156	133	705	2,997	
5:00 PM	0	0	0	0	0	74	0	80	1	0	170	110	0	0	181	140	756	3,053	
5:15 PM	0	0	0	0	0	83	0	65	0	0	173	109	0	0	145	168	743	2,996	
5:30 PM	0	0	0	0	0	54	0	93	0	0	195	84	0	0	156	169	751	2,955	
5:45 PM	0	0	0	0	0	67	0	70	0	0	131	86	0	0	108	154	616	2,866	
Count Total	0	0	0	0	0	523	1	584	1	2	1,369	839	0	0	1,258	1,286	5,863	0	
Peak Hour	All	0	0	0	0	0	268	1	285	1	1	706	461	0	0	670	660	3,053	0
	HV	0	0	0	0	0	21	0	42	0	0	52	8	0	0	44	38	205	0
	HV%	-	-	-	-	-	8%	0%	15%	0%	0%	7%	2%	-	-	7%	6%	7%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	21	21	29	71	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	14	18	23	55	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	21	21	22	64	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	15	10	18	43	0	0	1	0	1	0	0	0	0	0
5:00 PM	0	13	11	19	43	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	21	14	13	48	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	22	12	17	51	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	9	8	17	34	0	0	0	0	0	0	0	0	0	0
Count Total	0	136	115	158	409	0	0	1	0	1	0	0	0	0	0
Peak Hour	0	63	60	82	205	0	0	1	0	1	0	0	0	0	0

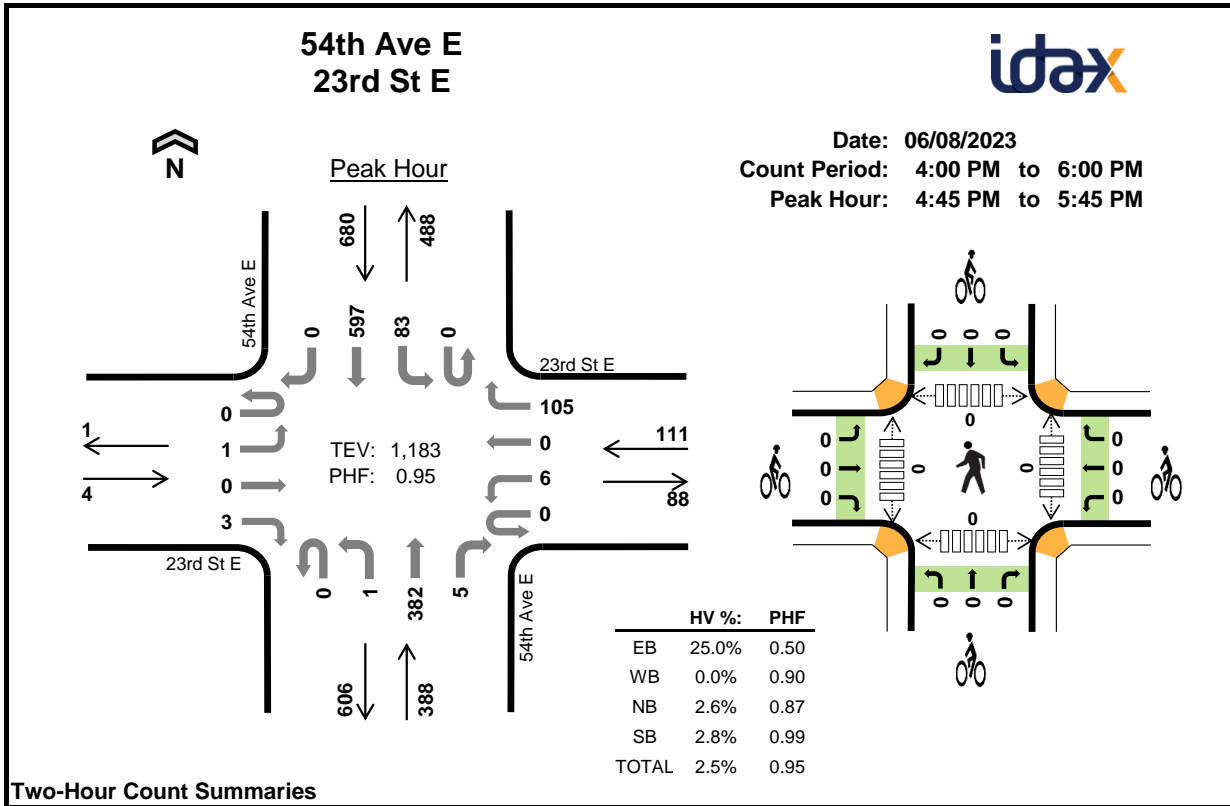


Two-Hour Count Summaries

Interval Start	20th St E Eastbound				20th St E Westbound				54th Ave E Northbound				54th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	98	67	51	0	3	50	114	0	38	112	7	0	85	129	86	840	0	
4:15 PM	0	84	73	47	0	3	42	123	0	33	83	5	0	88	118	78	777	0	
4:30 PM	0	73	60	48	0	3	43	130	0	42	96	10	0	78	165	60	808	0	
4:45 PM	0	69	76	45	0	7	45	124	0	33	101	2	0	95	146	58	801	3,226	
5:00 PM	0	79	70	41	0	6	42	132	0	35	103	6	0	85	146	80	825	3,211	
5:15 PM	0	74	84	50	0	7	42	118	0	31	99	4	0	78	158	66	811	3,245	
5:30 PM	0	88	74	39	0	12	40	96	0	24	94	6	0	88	143	63	767	3,204	
5:45 PM	0	58	36	34	0	4	38	100	0	23	87	6	0	80	114	64	644	3,047	
Count Total	0	623	540	355	0	45	342	937	0	259	775	46	0	677	1,119	555	6,273	0	
Peak Hour	All	0	295	290	184	0	23	172	504	0	141	399	22	0	336	615	264	3,245	0
	HV	0	19	24	5	0	1	12	12	0	7	3	1	0	18	17	21	140	0
	HV%	-	6%	8%	3%	-	4%	7%	2%	-	5%	1%	5%	-	5%	3%	8%	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	11	7	2	16	36	0	0	0	0	0	0	0	0	0	0
4:15 PM	15	7	2	17	41	0	0	0	0	0	0	0	0	0	0
4:30 PM	12	6	1	21	40	0	0	0	1	1	0	0	0	0	0
4:45 PM	12	10	4	12	38	0	0	0	0	0	0	0	0	0	0
5:00 PM	13	6	3	7	29	0	0	0	0	0	0	0	0	0	0
5:15 PM	11	3	3	16	33	0	0	0	0	0	0	0	0	0	0
5:30 PM	10	1	3	14	28	0	0	0	0	0	0	0	0	0	0
5:45 PM	8	2	4	9	23	0	0	0	0	0	0	0	0	0	0
Count Total	92	42	22	112	268	0	0	0	1	1	0	0	0	0	0
Peak Hour	48	25	11	56	140	0	0	0	1	1	0	0	0	0	0

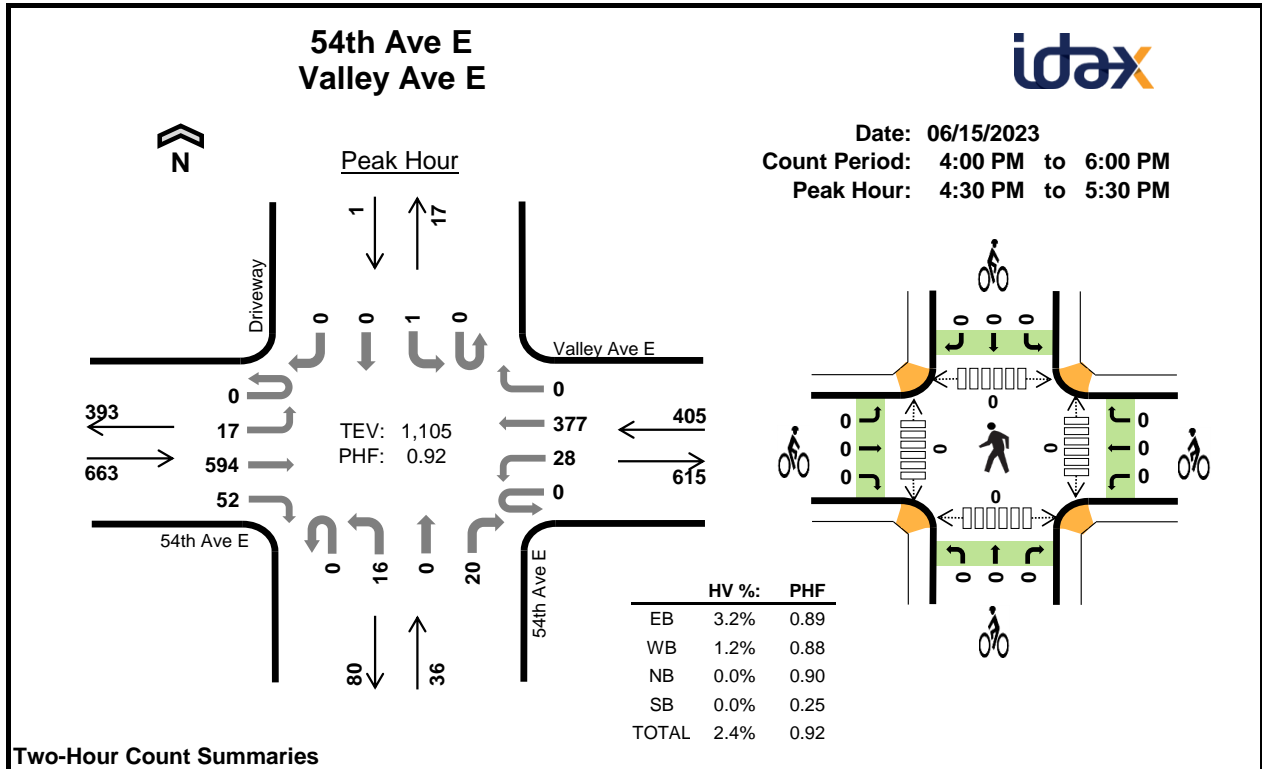


Two-Hour Count Summaries

Interval Start	23rd St E Eastbound				23rd St E Westbound				54th Ave E Northbound				54th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	1	0	0	2	0	13	0	0	106	0	0	13	152	1	288	0	
4:15 PM	0	0	0	0	0	2	0	17	0	0	62	1	0	18	144	0	244	0	
4:30 PM	0	0	0	0	0	3	0	23	0	0	107	3	0	23	151	0	310	0	
4:45 PM	0	0	0	0	0	1	0	25	0	0	112	0	0	30	141	0	309	1,151	
5:00 PM	0	0	0	1	0	2	0	28	0	0	87	2	0	19	153	0	292	1,155	
5:15 PM	0	1	0	0	0	0	0	24	0	0	80	1	0	14	151	0	271	1,182	
5:30 PM	0	0	0	2	0	3	0	28	0	1	103	2	0	20	152	0	311	1,183	
5:45 PM	0	0	0	0	0	0	0	17	0	0	94	2	0	27	146	1	287	1,161	
Count Total	0	1	1	3	0	13	0	175	0	1	751	11	0	164	1,190	2	2,312	0	
Peak Hour	All	0	1	0	3	0	6	0	105	0	1	382	5	0	83	597	0	1,183	0
	HV	0	0	0	1	0	0	0	0	0	0	10	0	0	0	19	0	30	0
	HV%	-	0%	-	33%	-	0%	-	0%	-	0%	3%	0%	-	0%	3%	-	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	4	9	13	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	3	3	6	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	3	5	8	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	4	5	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	2	7	9	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	4	3	8	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	1	6	7	0	0	0	0	0	0	0	0	0	0
Count Total	1	0	20	40	61	0	0	0	0	0	0	0	0	0	0
Peak Hour	1	0	10	19	30	0	0	0	0	0	0	0	0	0	0

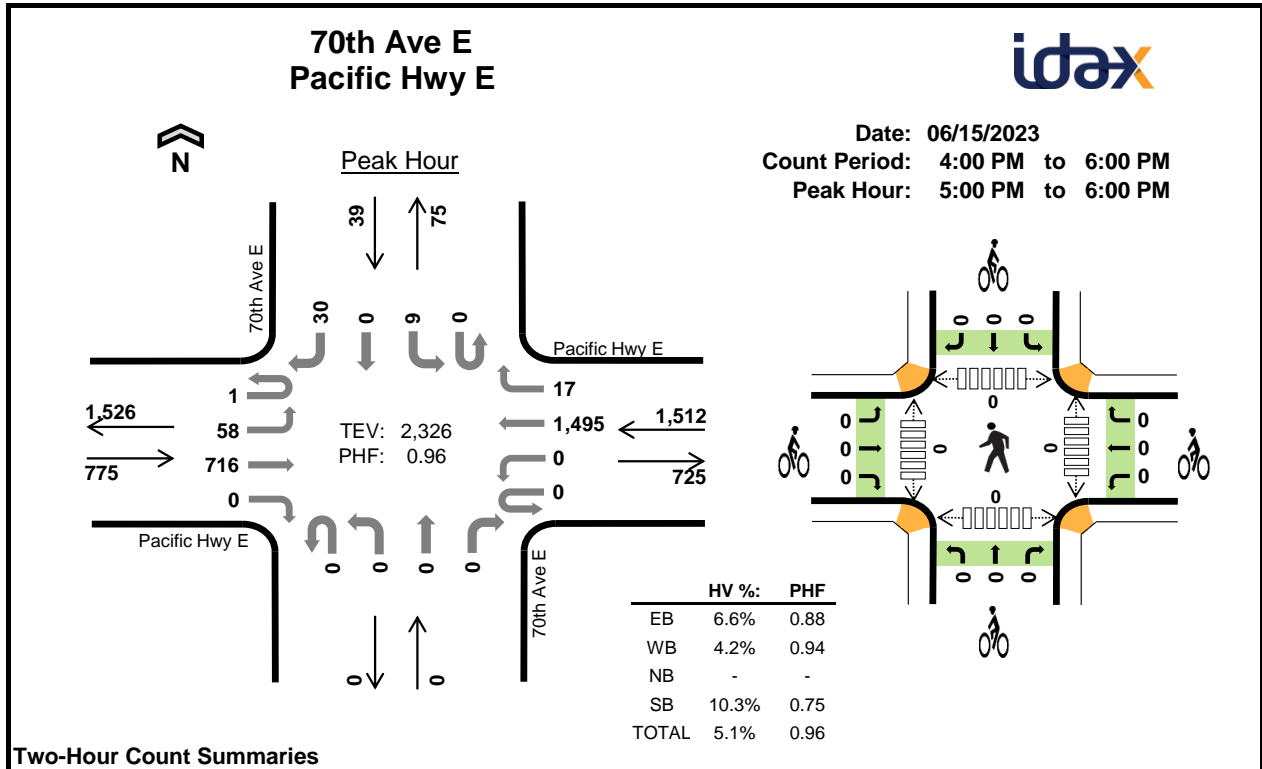


Two-Hour Count Summaries

Interval Start	54th Ave E				Valley Ave E				54th Ave E				Driveway				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	4	138	5	0	1	89	1	0	4	0	2	0	0	0	0	244	0
4:15 PM	0	0	124	4	0	8	89	0	0	6	0	2	0	0	0	0	233	0
4:30 PM	0	8	154	15	0	4	111	0	0	3	0	5	0	0	0	0	300	0
4:45 PM	0	1	132	10	0	7	90	0	0	4	0	5	0	0	0	0	249	1,026
5:00 PM	0	2	144	11	0	10	85	0	0	5	0	4	0	1	0	0	262	1,044
5:15 PM	0	6	164	16	0	7	91	0	0	4	0	6	0	0	0	0	294	1,105
5:30 PM	0	20	119	18	0	7	65	0	0	9	0	8	0	0	0	0	246	1,051
5:45 PM	0	2	122	9	0	12	72	0	0	8	0	6	0	0	0	0	231	1,033
Count Total	0	43	1,097	88	0	56	692	1	0	43	0	38	0	1	0	0	2,059	0
Peak Hour	All	0	17	594	52	0	28	377	0	0	16	0	20	0	1	0	1,105	0
	HV	0	0	21	0	0	0	5	0	0	0	0	0	0	0	0	26	0
	HV%	-	0%	4%	0%	-	0%	1%	-	-	0%	-	0%	-	0%	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
4:15 PM	3	2	0	0	5	0	0	0	0	0	0	0	0	0	0
4:30 PM	6	0	0	0	6	0	0	0	0	0	0	0	0	0	0
4:45 PM	5	3	0	0	8	0	0	0	0	0	0	0	0	0	0
5:00 PM	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0
5:15 PM	7	1	0	0	8	0	0	0	0	0	0	0	0	0	0
5:30 PM	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0
5:45 PM	7	3	0	0	10	0	0	0	0	0	0	0	0	0	0
Count Total	38	10	1	0	49	0	0	0	0	0	0	0	0	0	0
Peak Hour	21	5	0	0	26	0	0	0	0	0	0	0	0	0	0

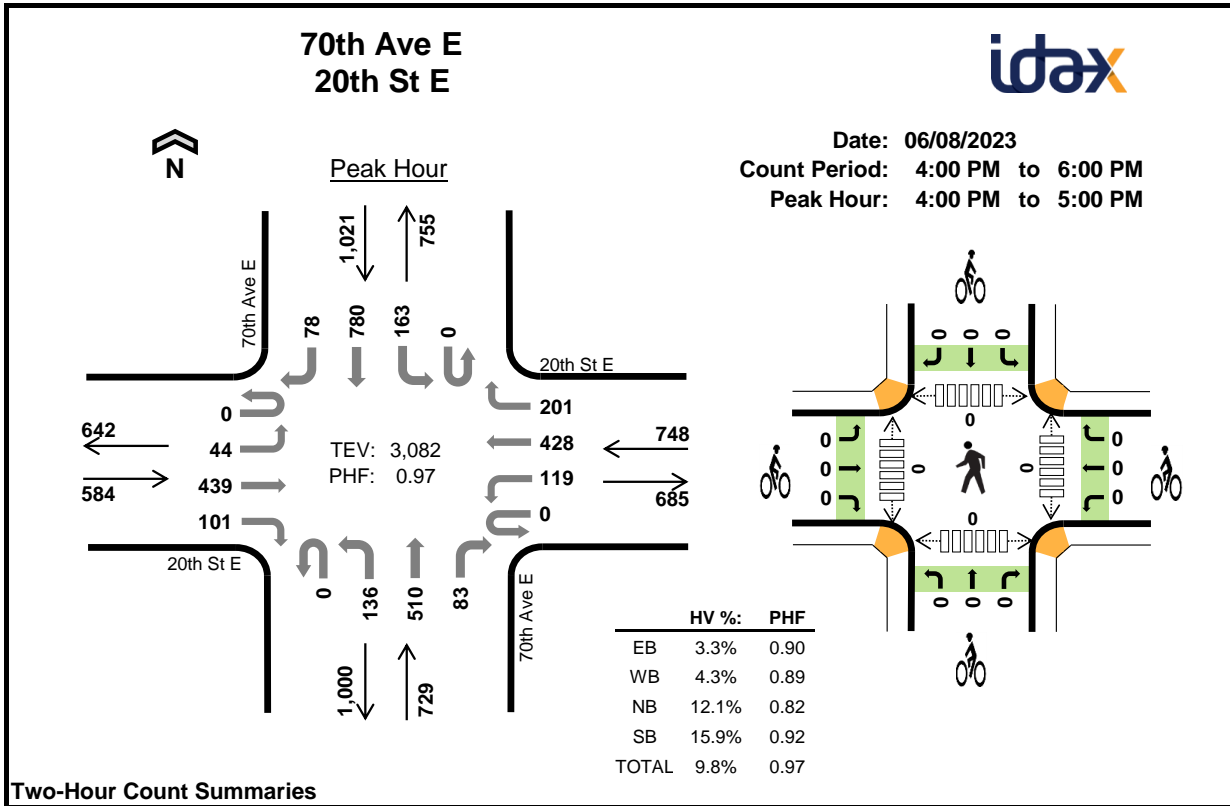


Two-Hour Count Summaries

Interval Start	Pacific Hwy E Eastbound				Pacific Hwy E Westbound				70th Ave E Northbound				70th Ave E Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	11	202	0	0	0	363	4	0	0	0	0	0	8	0	25	613	0
4:15 PM	0	12	203	0	0	0	329	8	0	0	0	0	0	4	0	8	564	0
4:30 PM	0	5	192	0	0	0	342	3	0	0	0	0	0	3	0	6	551	0
4:45 PM	0	10	199	0	0	0	309	2	0	0	0	0	0	1	0	13	534	2,262
5:00 PM	0	17	203	0	0	0	337	2	0	0	0	0	0	1	0	12	572	2,221
5:15 PM	0	18	173	0	0	0	398	2	0	0	0	0	0	2	0	11	604	2,261
5:30 PM	0	15	172	0	0	0	393	10	0	0	0	0	0	3	0	4	597	2,307
5:45 PM	1	8	168	0	0	0	367	3	0	0	0	0	0	3	0	3	553	2,326
Count Total	1	96	1,512	0	0	0	2,838	34	0	0	0	0	0	25	0	82	4,588	0
Peak Hour	All	1	58	716	0	0	1,495	17	0	0	0	0	0	9	0	30	2,326	0
	HV	0	0	51	0	0	64	0	0	0	0	0	0	0	0	4	119	0
	HV%	0%	0%	7%	-	-	4%	0%	-	-	-	-	-	0%	-	13%	5%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	29	20	0	2	51	0	0	0	0	0	0	0	0	0	0
4:15 PM	27	33	0	0	60	0	0	0	0	0	0	0	0	0	0
4:30 PM	25	23	0	0	48	0	0	0	0	0	0	0	0	0	0
4:45 PM	21	15	0	0	36	0	0	0	0	0	0	0	0	0	0
5:00 PM	18	15	0	2	35	0	0	0	0	0	0	0	0	0	0
5:15 PM	11	18	0	2	31	0	0	0	0	0	0	0	0	0	0
5:30 PM	15	14	0	0	29	0	0	0	0	0	0	0	0	0	0
5:45 PM	7	17	0	0	24	0	0	0	0	0	0	0	0	0	0
Count Total	153	155	0	6	314	0	0	0	0	0	0	0	0	0	0
Peak Hour	51	64	0	4	119	0	0	0	0	0	0	0	0	0	0

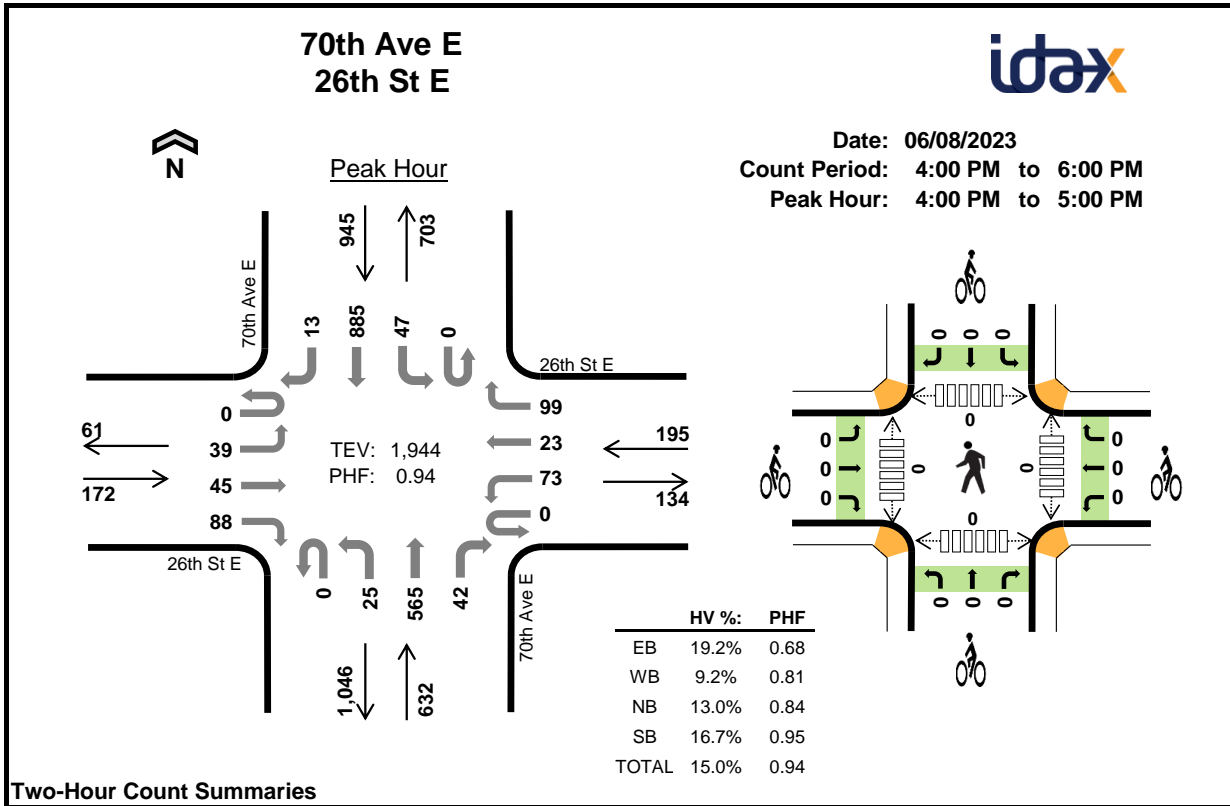


Two-Hour Count Summaries

Interval Start	20th St E Eastbound				20th St E Westbound				70th Ave E Northbound				70th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	10	95	17	0	34	96	42	0	27	166	29	0	49	204	22	791	0	
4:15 PM	0	16	113	33	0	27	118	64	0	37	99	21	0	44	190	15	777	0	
4:30 PM	0	10	125	19	0	34	109	51	0	36	117	19	0	25	182	14	741	0	
4:45 PM	0	8	106	32	0	24	105	44	0	36	128	14	0	45	204	27	773	3,082	
5:00 PM	0	19	108	27	0	29	126	38	0	28	81	15	0	45	150	20	686	2,977	
5:15 PM	0	13	124	27	0	28	116	34	0	23	117	23	0	36	196	36	773	2,973	
5:30 PM	0	22	109	14	0	26	121	39	0	36	108	23	0	53	196	17	764	2,996	
5:45 PM	0	23	87	18	0	24	119	27	0	22	78	14	0	67	141	27	647	2,870	
Count Total	0	121	867	187	0	226	910	339	0	245	894	158	0	364	1,463	178	5,952	0	
Peak Hour	All	0	44	439	101	0	119	428	201	0	136	510	83	0	163	780	78	3,082	0
	HV	0	1	6	12	0	1	24	7	0	8	76	4	0	6	151	5	301	0
	HV%	-	2%	1%	12%	-	1%	6%	3%	-	6%	15%	5%	-	4%	19%	6%	10%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	6	13	25	42	86	0	0	0	0	0	0	0	0	0	0
4:15 PM	6	13	20	43	82	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	3	20	38	62	0	0	0	0	0	0	0	0	0	0
4:45 PM	6	3	23	39	71	0	0	0	0	0	0	0	0	0	0
5:00 PM	9	5	11	34	59	0	0	0	0	0	0	0	0	0	0
5:15 PM	3	5	21	27	56	0	0	0	0	0	0	0	0	0	0
5:30 PM	2	2	17	29	50	0	0	0	0	0	0	0	0	0	0
5:45 PM	3	1	9	33	46	0	0	0	0	0	0	0	0	0	0
Count Total	36	45	146	285	512	0	0	0	0	0	0	0	0	0	0
Peak Hour	19	32	88	162	301	0	0	0	0	0	0	0	0	0	0

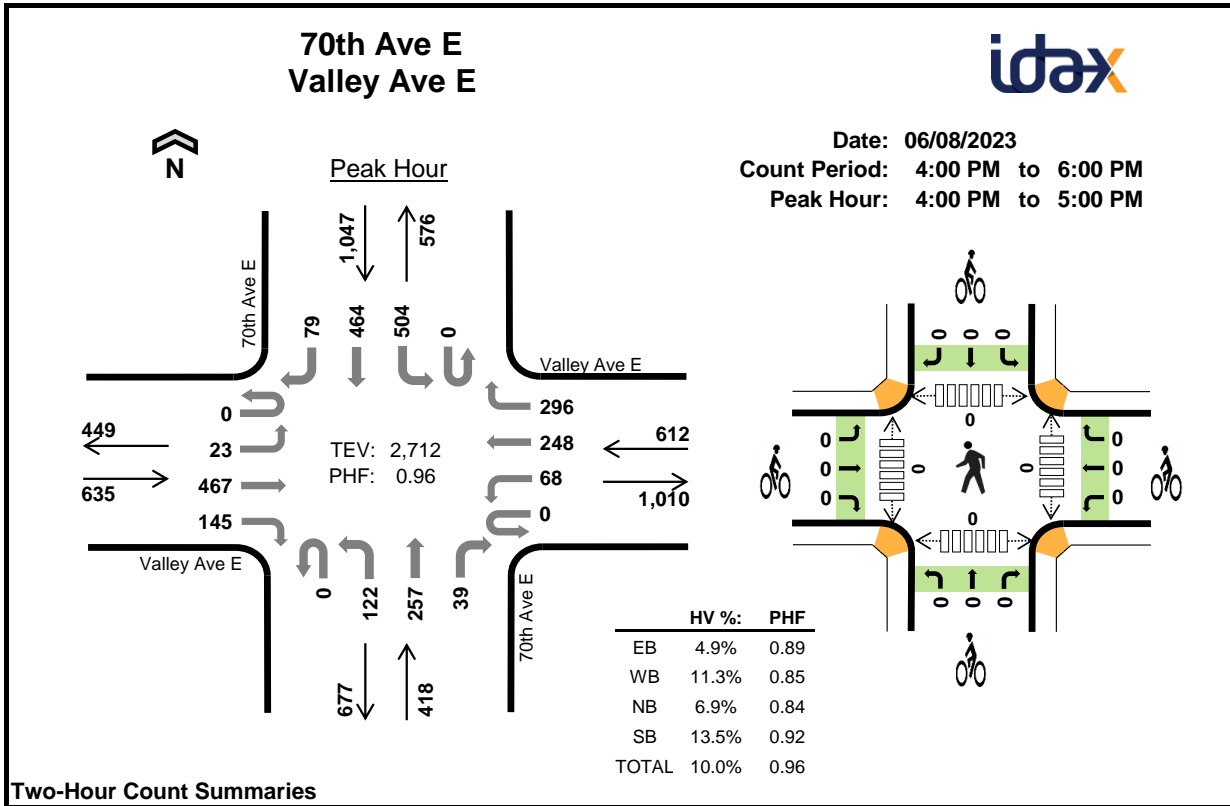


Two-Hour Count Summaries

Interval Start	26th St E Eastbound				26th St E Westbound				70th Ave E Northbound				70th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	17	16	30	0	18	9	33	0	12	150	6	0	8	215	3	517	0	
4:15 PM	0	11	9	19	0	22	5	21	0	2	107	12	0	12	233	3	456	0	
4:30 PM	0	7	11	20	0	19	5	28	0	5	140	11	0	11	228	2	487	0	
4:45 PM	0	4	9	19	0	14	4	17	0	6	168	13	0	16	209	5	484	1,944	
5:00 PM	1	8	9	15	0	16	4	16	0	6	119	17	0	10	183	7	411	1,838	
5:15 PM	2	11	13	14	0	22	3	13	0	14	116	15	0	18	208	6	455	1,837	
5:30 PM	0	6	8	8	0	15	5	19	0	7	130	9	0	13	197	4	421	1,771	
5:45 PM	0	1	12	15	0	13	6	7	0	2	78	6	0	16	144	1	301	1,588	
Count Total	3	65	87	140	0	139	41	154	0	54	1,008	89	0	104	1,617	31	3,532	0	
Peak Hour	All	0	39	45	88	0	73	23	99	0	25	565	42	0	47	885	13	1,944	0
	HV	0	3	16	14	0	7	4	7	0	3	71	8	0	14	139	5	291	0
	HV%	-	8%	36%	16%	-	10%	17%	7%	-	12%	13%	19%	-	30%	16%	38%	15%	0

Note: Two-hour count summary include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	7	4	29	35	75	0	0	0	0	0	0	0	0	0	0
4:15 PM	10	4	13	38	65	0	0	0	0	0	0	0	0	0	0
4:30 PM	11	7	22	49	89	0	0	0	0	0	0	0	0	0	0
4:45 PM	5	3	18	36	62	0	0	0	0	0	0	0	0	0	0
5:00 PM	7	2	20	40	69	0	0	0	0	0	0	0	0	0	0
5:15 PM	10	4	12	32	58	0	0	0	0	0	0	0	0	0	0
5:30 PM	7	2	13	26	48	0	0	0	0	0	0	0	0	0	0
5:45 PM	9	0	10	29	48	0	0	0	0	0	0	0	0	0	0
Count Total	66	26	137	285	514	0	0	0	0	0	0	0	0	0	0
Peak Hour	33	18	82	158	291	0	0	0	0	0	0	0	0	0	0

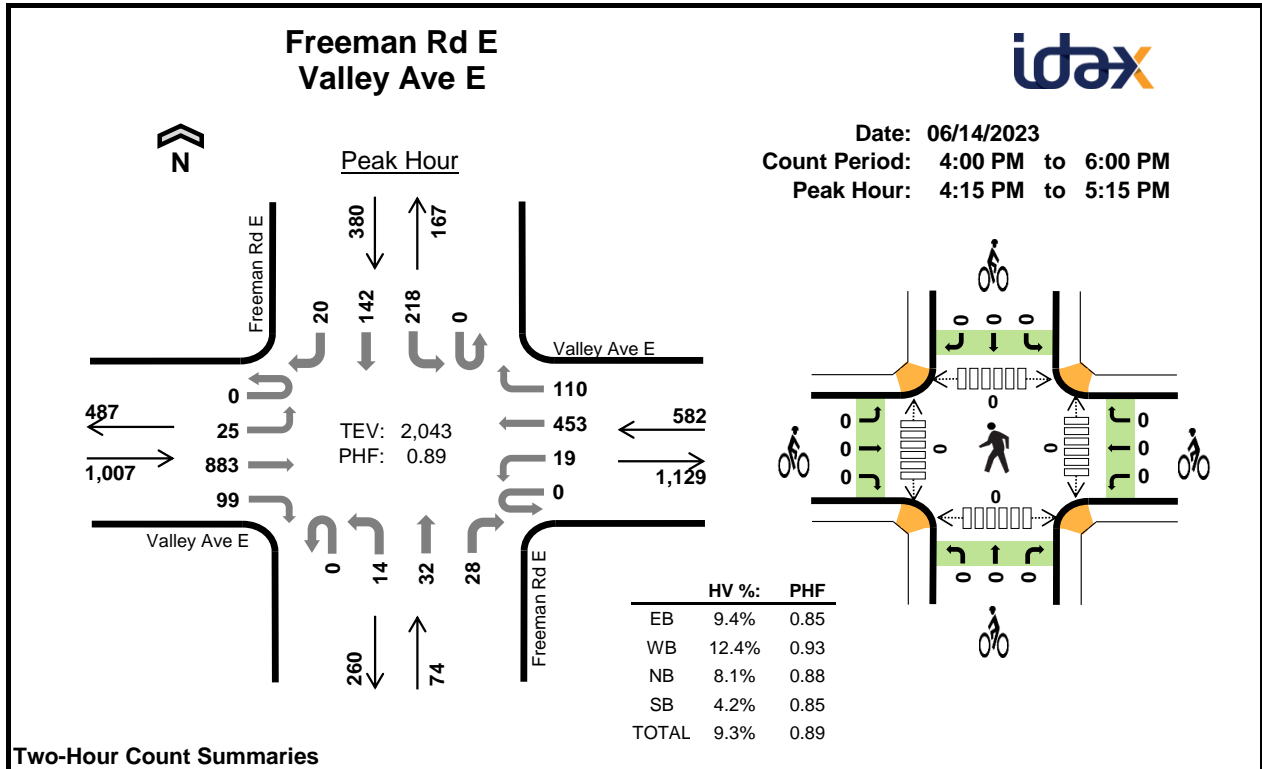


Two-Hour Count Summaries

Interval Start	Valley Ave E Eastbound				Valley Ave E Westbound				70th Ave E Northbound				70th Ave E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	7	108	34	0	21	72	86	0	25	61	9	0	132	138	13	706	0	
4:15 PM	0	6	141	32	0	16	46	58	0	26	59	7	0	124	100	12	627	0	
4:30 PM	0	3	112	42	0	19	61	83	0	40	71	13	0	126	108	30	708	0	
4:45 PM	0	7	106	37	0	12	69	69	0	31	66	10	0	122	118	24	671	2,712	
5:00 PM	0	9	129	44	0	8	63	62	0	33	67	4	0	89	83	23	614	2,620	
5:15 PM	0	4	125	26	0	7	64	52	0	32	74	6	0	111	133	22	656	2,649	
5:30 PM	0	13	88	38	0	11	83	67	0	40	64	8	0	122	118	18	670	2,611	
5:45 PM	0	13	114	32	0	14	58	59	0	28	11	44	0	108	41	30	552	2,492	
Count Total	0	62	923	285	0	108	516	536	0	255	473	101	0	934	839	172	5,204	0	
Peak Hour	All	0	23	467	145	0	68	248	296	0	122	257	39	0	504	464	79	2,712	0
	HV	0	4	22	5	0	6	13	50	0	2	25	2	0	87	39	15	270	0
	HV%	-	17%	5%	3%	-	9%	5%	17%	-	2%	10%	5%	-	17%	8%	19%	10%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	13	19	12	29	73	0	0	0	0	0	0	0	0	0	0
4:15 PM	9	15	7	33	64	0	0	0	0	0	0	0	0	0	0
4:30 PM	5	18	5	39	67	0	0	0	0	0	0	0	0	0	0
4:45 PM	4	17	5	40	66	0	0	0	0	0	0	0	0	0	0
5:00 PM	12	14	7	27	60	0	0	0	0	0	0	0	0	0	0
5:15 PM	4	17	3	30	54	0	0	0	0	0	0	0	0	0	0
5:30 PM	6	15	6	31	58	0	0	0	0	0	0	0	0	0	0
5:45 PM	8	16	3	18	45	0	0	0	0	0	0	0	0	0	0
Count Total	61	131	48	247	487	0	0	0	0	0	0	0	0	0	0
Peak Hour	31	69	29	141	270	0	0	0	0	0	0	0	0	0	0

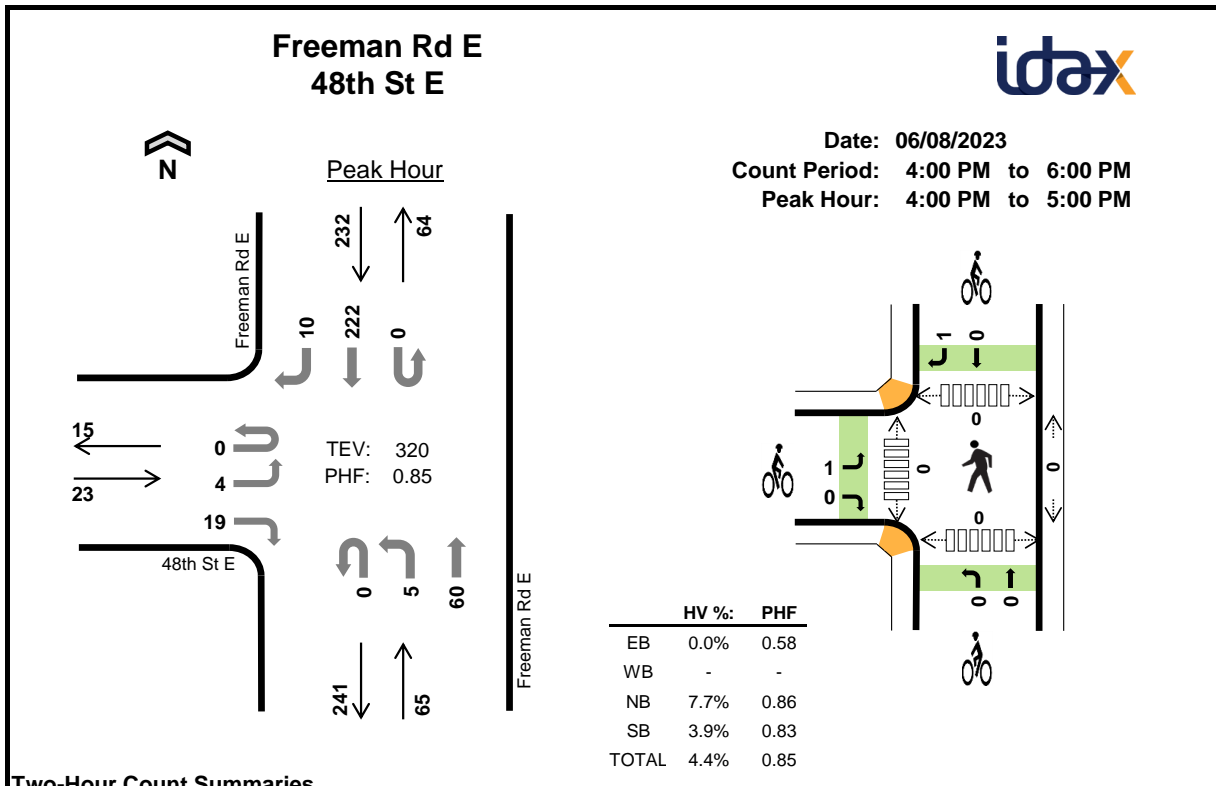


Two-Hour Count Summaries

Interval Start	Valley Ave E Eastbound				Valley Ave E Westbound				Freeman Rd E Northbound				Freeman Rd E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	3	207	19	0	4	107	18	0	0	5	5	0	50	33	7	458	0	
4:15 PM	0	8	267	22	0	6	118	30	0	2	6	13	0	66	30	3	571	0	
4:30 PM	0	7	204	22	0	6	126	25	0	4	11	6	0	60	44	8	523	0	
4:45 PM	0	5	213	33	0	3	107	28	0	4	8	6	0	43	25	6	481	2,033	
5:00 PM	0	5	199	22	0	4	102	27	0	4	7	3	0	49	43	3	468	2,043	
5:15 PM	0	5	220	29	0	6	135	22	0	1	8	2	0	42	32	4	506	1,978	
5:30 PM	0	9	184	6	0	2	99	14	0	1	6	1	0	34	24	4	384	1,839	
5:45 PM	0	6	175	6	0	2	106	12	0	0	9	1	0	36	12	4	369	1,727	
Count Total	0	48	1,669	159	0	33	900	176	0	16	60	37	0	380	243	39	3,760	0	
Peak Hour	All	0	25	883	99	0	19	453	110	0	14	32	28	0	218	142	20	2,043	0
	HV	0	3	89	3	0	1	63	8	0	3	3	0	0	15	1	0	189	0
	HV%	-	12%	10%	3%	-	5%	14%	7%	-	21%	9%	0%	-	7%	1%	0%	9%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	23	24	0	2	49	0	0	0	0	0	0	0	0	0	0
4:15 PM	31	22	2	8	63	0	0	0	0	0	0	0	0	0	0
4:30 PM	22	22	1	0	45	0	0	0	0	0	0	0	0	0	0
4:45 PM	22	13	1	4	40	0	0	0	0	0	0	0	0	0	0
5:00 PM	20	15	2	4	41	0	0	0	0	0	0	0	0	0	0
5:15 PM	22	21	1	4	48	0	0	0	0	0	0	0	0	0	0
5:30 PM	15	18	0	2	35	0	0	0	0	0	0	0	0	0	0
5:45 PM	17	21	0	1	39	0	0	0	0	0	0	0	0	0	0
Count Total	172	156	7	25	360	0	0	0	0	0	0	0	0	0	0
Peak Hour	95	72	6	16	189	0	0	0	0	0	0	0	0	0	0

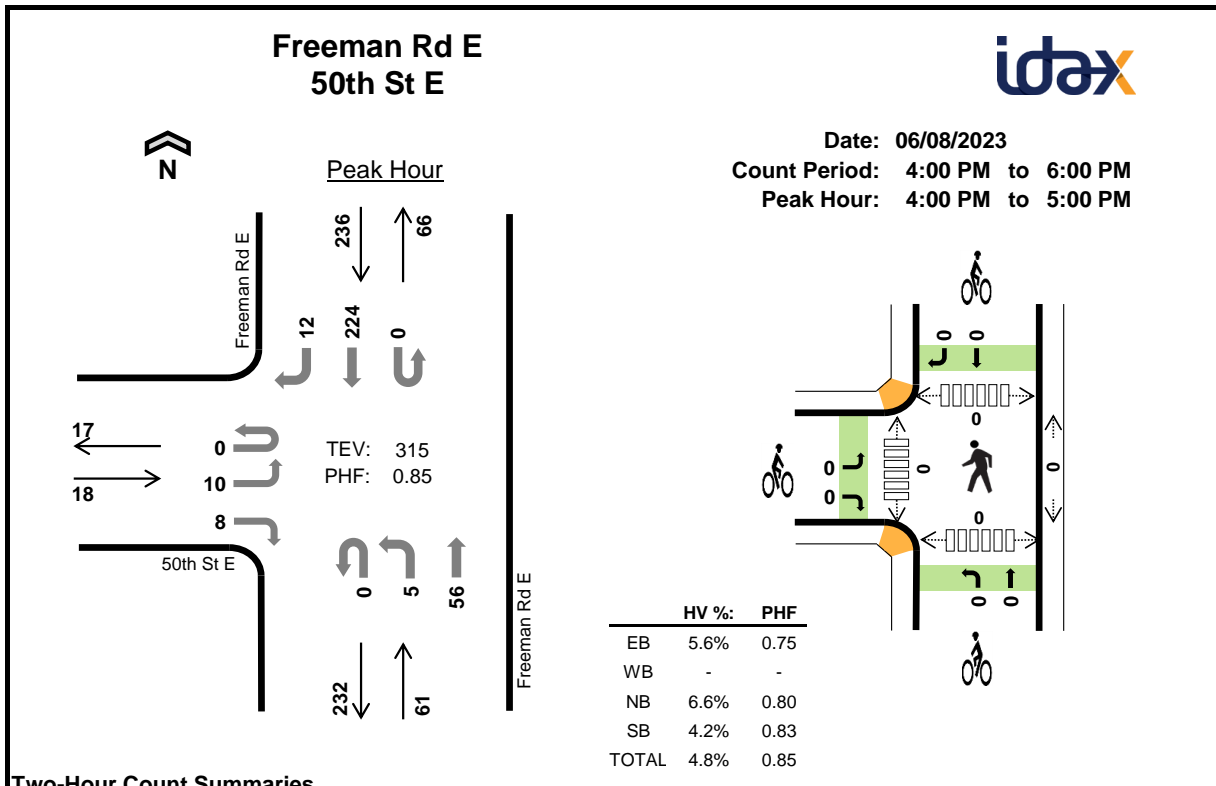


Two-Hour Count Summaries

Interval Start	48th St E				0				Freeman Rd E				Freeman Rd E				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	2	0	5	0	0	0	0	0	2	15	0	0	0	68	2	94	0	
4:15 PM	0	0	0	2	0	0	0	0	0	0	11	0	0	0	57	2	72	0	
4:30 PM	0	0	0	4	0	0	0	0	0	1	18	0	0	0	48	4	75	0	
4:45 PM	0	2	0	8	0	0	0	0	0	2	16	0	0	0	49	2	79	320	
5:00 PM	0	2	0	5	0	0	0	0	0	1	11	0	0	0	52	1	72	298	
5:15 PM	0	0	0	4	0	0	0	0	0	3	9	0	0	0	50	2	68	294	
5:30 PM	0	1	0	1	0	0	0	0	0	1	13	0	0	0	47	4	67	286	
5:45 PM	0	11	0	1	0	0	0	0	0	1	19	0	0	0	41	8	81	288	
Count Total	0	18	0	30	0	0	0	0	0	11	112	0	0	0	412	25	608	0	
Peak Hour	All	0	4	0	19	0	0	0	0	0	5	60	0	0	0	222	10	320	0
	HV	0	0	0	0	0	0	0	0	0	1	4	0	0	0	9	0	14	0
	HV%	-	0%	-	0%	-	-	-	-	-	20%	7%	-	-	-	4%	0%	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	3	4	0	0	0	1	1	0	0	0	0	0
4:30 PM	0	0	1	2	3	1	0	0	0	1	0	0	0	0	0
4:45 PM	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	1	1	2	1	0	0	0	1	0	0	0	0	0
5:15 PM	0	0	0	2	2	2	0	0	0	2	0	0	0	0	0
5:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	0	0	2	3	0	0	0	0	0	0	0	0	0	0
Count Total	1	0	6	15	22	4	0	0	1	5	0	0	0	0	0
Peak Hr	0	0	5	9	14	1	0	0	1	2	0	0	0	0	0

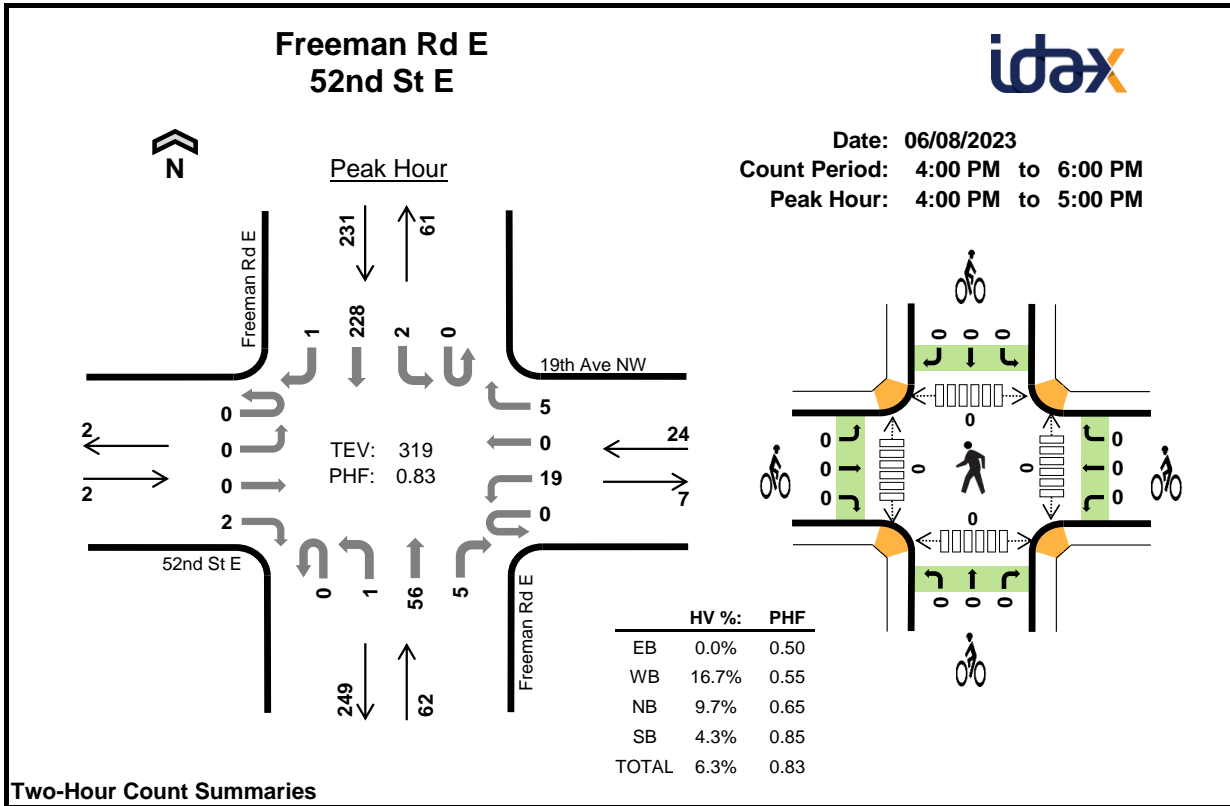


Two-Hour Count Summaries

Interval Start	50th St E				0				Freeman Rd E				Freeman Rd E				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	3	0	1	0	0	0	0	0	2	16	0	0	0	68	3	93	0	
4:15 PM	0	0	0	2	0	0	0	0	0	0	10	0	0	0	53	3	68	0	
4:30 PM	0	4	0	2	0	0	0	0	0	3	16	0	0	0	48	4	77	0	
4:45 PM	0	3	0	3	0	0	0	0	0	0	14	0	0	0	55	2	77	315	
5:00 PM	0	0	0	3	0	0	0	0	0	2	11	0	0	0	52	2	70	292	
5:15 PM	0	0	0	1	0	0	0	0	0	1	14	0	0	0	50	2	68	292	
5:30 PM	0	1	0	0	0	0	0	0	0	5	13	0	0	0	47	2	68	283	
5:45 PM	0	0	0	0	0	0	0	0	0	5	21	0	0	0	41	3	70	276	
Count Total	0	11	0	12	0	0	0	0	0	18	115	0	0	0	414	21	591	0	
Peak Hour	All	0	10	0	8	0	0	0	0	0	5	56	0	0	0	224	12	315	0
	HV	0	0	0	1	0	0	0	0	0	0	4	0	0	0	9	1	15	0
	HV%	-	0%	-	13%	-	-	-	-	-	0%	7%	-	-	-	4%	8%	5%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	3	3	6	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	1	3	5	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
Count Total	1	0	6	15	22	0	0	0	0	0	0	0	0	0	0
Peak Hr	1	0	4	10	15	0	0	0	0	0	0	0	0	0	0

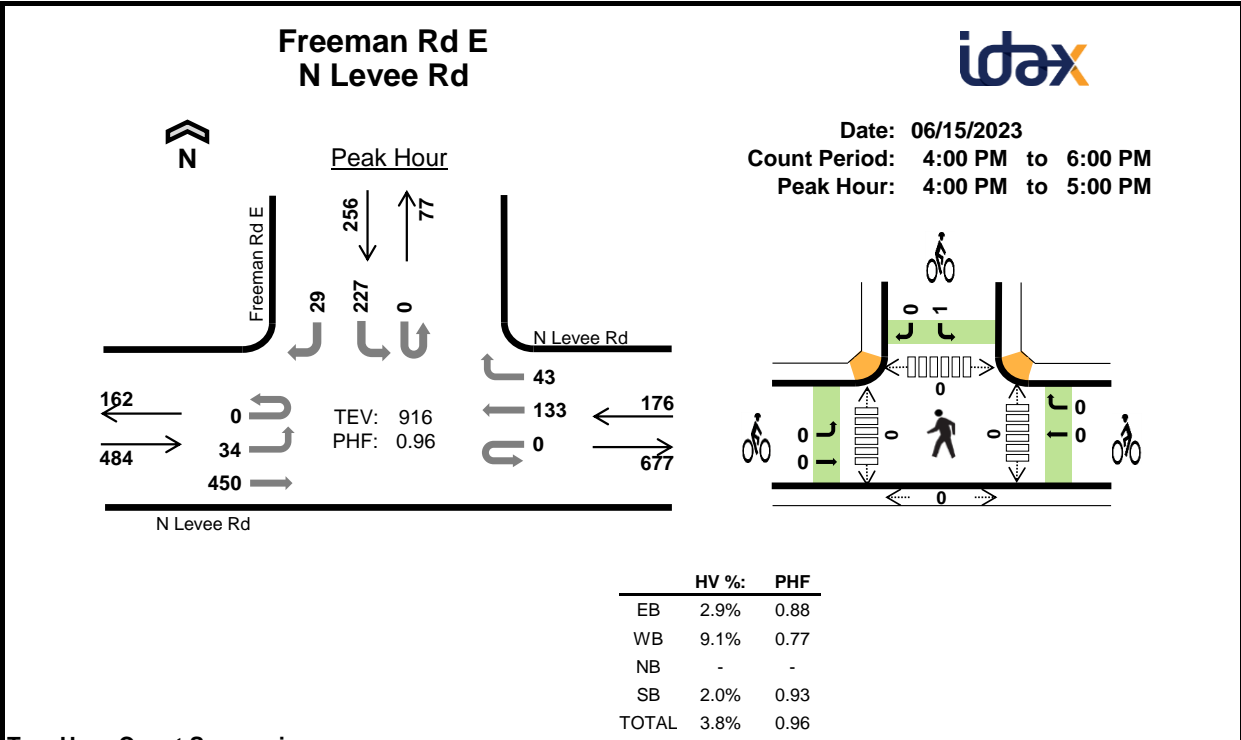


Two-Hour Count Summaries

Interval Start	52nd St E				19th Ave NW				Freeman Rd E				Freeman Rd E				15-min Total	Rolling One Hour	
	Eastbound		Westbound		Westbound		Northbound		Northbound		Southbound		Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	1	0	8	0	3	0	0	15	1	0	0	68	0	96	0	
4:15 PM	0	0	0	0	0	3	0	2	0	0	7	1	0	1	56	0	70	0	
4:30 PM	0	0	0	1	0	6	0	0	0	1	20	3	0	1	44	0	76	0	
4:45 PM	0	0	0	0	0	2	0	0	0	0	14	0	0	0	60	1	77	319	
5:00 PM	0	1	0	0	0	5	0	1	0	0	11	1	0	0	56	0	75	298	
5:15 PM	0	0	0	1	0	3	0	1	0	0	18	1	0	1	55	0	80	308	
5:30 PM	0	0	0	0	0	5	0	2	0	0	17	1	0	0	44	0	69	301	
5:45 PM	0	0	0	0	0	0	0	0	0	0	31	1	0	0	45	0	77	301	
Count Total	0	1	0	3	0	32	0	9	0	1	133	9	0	3	428	1	620	0	
Peak Hour	All	0	0	0	2	0	19	0	5	0	1	56	5	0	2	228	1	319	0
	HV	0	0	0	0	0	3	0	1	0	0	3	3	0	1	9	0	20	0
	HV%	-	-	-	0%	-	16%	-	20%	-	0%	5%	60%	-	50%	4%	0%	6%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	3	2	3	8	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	1	3	2	6	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0
Count Total	0	4	9	14	27	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	4	6	10	20	0	0	0	0	0	0	0	0	0	0

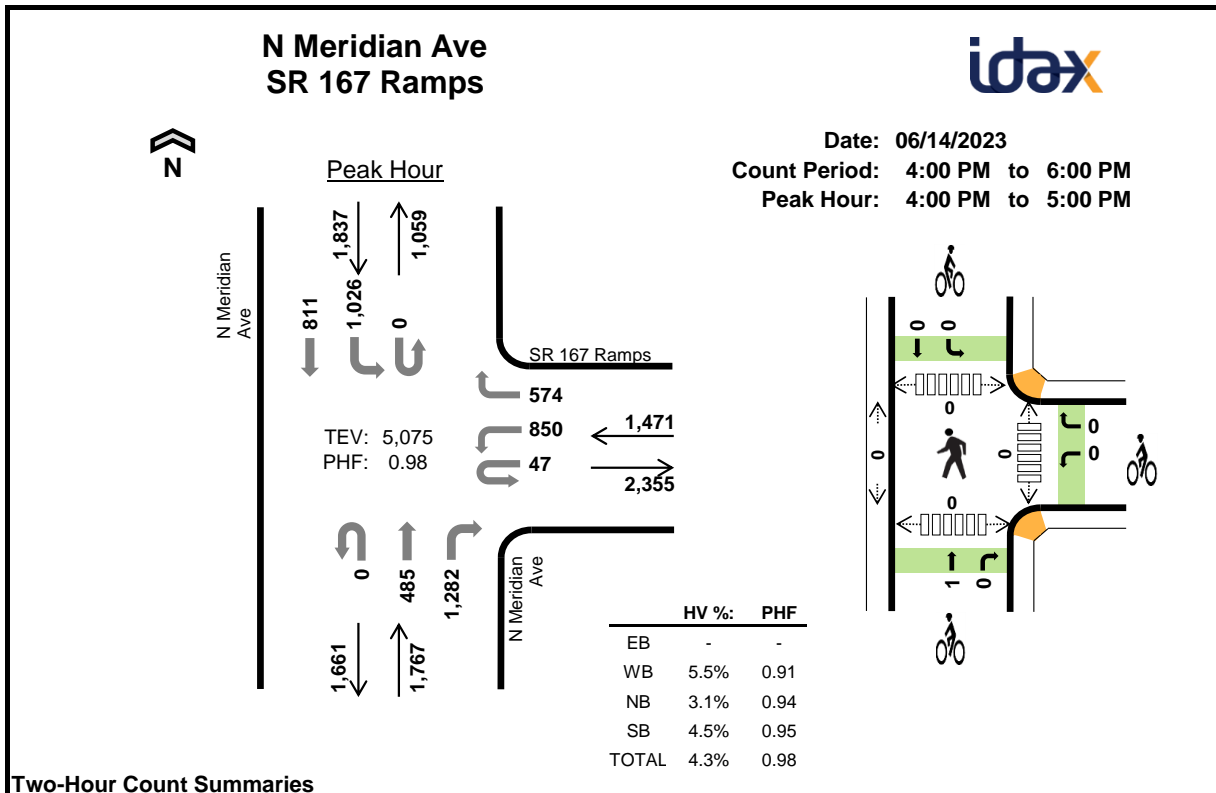


Two-Hour Count Summaries

Interval Start	N Levee Rd Eastbound				N Levee Rd Westbound				0 Northbound				Freeman Rd E Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	12	126	0	0	0	26	6	0	0	0	0	0	52	0	9	231	0	
4:15 PM	0	11	115	0	0	0	33	15	0	0	0	0	0	61	0	3	238	0	
4:30 PM	0	5	107	0	0	0	44	13	0	0	0	0	0	59	0	10	238	0	
4:45 PM	0	6	102	0	0	0	30	9	0	0	0	0	0	55	0	7	209	916	
5:00 PM	0	7	110	0	0	0	33	5	0	0	0	0	0	50	0	7	212	897	
5:15 PM	0	3	105	0	0	0	39	9	0	0	0	0	0	61	0	6	223	882	
5:30 PM	0	4	88	0	0	0	28	6	0	0	0	0	0	44	0	2	172	816	
5:45 PM	0	3	92	0	0	0	26	9	0	0	0	0	0	20	0	4	154	761	
Count Total	0	51	845	0	0	0	259	72	0	0	0	0	0	402	0	48	1,677	0	
Peak Hour	All	0	34	450	0	0	0	133	43	0	0	0	0	0	227	0	29	916	0
	HV	0	1	13	0	0	0	13	3	0	0	0	0	0	3	0	2	35	0
	HV%	-	3%	3%	-	-	-	10%	7%	-	-	-	-	-	1%	-	7%	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	7	3	0	3	13	0	0	0	0	0	0	0	0	0	0
4:15 PM	2	3	0	1	6	0	0	0	1	1	0	0	0	0	0
4:30 PM	2	5	0	1	8	0	0	0	0	0	0	0	0	0	0
4:45 PM	3	5	0	0	8	0	0	0	0	0	0	0	0	0	0
5:00 PM	2	6	0	1	9	0	1	0	0	1	0	0	0	0	0
5:15 PM	0	6	0	4	10	0	0	0	0	0	0	0	0	0	0
5:30 PM	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0
5:45 PM	2	3	0	0	5	0	0	0	0	0	0	0	0	0	0
Count Total	20	34	0	10	64	0	1	0	1	2	0	0	0	0	0
Peak Hr	14	16	0	5	35	0	0	0	1	1	0	0	0	0	0

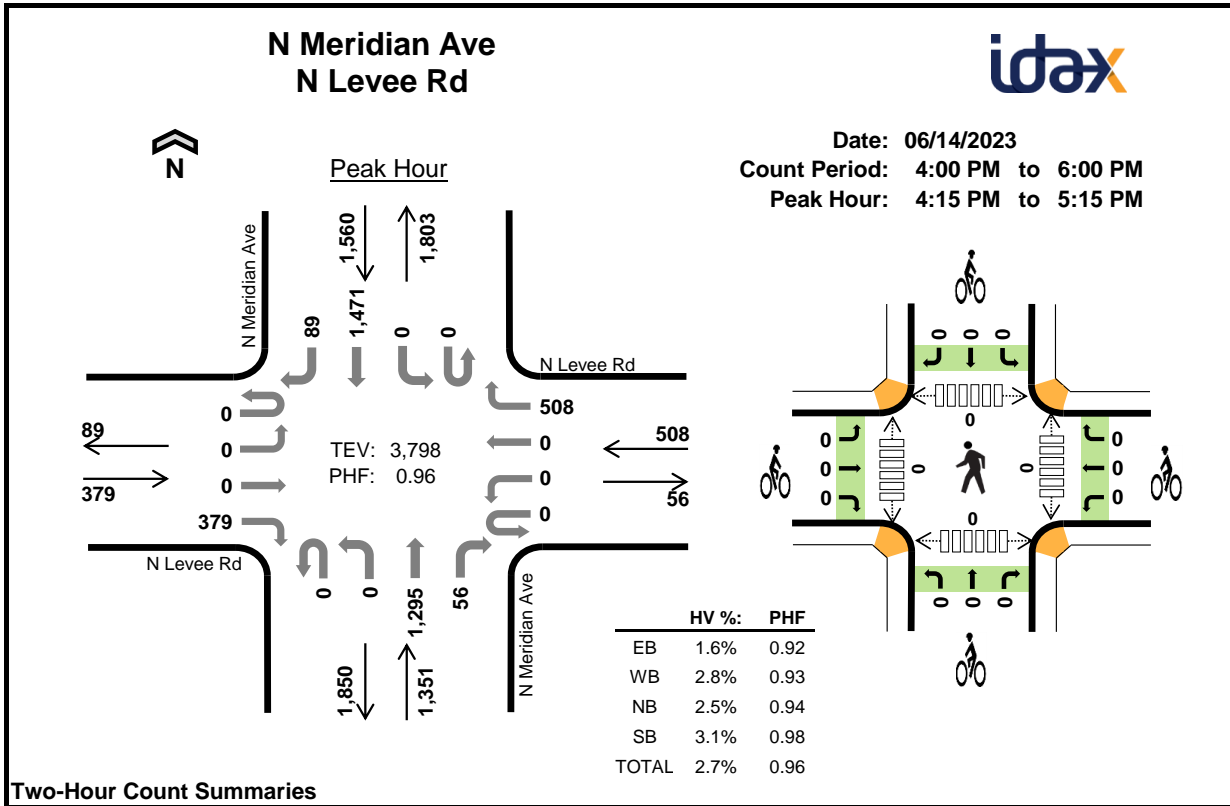


Two-Hour Count Summaries

Interval Start	0				SR 167 Ramps				N Meridian Ave				N Meridian Ave				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	20	237	0	147	0	0	122	316	0	234	203	0	1,279	0	
4:15 PM	0	0	0	0	11	208	0	145	0	0	127	305	0	269	180	0	1,245	0	
4:30 PM	0	0	0	0	10	203	0	145	0	0	98	329	0	258	210	0	1,253	0	
4:45 PM	0	0	0	0	6	202	0	137	0	0	138	332	0	265	218	0	1,298	5,075	
5:00 PM	0	0	0	0	2	217	0	130	0	0	117	309	0	262	204	0	1,241	5,037	
5:15 PM	0	0	0	0	1	210	0	115	0	0	120	310	0	232	229	0	1,217	5,009	
5:30 PM	0	0	0	0	3	196	0	134	0	0	116	264	0	231	182	0	1,126	4,882	
5:45 PM	0	0	0	0	1	163	0	118	0	0	116	216	0	211	168	0	993	4,577	
Count Total	0	0	0	0	54	1,636	0	1,071	0	0	954	2,381	0	1,962	1,594	0	9,652	0	
Peak Hour	All	0	0	0	0	47	850	0	574	0	0	485	1,282	0	1,026	811	0	5,075	0
	HV	0	0	0	0	4	36	0	41	0	0	7	48	0	67	15	0	218	0
	HV%	-	-	-	-	9%	4%	-	7%	-	-	1%	4%	-	7%	2%	-	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	21	19	21	61	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	23	16	24	63	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	21	10	19	50	0	0	1	0	1	0	0	0	0	0
4:45 PM	0	16	10	18	44	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	27	11	17	55	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	26	11	20	57	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	26	8	16	50	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	13	16	14	43	0	0	0	0	0	0	0	0	0	0
Count Total	0	173	101	149	423	0	0	1	0	1	0	0	0	0	0
Peak Hr	0	81	55	82	218	0	0	1	0	1	0	0	0	0	0

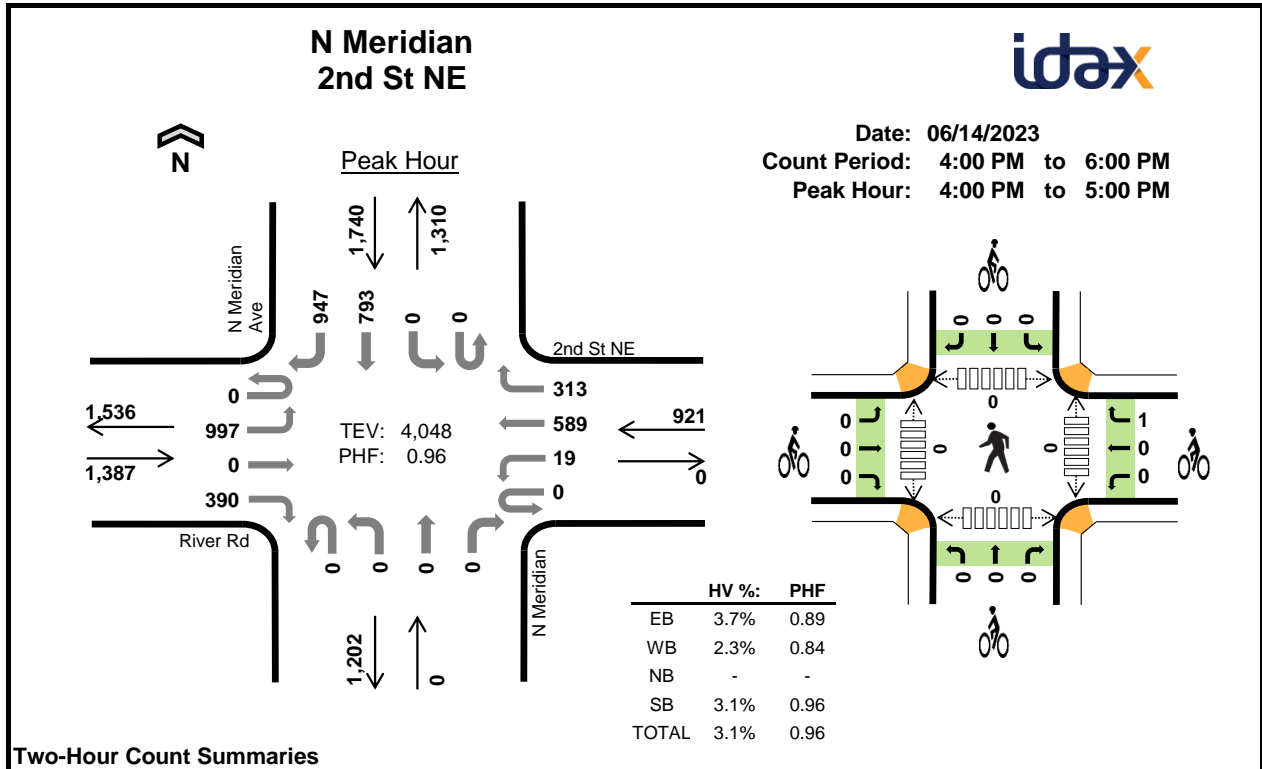


Two-Hour Count Summaries

Interval Start	N Levee Rd Eastbound				N Levee Rd Westbound				N Meridian Ave Northbound				N Meridian Ave Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	56	0	0	0	121	0	0	307	16	0	0	391	19	910	0	
4:15 PM	0	0	0	83	0	0	0	124	0	0	333	15	0	0	358	22	935	0	
4:30 PM	0	0	0	103	0	0	0	137	0	0	285	17	0	0	366	29	937	0	
4:45 PM	0	0	0	96	0	0	0	130	0	0	344	15	0	0	378	22	985	3,767	
5:00 PM	0	0	0	97	0	0	0	117	0	0	333	9	0	0	369	16	941	3,798	
5:15 PM	0	0	0	88	0	0	0	119	0	0	290	12	0	0	376	22	907	3,770	
5:30 PM	0	0	0	62	1	0	0	95	0	0	267	17	0	0	348	20	810	3,643	
5:45 PM	0	0	0	41	0	0	0	56	0	0	240	14	0	0	302	14	667	3,325	
Count Total	0	0	0	626	1	0	0	899	0	0	2,399	115	0	0	2,888	164	7,092	0	
Peak Hour	All	0	0	0	379	0	0	0	508	0	0	1,295	56	0	0	1,471	89	3,798	0
	HV	0	0	0	6	0	0	0	14	0	0	33	1	0	0	41	8	103	0
	HV%	-	-	-	2%	-	-	-	3%	-	-	3%	2%	-	-	3%	9%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	2	2	20	16	40	0	0	0	0	0	0	0	0	0	0
4:15 PM	2	2	13	17	34	0	0	0	0	0	0	0	0	0	0
4:30 PM	2	4	4	11	21	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	2	9	6	18	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	6	8	15	30	0	0	0	0	0	0	0	0	0	0
5:15 PM	2	0	12	16	30	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	3	6	13	22	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	4	11	5	21	0	0	0	0	0	0	0	0	0	0
Count Total	11	23	83	99	216	0	0	0	0	0	0	0	0	0	0
Peak Hour	6	14	34	49	103	0	0	0	0	0	0	0	0	0	0

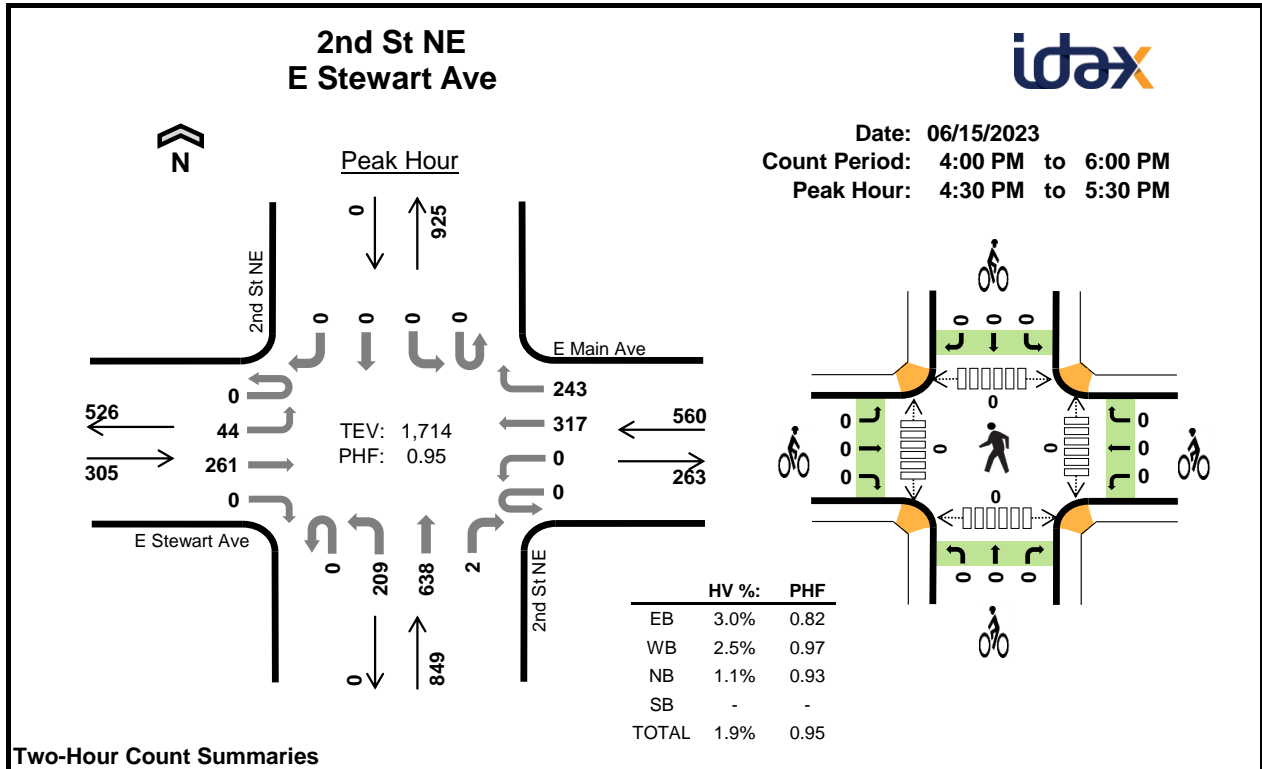


Two-Hour Count Summaries

Interval Start	River Rd				2nd St NE				N Meridian				N Meridian Ave				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	266	0	123	0	6	162	83	0	0	0	0	0	0	192	224	1,056	0	
4:15 PM	0	273	0	91	0	4	146	54	0	0	0	0	0	0	189	233	990	0	
4:30 PM	0	234	0	90	0	2	115	75	0	0	0	0	0	0	207	241	964	0	
4:45 PM	0	224	0	86	0	7	166	101	0	0	0	0	0	0	205	249	1,038	4,048	
5:00 PM	0	224	0	88	0	6	190	88	0	0	0	0	0	0	178	244	1,018	4,010	
5:15 PM	0	193	0	113	0	5	158	77	0	0	0	0	0	0	211	235	992	4,012	
5:30 PM	0	197	0	92	0	2	136	72	0	0	0	0	0	0	169	262	930	3,978	
5:45 PM	0	171	0	96	0	7	113	80	0	0	0	0	0	0	143	181	791	3,731	
Count Total	0	1,782	0	779	0	39	1,186	630	0	0	0	0	0	0	1,494	1,869	7,779	0	
Peak Hour	All	0	997	0	390	0	19	589	313	0	0	0	0	0	0	793	947	4,048	0
	HV	0	45	0	6	0	0	17	4	0	0	0	0	0	0	12	42	126	0
	HV%	-	5%	-	2%	-	0%	3%	1%	-	-	-	-	-	-	2%	4%	3%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	19	11	0	14	44	0	0	0	0	0	0	0	0	0	0
4:15 PM	18	4	0	16	38	0	1	0	0	1	0	0	0	0	0
4:30 PM	7	4	0	15	26	0	0	0	0	0	0	0	0	0	0
4:45 PM	7	2	0	9	18	0	0	0	0	0	0	0	0	0	0
5:00 PM	11	7	0	7	25	0	0	0	0	0	0	0	0	0	0
5:15 PM	11	3	0	15	29	0	0	0	0	0	0	0	0	0	0
5:30 PM	9	2	0	10	21	0	0	0	0	0	0	0	0	0	0
5:45 PM	13	2	0	15	30	0	0	0	0	0	0	0	0	0	0
Count Total	95	35	0	101	231	0	1	0	0	1	0	0	0	0	0
Peak Hour	51	21	0	54	126	0	1	0	0	1	0	0	0	0	0



Two-Hour Count Summaries

Interval Start	E Stewart Ave				E Main Ave				2nd St NE				2nd St NE				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	15	68	0	0	0	74	63	0	38	167	1	0	0	0	0	426	0	
4:15 PM	0	8	54	0	0	0	83	55	0	47	138	0	0	0	0	0	385	0	
4:30 PM	0	8	48	0	0	0	75	63	0	51	175	0	0	0	0	0	420	0	
4:45 PM	0	14	79	0	0	0	80	60	0	48	161	0	0	0	0	0	442	1,673	
5:00 PM	0	10	70	0	0	0	81	63	0	55	173	0	0	0	0	0	452	1,699	
5:15 PM	0	12	64	0	0	0	81	57	0	55	129	2	0	0	0	0	400	1,714	
5:30 PM	0	17	48	0	0	0	76	43	0	42	128	1	0	0	0	0	355	1,649	
5:45 PM	0	12	87	0	0	0	58	35	0	42	99	0	0	0	0	0	333	1,540	
Count Total	0	96	518	0	0	0	608	439	0	378	1,170	4	0	0	0	0	3,213	0	
Peak Hour	All	0	44	261	0	0	0	317	243	0	209	638	2	0	0	0	0	1,714	0
	HV	0	1	8	0	0	0	4	10	0	2	7	0	0	0	0	0	32	0
	HV%	-	2%	3%	-	-	-	1%	4%	-	1%	1%	0%	-	-	-	-	2%	0






















Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	5	6	6	0	17	0	0	0	0	0	0	0	0	0	0
4:15 PM	2	9	3	0	14	0	0	0	0	0	0	0	0	0	0
4:30 PM	3	3	4	0	10	0	0	0	0	0	0	0	0	0	0
4:45 PM	2	2	2	0	6	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	7	0	0	8	0	0	0	0	0	0	0	0	0	0
5:15 PM	3	2	3	0	8	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0
5:45 PM	3	6	2	0	11	0	0	0	0	0	0	0	0	0	0
Count Total	19	36	21	0	76	0	0	0	0	0	0	0	0	0	0
Peak Hour	9	14	9	0	32	0	0	0	0	0	0	0	0	0	0

APPENDIX B
EXISTING LEVEL OF SERVICE

Lanes, Volumes, Timings
1: 54th Avenue E & 12th Street E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	119	37	65	66	109	23	412	57	67	327	16
Future Volume (vph)	32	119	37	65	66	109	23	412	57	67	327	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.964			0.907			0.982			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1712	0	1671	1596	0	1347	2646	0	1433	2845	0
Flt Permitted	0.620			0.646			0.521			0.454		
Satd. Flow (perm)	1101	1712	0	1136	1596	0	739	2646	0	685	2845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			94			22			7	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		727			778			1175			536	
Travel Time (s)		19.8			15.2			22.9			10.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	7%	7%	8%	8%	8%	34%	34%	34%	26%	26%	26%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	36	177	0	74	199	0	26	533	0	76	390	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		10.0	19.0		10.0	17.0	
Total Split (s)	25.0	25.0		25.0	25.0		19.0	40.0		19.0	40.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		22.6%	47.6%		22.6%	47.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effect Green (s)	11.2	11.2		10.8	10.8		25.3	21.1		23.9	25.1	
Actuated g/C Ratio	0.26	0.26		0.25	0.25		0.60	0.50		0.56	0.59	
v/c Ratio	0.12	0.38		0.25	0.41		0.04	0.40		0.14	0.23	
Control Delay (s/veh)	17.5	17.5		18.9	12.7		4.9	12.2		5.6	7.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	17.5	17.5		18.9	12.7		4.9	12.2		5.6	7.6	
LOS	B	B		B	B		A	B		A	A	
Approach Delay (s/veh)		17.6			14.4			11.9			7.3	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	8	36		16	23		2	56		7	22	
Queue Length 95th (ft)	30	95		52	78		11	112		24	76	

Lanes, Volumes, Timings
 1: 54th Avenue E & 12th Street E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		647			698			1095			456	
Turn Bay Length (ft)	100			200			100			100		
Base Capacity (vph)	612	959		631	928		705	2125		728	2281	
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	0.06	0.18		0.12	0.21		0.04	0.25		0.10	0.17	























Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	42.4
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.42
Intersection Signal Delay (s/veh):	11.7
Intersection LOS:	B
Intersection Capacity Utilization:	48.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 1: 54th Avenue E & 12th Street E



Lanes, Volumes, Timings
2: 54th Avenue E & Pacific Highway E (SR-99)

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	338	240	403	343	115	297	353	341	106	289	54
Future Volume (vph)	77	338	240	403	343	115	297	353	341	106	289	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.962			0.926			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3167	1417	2993	2968	0	2918	2786	0	1357	2649	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3167	1417	2993	2968	0	2918	2786	0	1357	2649	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			167		32			167			15	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1085			1070			320			1175	
Travel Time (s)		21.1			20.8			6.2			22.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	14%	14%	17%	17%	17%	20%	20%	20%	33%	33%	33%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	352	250	420	477	0	309	723	0	110	357	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.0	40.0	40.0	20.0	42.0		40.0	40.0		40.0	40.0	
Total Split (%)	12.9%	28.6%	28.6%	14.3%	30.0%		28.6%	28.6%		28.6%	28.6%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	11.4	34.0	80.8	15.5	38.1		46.8	46.8		25.1	25.1	
Actuated g/C Ratio	0.08	0.24	0.58	0.11	0.27		0.33	0.33		0.18	0.18	
v/c Ratio	0.62	0.45	0.28	1.26	0.57		0.31	0.69		0.45	0.73	
Control Delay (s/veh)	82.4	47.4	3.7	191.2	44.5		39.6	38.7		56.1	60.6	
Queue Delay	0.0	0.0	0.0	1.2	0.0		0.8	9.7		0.0	0.0	
Total Delay (s/veh)	82.4	47.4	3.7	192.4	44.5		40.4	48.5		56.1	60.6	
LOS	F	D	A	F	D		D	D		E	E	
Approach Delay (s/veh)		35.5			113.8			46.1			59.6	
Approach LOS		D			F			D			E	
Queue Length 50th (ft)	71	144	18	~247	186		119	262		90	156	
Queue Length 95th (ft)	129	195	50	#356	250		172	341		144	201	

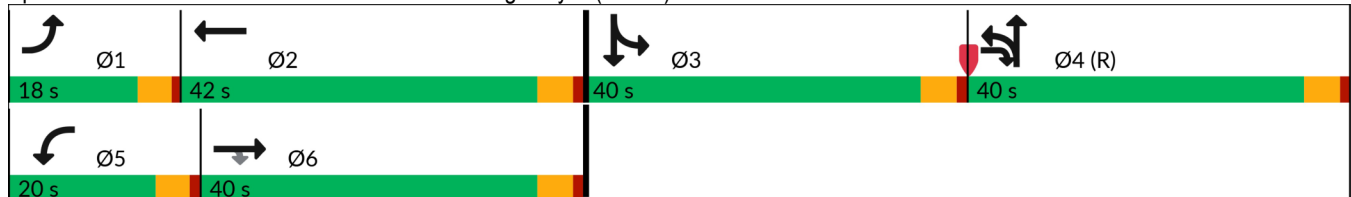
Lanes, Volumes, Timings
 2: 54th Avenue E & Pacific Highway E (SR-99)

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Internal Link Dist (ft)		1005				990				240				1095		
Turn Bay Length (ft)	225			550			150			125						
Base Capacity (vph)	152	798	888	331	842		974	1041		342	679					
Starvation Cap Reductn	0	0	0	0	0		398	289		0	0					
Spillback Cap Reductn	0	0	80	33	0		0	0		0	1					
Storage Cap Reductn	0	0	0	0	0		0	0		0	0					
Reduced v/c Ratio	0.53	0.44	0.31	1.41	0.57		0.54	0.96		0.32	0.53					

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	14 (10%), Referenced to phase 4:NBTL, Start of Green
Natural Cycle:	135
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.27
Intersection Signal Delay (s/veh):	65.5
Intersection LOS:	E
Intersection Capacity Utilization:	62.9%
ICU Level of Service:	B
Analysis Period (min):	15
~ 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.	



















Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	231	0	308	0	675	336	0	434	436
Future Volume (vph)	0	0	0	231	0	308	0	675	336	0	434	436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		50	0		0
Storage Lanes	0		0	1		1	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850		0.986	0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1433	0	1282	0	3282	1468	0	1508	1300
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1433	0	1282	0	3282	1468	0	1508	1300
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						251			198		7	413
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1083			1080			827			320	
Travel Time (s)		21.1			21.0			16.1			6.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	26%	26%	26%	10%	10%	10%	18%	18%	18%
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	0	0	243	0	324	0	711	354	0	503	413
Turn Type				Prot		custom		NA	Perm		NA	custom
Protected Phases				3		3		6			2	2
Permitted Phases									6			Free
Detector Phase				3		3		6	6		2	2
Switch Phase												
Minimum Initial (s)				5.0				10.0	10.0		10.0	
Minimum Split (s)				9.5				14.7	14.7		14.5	
Total Split (s)				35.0				93.0	93.0		93.0	
Total Split (%)				25.0%				66.4%	66.4%		66.4%	
Yellow Time (s)				3.5				3.7	3.7		3.5	
All-Red Time (s)				1.0				1.0	1.0		1.0	
Lost Time Adjust (s)				0.0				0.0	0.0		0.0	
Total Lost Time (s)				4.5				4.7	4.7		4.5	
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Recall Mode				None				C-Max	C-Max		C-Max	
Act Effct Green (s)				27.2		38.2		92.6	92.6		92.8	140.0
Actuated g/C Ratio				0.19		0.27		0.66	0.66		0.66	1.00
v/c Ratio				0.87		0.60		0.32	0.34		0.50	0.31
Control Delay (s/veh)				83.8		15.2		11.2	5.5		11.9	1.7
Queue Delay				0.0		0.5		0.1	0.0		3.8	0.0
Total Delay (s/veh)				83.8		15.7		11.3	5.5		15.8	1.7
LOS				F		B		B	A		B	A
Approach Delay (s/veh)					45.0			9.4			9.5	
Approach LOS					D			A			A	
Queue Length 50th (ft)				212		50		146	53		290	40
Queue Length 95th (ft)				#340		152		188	109		m304	m53

Lanes, Volumes, Timings
 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2023 EXISTING CONDITIONS

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	12.0
Total Split (%)	9%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

Lanes, Volumes, Timings

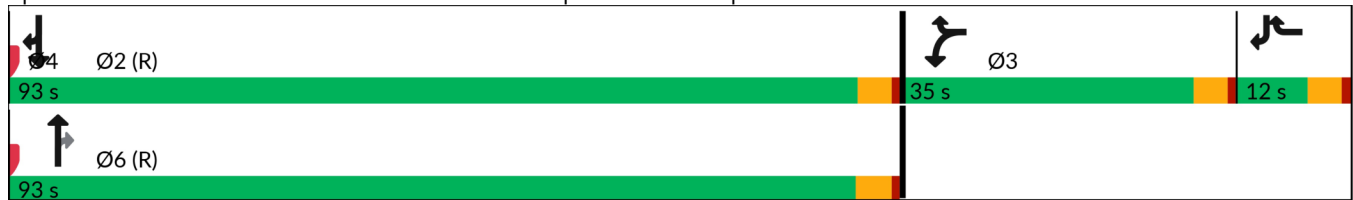
3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1003			1000			747			240		
Turn Bay Length (ft)										50		
Base Capacity (vph)				312			534			2171 1038		
Starvation Cap Reductn				0			0			0 0 402 0		
Spillback Cap Reductn				0			42			526 0 0 0		
Storage Cap Reductn				0			0			0 0 0 0		
Reduced v/c Ratio				0.78			0.66			0.43 0.34 0.84 0.32		

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	75 (54%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.87
Intersection Signal Delay (s/veh):	17.4
Intersection LOS:	B
Intersection Capacity Utilization:	51.6%
ICU Level of Service:	A
Analysis Period (min):	15
#	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.























Splits and Phases: 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp



Lane Group	Ø4
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	203	72	33	99	350	127	357	35	402	299	267
Future Volume (vph)	275	203	72	33	99	350	127	357	35	402	299	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.971				0.850		0.987			0.937	
Flt Protected	0.950	0.988			0.988		0.950			0.950	0.994	
Satd. Flow (prot)	1320	2666	0	0	1508	1298	1504	2969	0	1395	2735	0
Flt Permitted	0.950	0.988			0.988		0.950			0.950	0.994	
Satd. Flow (perm)	1320	2666	0	0	1508	1298	1504	2969	0	1395	2735	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				112		6			126	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	8%	8%	8%	6%	6%	6%
Shared Lane Traffic (%)	33%									18%		
Lane Group Flow (vph)	205	407	0	0	147	389	141	436	0	367	709	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	34.0	34.0		24.0	24.0	53.0	29.0	29.0		53.0	53.0	
Total Split (%)	24.3%	24.3%		17.1%	17.1%	37.9%	20.7%	20.7%		37.9%	37.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	25.2	25.2			16.8	78.2	23.1	23.1		57.0	57.0	
Actuated g/C Ratio	0.18	0.18			0.12	0.56	0.17	0.17		0.41	0.41	
v/c Ratio	0.86	0.82			0.81	0.50	0.57	0.88		0.64	0.59	
Control Delay (s/veh)	86.8	66.6			91.6	16.6	63.2	76.1		42.5	30.4	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	86.8	66.6			91.6	16.6	63.2	76.1		42.5	30.4	
LOS	F	E			F	B	E	E		D	C	
Approach Delay (s/veh)		73.4			37.2			73.0			34.6	
Approach LOS		E			D			E			C	
Queue Length 50th (ft)	198	187			131	156	118	200		310	241	
Queue Length 95th (ft)	#317	247			#223	261	192	#283		468	330	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	278	575			210	774	264	526		567	1187	
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	0.74	0.71			0.70	0.50	0.53	0.83		0.65	0.60	

Intersection Summary	
Area Type:	CBD
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.88
Intersection Signal Delay (s/veh):	51.5
Intersection LOS:	D
Intersection Capacity Utilization:	67.9%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	





















Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	43	0	92	0	414	52	84	398	1
Future Volume (vph)	0	0	0	43	0	92	0	414	52	84	398	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	210		0	100		0
Storage Lanes	0		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.850			0.983				0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	1900	0	1736	1553	0	1759	1729	0	1752	1845	1568
Flt Permitted				0.714						0.310		
Satd. Flow (perm)	0	1900	0	1304	1553	0	1759	1729	0	572	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					553			9				128
Link Speed (mph)		25			25			30				30
Link Distance (ft)		362			838			563				783
Travel Time (s)		9.9			22.9			12.8				17.8
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	8%	8%	8%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	51	108	0	0	548	0	99	468	1
Turn Type				pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	6.0		4.0	6.0	6.0
Minimum Split (s)	8.0	24.5		8.0	24.0		8.0	14.5		8.0	14.5	14.5
Total Split (s)	14.0	16.5		14.0	16.0		14.0	34.5		16.0	34.5	34.5
Total Split (%)	17.3%	20.4%		17.3%	19.8%		17.3%	42.6%		19.8%	42.6%	42.6%
Yellow Time (s)	3.0	3.5		3.0	3.0		3.0	3.5		3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5		4.0	4.0		4.0	4.5		4.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effect Green (s)				7.1	7.1			34.6		43.5	44.0	44.0
Actuated g/C Ratio				0.13	0.13			0.61		0.77	0.78	0.78
v/c Ratio				0.23	0.15			0.51		0.16	0.32	0.00
Control Delay (s/veh)				25.7	0.5			11.6		2.9	3.5	0.0
Queue Delay				0.0	0.0			0.0		0.0	0.0	0.0
Total Delay (s/veh)				25.7	0.5			11.6		2.9	3.5	0.0
LOS				C	A			B		A	A	A
Approach Delay (s/veh)					8.6			11.6			3.4	
Approach LOS					A			B			A	
Queue Length 50th (ft)				16	0			115		7	41	0
Queue Length 95th (ft)				41	0			212		17	78	0

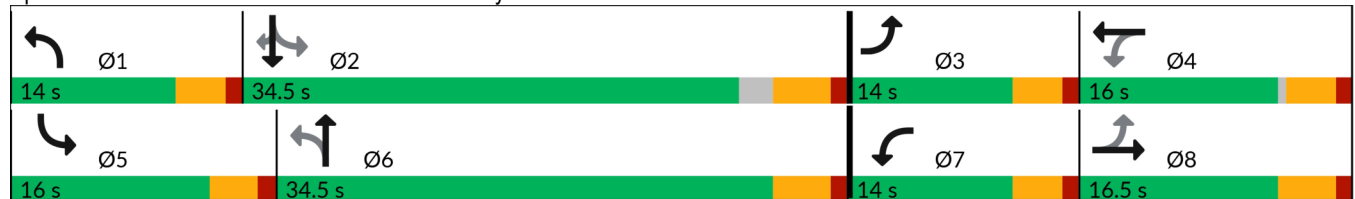
Lanes, Volumes, Timings
 5: 54th Avenue E & Driveway/23rd Street E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	282			758			483			703		
Turn Bay Length (ft)				100						100		
Base Capacity (vph)				309			775			1064		
Starvation Cap Reductn				0			0			0		
Spillback Cap Reductn				0			0			0		
Storage Cap Reductn				0			0			0		
Reduced v/c Ratio				0.17			0.14			0.52		

Intersection Summary	
Area Type:	Other
Cycle Length:	81
Actuated Cycle Length:	56.4
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.52
Intersection Signal Delay (s/veh):	7.6
Intersection LOS:	A
Intersection Capacity Utilization:	45.7%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: 54th Avenue E & Driveway/23rd Street E



Lanes, Volumes, Timings
6: 54th Avenue E & Valley Avenue E & Driveway

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	205	123	106	333	5	139	1	82	1	1	0
Future Volume (vph)	3	205	123	106	333	5	139	1	82	1	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.944			0.998			0.950				
Flt Protected	0.950			0.950				0.970			0.976	
Satd. Flow (prot)	1656	1646	0	1641	1724	0	0	1700	0	0	1854	0
Flt Permitted	0.417			0.431				0.809			0.881	
Satd. Flow (perm)	727	1646	0	744	1724	0	0	1418	0	0	1674	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		92			2			55				
Link Speed (mph)		30			30			25				25
Link Distance (ft)		563			491			578				252
Travel Time (s)		12.8			11.2			15.8				6.9
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	9%	9%	9%	10%	10%	10%	3%	3%	3%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	456	0	147	470	0	0	308	0	0	2	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4				8
Permitted Phases	6			2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.5	30.5		22.5	22.5		32.0	32.0		32.0	32.0	
Total Split (s)	34.5	34.5		34.5	34.5		19.0	19.0		19.0	19.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effect Green (s)	17.5	17.5		17.5	17.5			11.9			11.9	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.31			0.31	
v/c Ratio	0.01	0.57		0.43	0.59			0.64			0.00	
Control Delay (s/veh)	6.0	9.2		11.9	11.4			19.0			12.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay (s/veh)	6.0	9.2		11.9	11.4			19.0			12.0	
LOS	A	A		B	B			B			B	
Approach Delay (s/veh)		9.2			11.6			19.0			12.0	
Approach LOS		A			B			B			B	
Queue Length 50th (ft)	0	49		19	68			42			0	
Queue Length 95th (ft)	3	75		39	99			97			3	

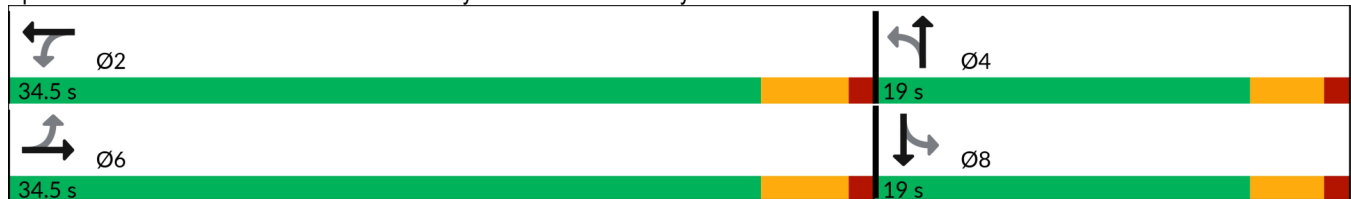
Lanes, Volumes, Timings
 6: 54th Avenue E & Valley Avenue E & Driveway

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		483			411			498			172	
Turn Bay Length (ft)	200			125								
Base Capacity (vph)	577	1325		590	1368			621			695	
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	0.01	0.34		0.25	0.34			0.50			0.00	













Intersection Summary	
Area Type:	Other
Cycle Length:	53.5
Actuated Cycle Length:	38.4
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay (s/veh):	12.5
Intersection LOS:	B
Intersection Capacity Utilization:	52.5%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 6: 54th Avenue E & Valley Avenue E & Driveway



Lanes, Volumes, Timings
7: Pacific Highway E & 70th Avenue E

2023 EXISTING CONDITIONS

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	16	0	0	0	0	55
Future Volume (vph)	16	0	0	0	0	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	290			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.850	
Flt Protected	0.950					
Satd. Flow (prot)	1641	0	1545	2935	2692	0
Flt Permitted	0.950					
Satd. Flow (perm)	1641	0	1545	2935	2692	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1091	
Link Speed (mph)	30			30	30	
Link Distance (ft)	592			513	541	
Travel Time (s)	13.5			11.7	12.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	23%	23%	14%	14%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	0	0	0	57	0
Turn Type	Prot		Prot		NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	5.0		6.0	10.0	10.0	
Minimum Split (s)	40.0		10.5	23.7	33.7	
Total Split (s)	40.0		20.0	66.0	66.0	
Total Split (%)	31.7%		15.9%	52.4%	52.4%	
Yellow Time (s)	3.5		3.5	4.7	4.7	
All-Red Time (s)	1.0		1.0	1.5	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	6.2	6.2	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	Max		None	Max	None	
Act Effct Green (s)	35.5				59.8	
Actuated g/C Ratio	0.33				0.56	
v/c Ratio	0.03				0.02	
Control Delay (s/veh)	24.0				0.0	
Queue Delay	0.0				0.0	
Total Delay (s/veh)	24.0				0.0	
LOS	C				A	
Approach Delay (s/veh)	24.1					
Approach LOS	C					
Queue Length 50th (ft)	8				0	
Queue Length 95th (ft)	24				0	

Lanes, Volumes, Timings
 7: Pacific Highway E & 70th Avenue E

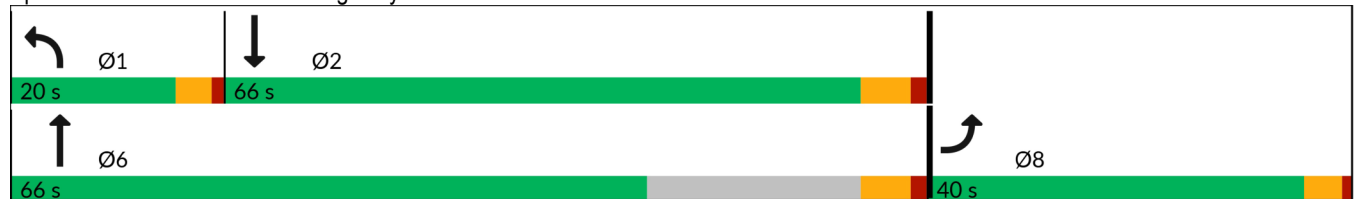
2023 EXISTING CONDITIONS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	512			433	461	
Turn Bay Length (ft)						
Base Capacity (vph)	549				1994	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.03				0.03	

Intersection Summary	
Area Type:	Other
Cycle Length:	126
Actuated Cycle Length:	106
Natural Cycle:	85
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.03
Intersection Signal Delay (s/veh):	5.5
Intersection LOS:	A
Intersection Capacity Utilization:	21.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 7: Pacific Highway E & 70th Avenue E



Lanes, Volumes, Timings
8: 70th Avenue E & 20th Street E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	348	81	101	434	270	87	685	74	121	370	68
Future Volume (vph)	90	348	81	101	434	270	87	685	74	121	370	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	400		400	250		0	225		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.985			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	1759	1495	1656	1743	1482	1467	2891	0	2870	2891	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1671	1759	1495	1656	1743	1482	1467	2891	0	2870	2891	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			96		10			18	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1295			1073			2009			522	
Travel Time (s)		25.2			20.9			39.1			10.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	8%	8%	9%	9%	9%	23%	23%	23%	22%	22%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	359	84	104	447	278	90	782	0	125	451	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2						
Detector Phase	1	6	6	5	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	14.5	22.5	14.5	14.5	24.5		14.5	24.5	
Total Split (s)	14.5	44.5	44.5	14.5	44.5	19.5	19.5	44.4		19.5	44.5	
Total Split (%)	11.8%	36.2%	36.2%	11.8%	36.2%	15.9%	15.9%	36.1%		15.9%	36.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	None	None	None		None	None	
Act Effect Green (s)	9.6	40.2	40.2	9.8	40.4	55.8	12.1	35.7		10.9	37.2	
Actuated g/C Ratio	0.08	0.35	0.35	0.09	0.35	0.49	0.11	0.31		0.10	0.32	
v/c Ratio	0.66	0.58	0.14	0.73	0.72	0.36	0.58	0.86		0.46	0.47	
Control Delay (s/veh)	75.9	36.4	5.4	82.4	42.1	13.7	65.2	47.6		55.7	32.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	75.9	36.4	5.4	82.4	42.1	13.7	65.2	47.6		55.7	32.6	
LOS	E	D	A	F	D	B	E	D		E	C	
Approach Delay (s/veh)		38.5			37.7			49.4			37.7	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	70	226	0	79	302	83	66	282		47	140	
Queue Length 95th (ft)	#152	345	31	#178	#454	150	125	377		79	196	

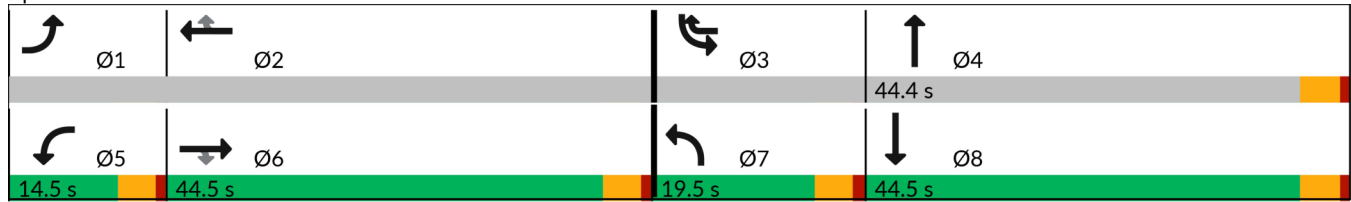
Lanes, Volumes, Timings
 8: 70th Avenue E & 20th Street E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1215			993			1929			442	
Turn Bay Length (ft)	250		200	400		400	250			225		
Base Capacity (vph)	146	616	584	145	614	821	192	1019		377	1025	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.64	0.58	0.14	0.72	0.73	0.34	0.47	0.77		0.33	0.44	

























Intersection Summary	
Area Type:	Other
Cycle Length:	123
Actuated Cycle Length:	114.7
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.86
Intersection Signal Delay (s/veh):	41.5
Intersection LOS:	D
Intersection Capacity Utilization:	69.1%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: 70th Avenue E & 20th Street E



Lanes, Volumes, Timings
9: 70th Avenue E & 26th Street E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	72	39	63	20	57	78	748	60	67	412	17
Future Volume (vph)	37	72	39	63	20	57	78	748	60	67	412	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	200		0	225		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.989			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	1624	1380	1492	1570	1335	1480	2926	0	1530	3041	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1543	1624	1380	1492	1570	1335	1480	2926	0	1530	3041	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53			63		9			4	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1057			880			2032			2009	
Travel Time (s)		20.6			17.1			39.6			39.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	17%	17%	17%	21%	21%	21%	22%	22%	22%	18%	18%	18%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	80	43	70	22	63	87	898	0	74	477	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4	4 5	3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.5	24.5		10.5	24.5		10.5	22.5		10.5	22.5	
Total Split (s)	20.0	24.5		20.0	24.5		20.0	60.0		20.0	60.0	
Total Split (%)	16.1%	19.7%		16.1%	19.7%		16.1%	48.2%		16.1%	48.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	8.5	10.6	23.5	10.3	14.7	26.9	11.2	63.0		10.5	62.3	
Actuated g/C Ratio	0.08	0.10	0.23	0.10	0.14	0.26	0.11	0.61		0.10	0.61	
v/c Ratio	0.32	0.47	0.12	0.46	0.09	0.15	0.54	0.50		0.47	0.25	
Control Delay (s/veh)	55.6	56.6	7.0	57.6	43.2	8.3	59.4	18.1		57.4	15.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	55.6	56.6	7.0	57.6	43.2	8.3	59.4	18.1		57.4	15.0	
LOS	E	E	A	E	D	A	E	B		E	B	
Approach Delay (s/veh)		43.4			35.5			21.8			20.8	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	27	52	0	46	14	0	57	203		48	91	
Queue Length 95th (ft)	67	109	22	98	40	32	118	348		102	161	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	977			800			1952			1929		
Turn Bay Length (ft)	150		150	150		150	200			225		
Base Capacity (vph)	238	324	431	231	319	470	229	1796		236	1846	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.17	0.25	0.10	0.30	0.07	0.13	0.38	0.50		0.31	0.26	

























Intersection Summary	
Area Type:	Other
Cycle Length:	124.5
Actuated Cycle Length:	102.8
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay (s/veh):	24.6
Intersection LOS:	C
Intersection Capacity Utilization	49.0%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 9: 70th Avenue E & 26th Street E

Ø1 20 s	Ø2 60 s	Ø3 20 s	Ø4 24.5 s
Ø5 20 s	Ø6 60 s	Ø7 20 s	Ø8 24.5 s

Lanes, Volumes, Timings
10: 70th Avenue E & Valley Avenue E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	244	93	27	234	387	149	462	40	207	161	90
Future Volume (vph)	50	244	93	27	234	387	149	462	40	207	161	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	200		0	200		130	350		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.946	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1776	1509	1492	1570	1335	1641	3282	1468	2870	2799	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1687	1776	1509	1492	1570	1335	1641	3282	1468	2870	2799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			403			164		81	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		831			1056			750			2032	
Travel Time (s)		18.9			24.0			14.6			39.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	7%	7%	21%	21%	21%	10%	10%	10%	22%	22%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	254	97	28	244	403	155	481	42	216	262	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0	8.0	6.0	8.0	8.0	6.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	31.0	31.0	10.5	31.0	31.0	10.5	31.0	31.0	13.0	31.0	
Total Split (s)	30.0	40.0	40.0	20.0	40.0	40.0	20.0	30.0	30.0	40.0	40.0	
Total Split (%)	21.4%	28.6%	28.6%	14.3%	28.6%	28.6%	14.3%	21.4%	21.4%	28.6%	28.6%	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	11.1	71.8	71.8	8.6	66.8	66.8	15.2	27.7	27.7	16.8	29.8	
Actuated g/C Ratio	0.08	0.51	0.51	0.06	0.48	0.48	0.11	0.20	0.20	0.12	0.21	
v/c Ratio	0.38	0.27	0.11	0.30	0.32	0.47	0.87	0.74	0.09	0.62	0.39	
Control Delay (s/veh)	68.6	23.8	2.3	70.6	27.8	4.7	102.2	59.6	0.4	66.5	32.5	
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)	68.6	23.8	2.3	70.6	27.8	4.7	102.2	59.6	0.4	66.5	32.5	
LOS	E	C	A	E	C	A	F	E	A	E	C	
Approach Delay (s/veh)		24.5			15.9			65.7			47.9	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	46	137	0	25	139	0	141	219	0	97	74	
Queue Length 95th (ft)	89	243	21	58	252	78	#269	266	0	137	105	

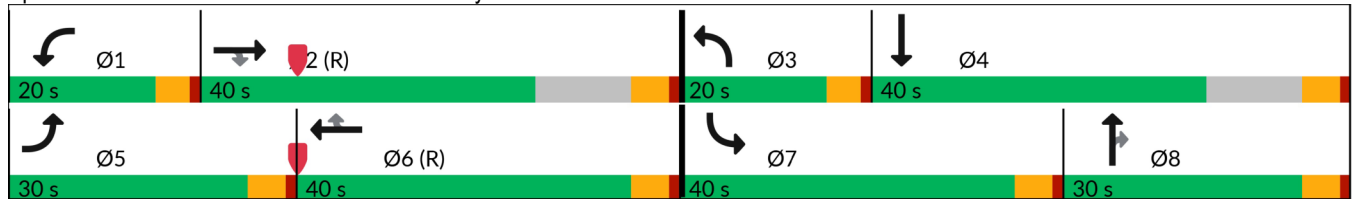
Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		751			976			670			1952	
Turn Bay Length (ft)	150		250	200			200		130	350		
Base Capacity (vph)	301	910	834	165	749	847	181	669	429	717	954	
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.28	0.12	0.17	0.33	0.48	0.86	0.72	0.10	0.30	0.27	





















Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	30 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.88
Intersection Signal Delay (s/veh):	39.4
Intersection LOS:	D
Intersection Capacity Utilization:	54.2%
ICU Level of Service:	A
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 10: 70th Avenue E & Valley Avenue E



Lanes, Volumes, Timings
11: Freeman Road E & Valley Avenue E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	362	13	5	526	134	41	72	27	92	46	17
Future Volume (vph)	20	362	13	5	526	134	41	72	27	92	46	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.969			0.959				0.960
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1492	2969	0	1530	2964	0	1703	1719	0	1641	1658	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1492	2969	0	1530	2964	0	1703	1719	0	1641	1658	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			29			14			14	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		671			1259			2534			494	
Travel Time (s)		15.3			28.6			69.1			13.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	21%	21%	21%	18%	18%	18%	6%	6%	6%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	399	0	5	703	0	44	106	0	98	67	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effect Green (s)	7.3	43.8		6.4	41.0		10.5	10.5		10.9	10.9	
Actuated g/C Ratio	0.09	0.53		0.08	0.50		0.13	0.13		0.13	0.13	
v/c Ratio	0.15	0.25		0.04	0.46		0.20	0.45		0.44	0.28	
Control Delay (s/veh)	39.7	12.5		39.6	16.7		35.0	35.7		40.0	30.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	39.7	12.5		39.6	16.7		35.0	35.7		40.0	30.3	
LOS	D	B		D	B		C	D		D	C	
Approach Delay (s/veh)		13.9			16.9			35.5			36.1	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	9	47		2	92		18	40		42	22	
Queue Length 95th (ft)	36	123		14	233		56	103		105	68	

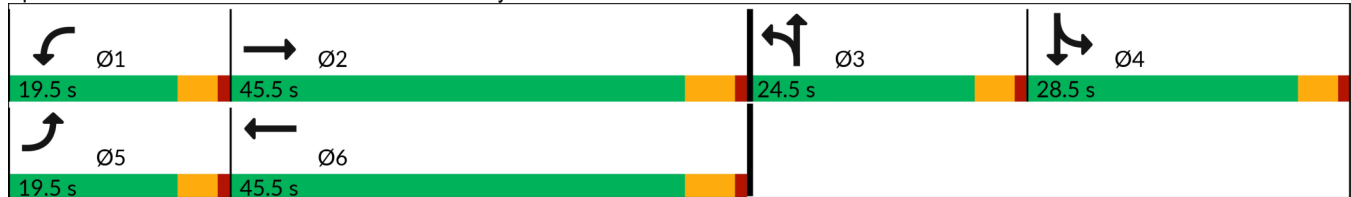
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	276	1591		283	1576		420	435		486	501	
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	0.08	0.25		0.02	0.45		0.10	0.24		0.20	0.13	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	81.9
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.47
Intersection Signal Delay (s/veh):	20.2
Intersection LOS:	C
Intersection Capacity Utilization:	38.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: Freeman Road E & Valley Avenue E



HCM 6th TWSC
 12: Freeman Road E & 48th Street E

2023 EXISTING CONDITIONS

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	3	6	114	56	8
Future Vol, veh/h	3	3	6	114	56	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	5	5	8	8
Mvmt Flow	4	4	7	139	68	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	226	73	78	0	0
Stage 1	73	-	-	-	-
Stage 2	153	-	-	-	-
Critical Hdwy	6.4	6.2	4.15	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.245	-	-
Pot Cap-1 Maneuver	767	995	1502	-	-
Stage 1	955	-	-	-	-
Stage 2	880	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	763	995	1502	-	-
Mov Cap-2 Maneuver	763	-	-	-	-
Stage 1	950	-	-	-	-
Stage 2	880	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.2	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1502	-	864	-	-
HCM Lane V/C Ratio	0.005	-	0.008	-	-
HCM Control Delay (s/veh)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0	-	-

HCM 6th TWSC
 13: Freeman Road E & 50th Street E

2023 EXISTING CONDITIONS

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	5	3	116	57	1
Future Vol, veh/h	8	5	3	116	57	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	8	8	6	6	10	10
Mvmt Flow	9	6	3	132	65	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	204	66	66	0	0
Stage 1	66	-	-	-	-
Stage 2	138	-	-	-	-
Critical Hdwy	6.48	6.28	4.16	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.254	-	-
Pot Cap-1 Maneuver	771	981	1511	-	-
Stage 1	942	-	-	-	-
Stage 2	874	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	769	981	1511	-	-
Mov Cap-2 Maneuver	769	-	-	-	-
Stage 1	940	-	-	-	-
Stage 2	874	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.4	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1511	-	839	-	-
HCM Lane V/C Ratio	0.002	-	0.018	-	-
HCM Control Delay (s/veh)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	13	0	4	0	122	17	6	56	2
Future Vol, veh/h	0	0	1	13	0	4	0	122	17	6	56	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	59	59	59	5	5	5	9	9	9
Mvmt Flow	0	0	1	15	0	5	0	145	20	7	67	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	240	247	68	238	238	155	69	0	0	165	0	0
Stage 1	82	82	-	155	155	-	-	-	-	-	-	-
Stage 2	158	165	-	83	83	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.69	7.09	6.79	4.15	-	-	4.19	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.69	6.09	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.69	6.09	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	4.031	4.531	3.831	2.245	-	-	2.281	-	-
Pot Cap-1 Maneuver	718	659	1001	612	575	761	1513	-	-	1372	-	-
Stage 1	931	831	-	729	673	-	-	-	-	-	-	-
Stage 2	849	766	-	802	727	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	711	656	1001	609	572	761	1513	-	-	1372	-	-
Mov Cap-2 Maneuver	711	656	-	609	572	-	-	-	-	-	-	-
Stage 1	931	827	-	729	673	-	-	-	-	-	-	-
Stage 2	844	766	-	797	723	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	8.6	10.8	0	0.7
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1513	-	-	1001	639	1372	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.032	0.005	-	-
HCM Control Delay (s/veh)	0	-	-	8.6	10.8	7.6	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.1	0	-	-

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2023 EXISTING CONDITIONS

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	11	208	415	110	50	9
Future Vol, veh/h	11	208	415	110	50	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	12	234	466	124	56	10


















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	590	0	-	0	786 528
Stage 1	-	-	-	-	528 -
Stage 2	-	-	-	-	258 -
Critical Hdwy	4.26	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.344	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	920	-	-	-	350 535
Stage 1	-	-	-	-	576 -
Stage 2	-	-	-	-	767 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	920	-	-	-	345 535
Mov Cap-2 Maneuver	-	-	-	-	345 -
Stage 1	-	-	-	-	567 -
Stage 2	-	-	-	-	767 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.5	0	17
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	920	-	-	-	365
HCM Lane V/C Ratio	0.013	-	-	-	0.182
HCM Control Delay (s/veh)	9	0	-	-	17
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q (veh)	0	-	-	-	0.7

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2023 EXISTING CONDITIONS

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 		 	 
Traffic Volume (vph)	1158	948	786	698	501	365
Future Volume (vph)	1158	948	786	698	501	365
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	2		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.88	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3183	2584	3282	1468	3019	3112
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3183	2584	3282	1468	3019	3112
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		108		502		
Link Speed (mph)	35		35			35
Link Distance (ft)	522		278			1175
Travel Time (s)	10.2		5.4			22.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	10%	10%	10%	10%	16%	16%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1219	998	827	735	527	384
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	10.0	6.0	10.0
Minimum Split (s)	36.6	10.6	38.9	38.9	10.6	36.9
Total Split (s)	36.6	54.6	64.9	64.9	54.6	64.9
Total Split (%)	23.4%	35.0%	41.6%	41.6%	35.0%	41.6%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9	4.9	4.6	4.9
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	32.1	67.2	60.1	60.1	30.5	95.2
Actuated g/C Ratio	0.23	0.49	0.44	0.44	0.22	0.70
v/c Ratio	1.63	0.75	0.57	0.79	0.78	0.17
Control Delay (s/veh)	325.7	28.8	31.4	17.6	58.7	7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	325.7	28.8	31.4	17.6	58.7	7.3
LOS	F	C	C	B	E	A
Approach Delay (s/veh)	192.1		25.0			37.1
Approach LOS	F		C			D
Queue Length 50th (ft)	~807	359	286	188	228	56
Queue Length 95th (ft)	#1021	450	394	432	293	75

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2023 EXISTING CONDITIONS

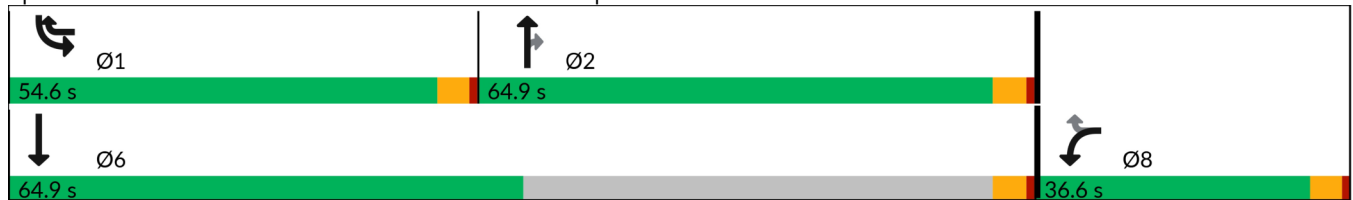


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	442		198			1095
Turn Bay Length (ft)					250	
Base Capacity (vph)	745	1678	1442	926	1105	2611
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.64	0.59	0.57	0.79	0.48	0.15

Intersection Summary

Area Type:	Other
Cycle Length:	156.1
Actuated Cycle Length:	136.8
Natural Cycle:	110
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.64
Intersection Signal Delay (s/veh):	106.3
Intersection LOS:	F
Intersection Capacity Utilization	80.8%
ICU Level of Service	D
Analysis Period (min)	15
~ 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.	

Splits and Phases: 16: N Meridian Avenue & SR-167 Ramps



HCM 6th TWSC
 17: N Meridian Avenue & N Levee Road

2023 EXISTING CONDITIONS

Intersection												
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↔			↕↔	
Traffic Vol, veh/h	0	0	87	0	0	170	0	1215	165	0	1113	378
Future Vol, veh/h	0	0	87	0	0	170	0	1215	165	0	1113	378
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	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, %	6	6	6	10	10	10	9	9	9	9	9	9
Mvmt Flow	0	0	92	0	0	179	0	1279	174	0	1172	398

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	785	-	-	640	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.02	-	-	7.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.36	-	-	3.4	-	-
Pot Cap-1 Maneuver	0	0	327	0	0	399	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	327	-	-	399	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	20.2	21.2	0	0
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	327	399	-	-
HCM Lane V/C Ratio	-	0.28	0.448	-	-
HCM Control Delay (s/veh)	-	20.2	21.2	-	-
HCM Lane LOS	-	C	C	-	-
HCM 95th %tile Q (veh)	-	1.1	2.3	-	-

Lanes, Volumes, Timings
 18: N Meridian Avenue & River Road/2nd Street NE

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	862	0	304	9	443	525	0	0	0	0	264	724
Future Volume (vph)	862	0	304	9	443	525	0	0	0	0	264	724
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3242	0	1495	1736	3471	1553	0	0	0	0	3282	1468
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3242	0	1495	1736	3471	1553	0	0	0	0	3282	1468
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				90		447						618
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	8%	8%	4%	4%	4%	0%	0%	0%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	917	0	323	10	471	559	0	0	0	0	281	770
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2						4	
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2					4	4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	31.0		31.0	31.0	31.0	31.0					22.0	22.0
Total Split (%)	36.9%		36.9%	36.9%	36.9%	36.9%					26.2%	26.2%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	25.2		25.2	30.0	30.0	30.0					17.2	17.2
Actuated g/C Ratio	0.29		0.29	0.34	0.34	0.34					0.20	0.20
v/c Ratio	0.98		0.75	0.01	0.39	0.67					0.43	0.98
Control Delay (s/veh)	57.7		40.8	0.0	23.1	9.9					33.4	37.3
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	57.7		40.8	0.0	23.1	9.9					33.4	37.3
LOS	E		D	A	C	A					C	D
Approach Delay (s/veh)		53.3			15.9						36.3	
Approach LOS		D			B						D	
Queue Length 50th (ft)	257		161	0	103	44					72	91
Queue Length 95th (ft)	#382		#282	0	146	156					111	#360

Lanes, Volumes, Timings
 18: N Meridian Avenue & River Road/2nd Street NE

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	961		443	655	1191	826					646	785
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	0.95		0.73	0.02	0.40	0.68					0.43	0.98

Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	87.4
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.98
Intersection Signal Delay (s/veh):	36.3
Intersection LOS:	D
Intersection Capacity Utilization:	65.3%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	



















Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	146	40	39	146	0	0	0	0	134	439	26
Future Volume (vph)	0	146	40	39	146	0	0	0	0	134	439	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	125		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt			0.850									0.993
Flt Protected				0.950								0.989
Satd. Flow (prot)	0	1776	1509	1703	1792	0	0	0	0	0	3409	0
Flt Permitted				0.426								0.989
Satd. Flow (perm)	0	1776	1509	764	1792	0	0	0	0	0	3409	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91									16
Link Speed (mph)		25			25			25				25
Link Distance (ft)		393			385			1349				2133
Travel Time (s)		10.7			10.5			36.8				58.2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	7%	7%	6%	6%	6%	0%	0%	0%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	168	46	45	168	0	0	0	0	0	689	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		8		7	4							2
Permitted Phases			8	4						2		
Detector Phase		8	8	7	4					2		2
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					10.0	10.0	
Minimum Split (s)		21.0	21.0	9.0	21.0					23.0	23.0	
Total Split (s)		9.0	9.0	7.0	13.0					44.0	44.0	
Total Split (%)		15.0%	15.0%	11.7%	21.7%					73.3%	73.3%	
Yellow Time (s)		3.0	3.0	3.0	3.0					3.0	3.0	
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0							0.0
Total Lost Time (s)		4.0	4.0	4.0	4.0							4.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		None	None	None	None					Max	Max	
Act Effct Green (s)		5.4	5.4	9.7	9.7							42.9
Actuated g/C Ratio		0.09	0.09	0.16	0.16							0.71
v/c Ratio		1.05	0.21	0.26	0.58							0.28
Control Delay (s/veh)		120.7	4.4	24.1	31.2							3.8
Queue Delay		0.0	0.0	0.0	0.0							0.0
Total Delay (s/veh)		120.7	4.4	24.1	31.2							3.8
LOS		F	A	C	C							A
Approach Delay (s/veh)		95.7			29.7							3.9
Approach LOS		F			C							A
Queue Length 50th (ft)		~73	0	14	54							43
Queue Length 95th (ft)		#168	8	35	101							60

Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue

2023 EXISTING CONDITIONS

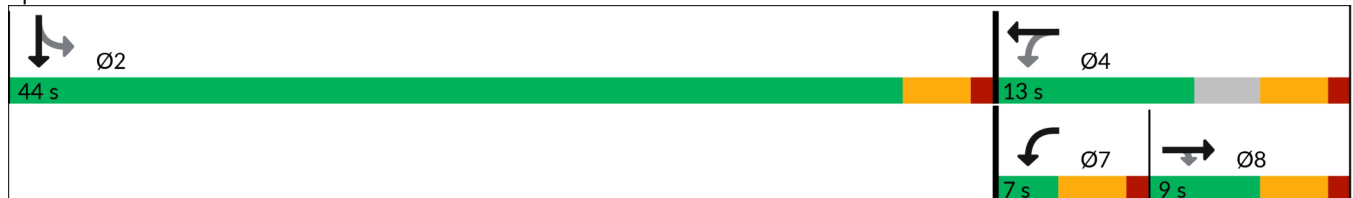


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		313			305			1269			2053	
Turn Bay Length (ft)			50	125								
Base Capacity (vph)		159	218	168	356						2416	
Starvation Cap Reductn		0	0	0	0						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		1.06	0.21	0.27	0.47						0.29	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60.6
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.06
Intersection Signal Delay (s/veh):	26.4
Intersection LOS:	C
Intersection Capacity Utilization:	47.6%
ICU Level of Service:	A
Analysis Period (min):	15
~ 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.	



















Splits and Phases: 19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue



Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	219	0	0	118	154	61	802	0	0	0	0
Future Volume (vph)	47	219	0	0	118	154	61	802	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	0		125	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850						
Flt Protected	0.950							0.996				
Satd. Flow (prot)	1719	1810	0	0	1792	1524	0	3457	0	0	0	0
Flt Permitted	0.475							0.996				
Satd. Flow (perm)	860	1810	0	0	1792	1524	0	3457	0	0	0	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		385			615			394				343
Travel Time (s)		10.5			16.8			10.7				9.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	6%	6%	6%	4%	4%	4%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	231	0	0	124	162	0	908	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	3	8			4			2				
Permitted Phases	8					4	2					
Detector Phase	3	8			4	4	2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	10.0	10.0				
Minimum Split (s)	9.5	28.0			28.0	28.0	26.0	26.0				
Total Split (s)	10.0	45.0			29.0	29.0	53.0	53.0				
Total Split (%)	10.2%	45.9%			29.6%	29.6%	54.1%	54.1%				
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0				
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	None			None	None	Max	Max				
Act Effct Green (s)	17.3	17.3			12.0	12.0		49.6				
Actuated g/C Ratio	0.23	0.23			0.16	0.16		0.66				
v/c Ratio	0.18	0.55			0.43	0.66		0.39				
Control Delay (s/veh)	22.7	29.6			34.1	44.3		7.7				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay (s/veh)	22.7	29.6			34.1	44.3		7.7				
LOS	C	C			C	D		A				
Approach Delay (s/veh)		28.5			39.9			7.8				
Approach LOS		C			D			A				
Queue Length 50th (ft)	18	94			56	76		102				
Queue Length 95th (ft)	42	157			106	138		177				

Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2023 EXISTING CONDITIONS

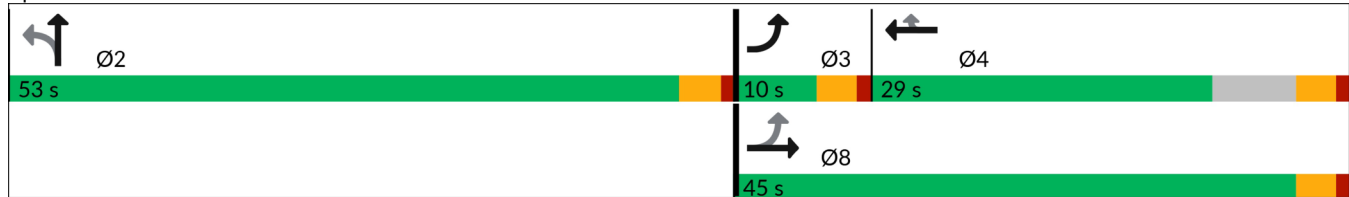


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		305			535			314			263	
Turn Bay Length (ft)	50					125						
Base Capacity (vph)	268	1001			749	637		2284				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.18	0.23			0.17	0.25		0.40				

Intersection Summary























Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	75
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay (s/veh):	17.9
Intersection LOS:	B
Intersection Capacity Utilization	47.6%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 20: 2nd Street NE & E Stewart Avenue/E Main Avenue



Lanes, Volumes, Timings
1: 54th Avenue E & 12th Street E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	129	38	72	202	165	31	281	42	132	426	44
Future Volume (vph)	16	129	38	72	202	165	31	281	42	132	426	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.966			0.933			0.981			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1765	0	1736	1705	0	1456	2856	0	1504	2966	0
Flt Permitted	0.384			0.646			0.456			0.547		
Satd. Flow (perm)	702	1765	0	1180	1705	0	699	2856	0	866	2966	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			46			24			16	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		727			778			1175			536	
Travel Time (s)		19.8			15.2			22.9			10.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	24%	24%	24%	20%	20%	20%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	17	176	0	76	387	0	33	340	0	139	494	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		10.0	19.0		10.0	17.0	
Total Split (s)	25.0	25.0		25.0	25.0		19.0	40.0		19.0	40.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		22.6%	47.6%		22.6%	47.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effect Green (s)	17.4	17.4		17.4	17.4		21.8	12.5		20.2	18.4	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.44	0.25		0.41	0.37	
v/c Ratio	0.06	0.27		0.18	0.61		0.08	0.46		0.30	0.44	
Control Delay (s/veh)	14.1	13.7		14.7	18.2		7.8	18.4		9.7	14.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	14.1	13.7		14.7	18.2		7.8	18.4		9.7	14.2	
LOS	B	B		B	B		A	B		A	B	
Approach Delay (s/veh)		13.8			17.7			17.5			13.3	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	3	33		16	82		5	44		23	46	
Queue Length 95th (ft)	17	86		48	191		16	84		50	114	

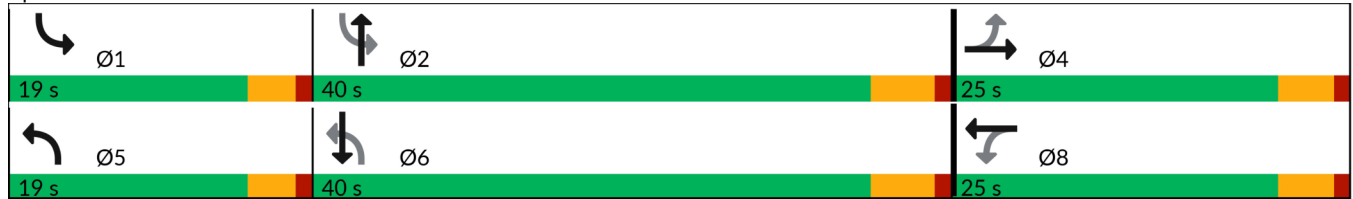
Lanes, Volumes, Timings
 1: 54th Avenue E & 12th Street E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		647			698			1095			456	
Turn Bay Length (ft)	100			200			100			100		
Base Capacity (vph)	309	787		519	777		592	2064		638	2141	
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	0.06	0.22		0.15	0.50		0.06	0.16		0.22	0.23	

Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	49.6
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.62
Intersection Signal Delay (s/veh):	15.5
Intersection LOS:	B
Intersection Capacity Utilization:	58.9%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 1: 54th Avenue E & 12th Street E



Lanes, Volumes, Timings
2: 54th Avenue E & Pacific Highway E (SR-99)

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	439	348	681	680	116	333	240	405	169	403	75
Future Volume (vph)	99	439	348	681	680	116	333	240	405	169	403	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.978			0.906			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1626	3252	1455	3242	3269	0	3127	2920	0	1517	2961	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1626	3252	1455	3242	3269	0	3127	2920	0	1517	2961	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			76		12			282			13	
Link Speed (mph)		35		35			35			35		35
Link Distance (ft)		1085		1070			320			1175		
Travel Time (s)		21.1		20.8			6.2			22.9		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	11%	11%	11%	8%	8%	8%	12%	12%	12%	19%	19%	19%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	105	467	370	724	846	0	354	686	0	180	509	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.0	40.0	47.0	22.0	44.0		47.0	47.0		41.0	41.0	
Total Split (%)	12.0%	26.7%	31.3%	14.7%	29.3%		31.3%	31.3%		27.3%	27.3%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	12.7	35.0	81.5	17.5	39.9		46.5	46.5		32.4	32.4	
Actuated g/C Ratio	0.08	0.23	0.54	0.12	0.27		0.31	0.31		0.22	0.22	
v/c Ratio	0.76	0.61	0.44	1.91	0.96		0.36	0.62		0.55	0.78	
Control Delay (s/veh)	99.6	55.4	10.6	454.6	76.0		44.0	32.7		58.4	62.9	
Queue Delay	0.0	0.0	0.1	3.8	0.0		1.2	2.6		0.0	0.0	
Total Delay (s/veh)	99.6	55.4	10.8	458.5	76.0		45.3	35.4		58.4	62.9	
LOS	F	E	B	F	E		D	D		E	E	
Approach Delay (s/veh)		42.9			252.4			38.8			61.8	
Approach LOS		D			F			D			E	
Queue Length 50th (ft)	102	216	98	~559	430		152	220		156	241	
Queue Length 95th (ft)	#194	278	158	#688	#572		204	279		234	303	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

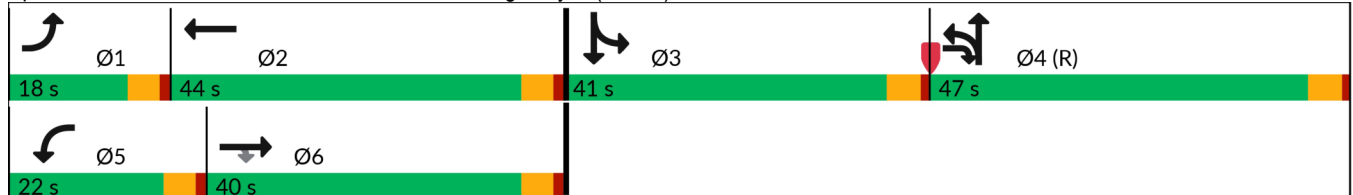
2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	146	765	825	378	878		968	1099		367	726	
Starvation Cap Reductn	0	0	0	0	0		403	289		0	0	
Spillback Cap Reductn	0	0	64	108	0		0	0		0	1	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.72	0.61	0.49	2.68	0.96		0.63	0.85		0.49	0.70	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 138 (92%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.92
 Intersection Signal Delay (s/veh): 122.5 Intersection LOS: F
 Intersection Capacity Utilization 76.1% ICU Level of Service D
 Analysis Period (min) 15
 ~ 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.



















Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	269	0	285	0	707	462	0	670	660
Future Volume (vph)	0	0	0	269	0	285	0	707	462	0	670	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	1		1	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850		0.986	0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1626	0	1455	0	3438	1538	0	1679	1447
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1626	0	1455	0	3438	1538	0	1679	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						249			432		7	625
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1083			1080			827			320	
Travel Time (s)		24.6			24.5			18.8			7.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	11%	11%	11%	5%	5%	5%	6%	6%	6%
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	0	0	283	0	300	0	744	486	0	775	625
Turn Type				Prot		custom		NA	Perm		NA	custom
Protected Phases				3		34		6			2	24
Permitted Phases						4			6			Free
Detector Phase				3		34		6	6		2	24
Switch Phase												
Minimum Initial (s)				5.0				10.0	10.0		10.0	
Minimum Split (s)				9.5				14.7	14.7		14.5	
Total Split (s)				35.0				103.0	103.0		103.0	
Total Split (%)				23.3%				68.7%	68.7%		68.7%	
Yellow Time (s)				3.5				3.7	3.7		3.5	
All-Red Time (s)				1.0				1.0	1.0		1.0	
Lost Time Adjust (s)				0.0				0.0	0.0		0.0	
Total Lost Time (s)				4.5				4.7	4.7		4.5	
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Recall Mode				None				C-Max	C-Max		C-Max	
Act Effct Green (s)				28.7		38.3		102.5	102.5		102.7	150.0
Actuated g/C Ratio				0.19		0.26		0.68	0.68		0.68	1.00
v/c Ratio				0.90		0.53		0.31	0.40		0.67	0.43
Control Delay (s/veh)				91.3		12.9		10.3	2.4		17.4	4.1
Queue Delay				0.0		0.0		0.0	0.0		51.0	0.0
Total Delay (s/veh)				91.3		13.0		10.3	2.4		68.4	4.1
LOS				F		B		B	A		E	A
Approach Delay (s/veh)					51.0			7.2			39.7	
Approach LOS					D			A			D	
Queue Length 50th (ft)				270		38		148	17		523	173
Queue Length 95th (ft)				#429		130		187	57		m456	m103

Lanes, Volumes, Timings
 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2023 EXISTING CONDITIONS

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	12.0
Total Split (%)	8%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

Lanes, Volumes, Timings

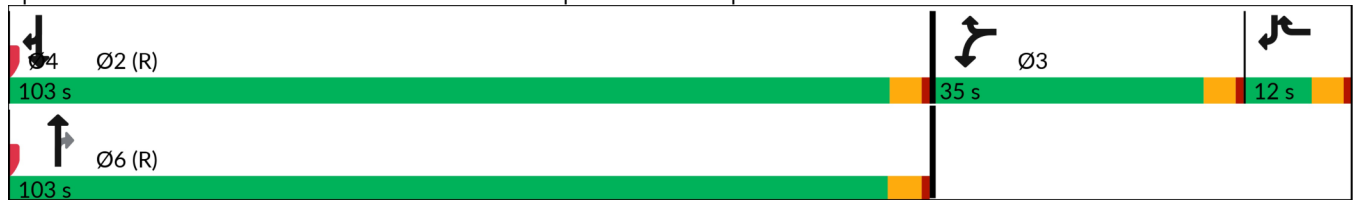
3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1003			1000			747			240	
Turn Bay Length (ft)									100			
Base Capacity (vph)				330		571		2348	1187		1151	1447
Starvation Cap Reductn				0		0		0	0		446	0
Spillback Cap Reductn				0		13		197	0		0	0
Storage Cap Reductn				0		0		0	0		0	0
Reduced v/c Ratio				0.86		0.54		0.35	0.41		1.10	0.43

Intersection Summary	
Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	60 (40%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.91
Intersection Signal Delay (s/veh):	29.3
Intersection LOS:	C
Intersection Capacity Utilization	70.6%
ICU Level of Service	C
Analysis Period (min)	15
#	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.





















Splits and Phases: 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp



Lane Group	Ø4
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	295	290	184	23	172	504	141	399	22	336	615	264
Future Volume (vph)	295	290	184	23	172	504	141	399	22	336	615	264
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.946				0.850		0.992			0.957	
Flt Protected	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (prot)	1395	2769	0	0	1634	1398	1593	3160	0	1408	2831	0
Flt Permitted	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (perm)	1395	2769	0	0	1634	1398	1593	3160	0	1408	2831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59				122		3			42	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)	12%									10%		
Lane Group Flow (vph)	265	520	0	0	199	514	144	429	0	309	931	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	38.0	38.0		26.0	26.0	60.0	26.0	26.0		60.0	60.0	
Total Split (%)	25.3%	25.3%		17.3%	17.3%	40.0%	17.3%	17.3%		40.0%	40.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	31.0	31.0			20.3	83.5	21.9	21.9		58.7	58.7	
Actuated g/C Ratio	0.21	0.21			0.14	0.56	0.15	0.15		0.39	0.39	
v/c Ratio	0.92	0.84			0.90	0.61	0.61	0.92		0.56	0.82	
Control Delay (s/veh)	93.5	63.2			102.6	20.8	72.7	88.7		41.6	47.0	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	93.5	63.2			102.6	20.8	72.7	88.7		41.6	47.0	
LOS	F	E			F	C	E	F		D	D	
Approach Delay (s/veh)		73.4			43.7			84.7			45.7	
Approach LOS		E			D			F			D	
Queue Length 50th (ft)	275	237			193	261	135	220		267	446	
Queue Length 95th (ft)	#446	312			#335	388	214	#328		385	547	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	311	664			234	832	234	467		550	1133	
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	0.85	0.78			0.85	0.62	0.62	0.92		0.56	0.82	





















Intersection Summary	
Area Type:	CBD
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	110
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.92
Intersection Signal Delay (s/veh):	58.6
Intersection LOS:	E
Intersection Capacity Utilization:	82.2%
ICU Level of Service:	E
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings
5: 54th Avenue E & Driveway/23rd Street E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	3	6	0	105	1	382	5	83	597	0
Future Volume (vph)	1	0	3	6	0	105	1	382	5	83	597	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	210		0	100		0
Storage Lanes	0		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.899			0.850			0.998				
Flt Protected		0.988		0.950			0.950			0.950		
Satd. Flow (prot)	0	1350	0	1805	1615	0	1752	1841	0	1752	1845	1845
Flt Permitted		0.880		0.672			0.391			0.423		
Satd. Flow (perm)	0	1203	0	1277	1615	0	721	1841	0	780	1845	1845
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74			594			1				
Link Speed (mph)		25			25			30				30
Link Distance (ft)		362			838			575				783
Travel Time (s)		9.9			22.9			13.1				17.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	25%	25%	25%	0%	0%	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	6	111	0	1	407	0	87	628	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	6.0		4.0	6.0	6.0
Minimum Split (s)	8.0	24.5		8.0	24.0		8.0	14.5		8.0	14.5	14.5
Total Split (s)	14.0	16.5		14.0	16.0		14.0	34.5		16.0	34.5	34.5
Total Split (%)	17.3%	20.4%		17.3%	19.8%		17.3%	42.6%		19.8%	42.6%	42.6%
Yellow Time (s)	3.0	3.5		3.0	3.0		3.0	3.5		3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5		4.0	4.0		4.0	4.5		4.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effect Green (s)		5.6		7.7	7.7		39.6	35.5		43.8	42.8	
Actuated g/C Ratio		0.10		0.13	0.13		0.69	0.62		0.76	0.74	
v/c Ratio		0.02		0.02	0.15		0.00	0.35		0.12	0.45	
Control Delay (s/veh)		0.2		21.1	0.4		4.0	10.1		3.3	7.5	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		0.2		21.1	0.4		4.0	10.1		3.3	7.5	
LOS		A		C	A		A	B		A	A	
Approach Delay (s/veh)		0.3			1.5			10.2			7.0	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		0		2	0		0	72		5	56	
Queue Length 95th (ft)		0		10	0		2	189		25	308	

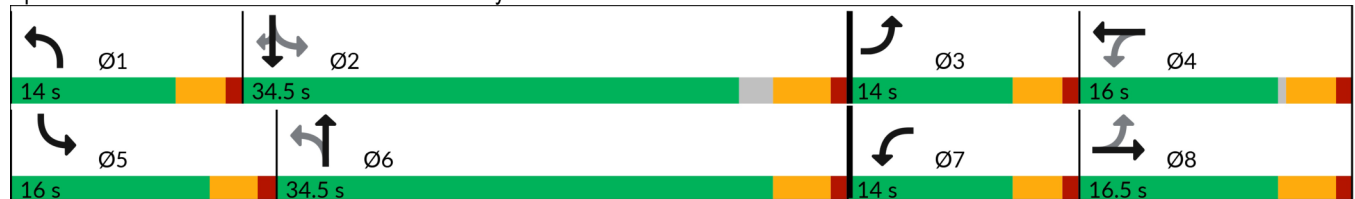
Lanes, Volumes, Timings
 5: 54th Avenue E & Driveway/23rd Street E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		282			758			495			703	
Turn Bay Length (ft)				100			210			100		
Base Capacity (vph)		311		340	829		715	1134		800	1372	
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		0.01		0.02	0.13		0.00	0.36		0.11	0.46	

Intersection Summary	
Area Type:	Other
Cycle Length:	81
Actuated Cycle Length:	57.6
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.46
Intersection Signal Delay (s/veh):	7.5
Intersection LOS:	A
Intersection Capacity Utilization	51.7%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 5: 54th Avenue E & Driveway/23rd Street E



Lanes, Volumes, Timings
6: 54th Avenue E & Valley Avenue E & Driveway

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	594	52	28	377	0	16	0	20	1	0	0
Future Volume (vph)	17	594	52	28	377	0	16	0	20	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988						0.924				
Flt Protected	0.950			0.950				0.979			0.950	
Satd. Flow (prot)	1752	1823	0	1787	1881	0	0	1719	0	0	1805	0
Flt Permitted	0.522			0.353								
Satd. Flow (perm)	963	1823	0	664	1881	0	0	1756	0	0	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14						31				
Link Speed (mph)		30			30			25				25
Link Distance (ft)		575			491			578				252
Travel Time (s)		13.1			11.2			15.8				6.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	703	0	30	410	0	0	39	0	0	1	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4				8
Permitted Phases	6			2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.5	30.5		22.5	22.5		32.0	32.0		32.0	32.0	
Total Split (s)	34.5	34.5		34.5	34.5		19.0	19.0		19.0	19.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)	22.5	22.5		22.5	22.5			7.3				7.2
Actuated g/C Ratio	0.85	0.85		0.85	0.85			0.28				0.27
v/c Ratio	0.02	0.45		0.05	0.25			0.07				0.00
Control Delay (s/veh)	2.5	3.9		2.7	2.7			8.6				15.0
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay (s/veh)	2.5	3.9		2.7	2.7			8.6				15.0
LOS	A	A		A	A			A				B
Approach Delay (s/veh)		3.9			2.7			8.6				15.0
Approach LOS		A			A			A				B
Queue Length 50th (ft)	0	0		0	0			1				0
Queue Length 95th (ft)	5	144		8	67			21				3

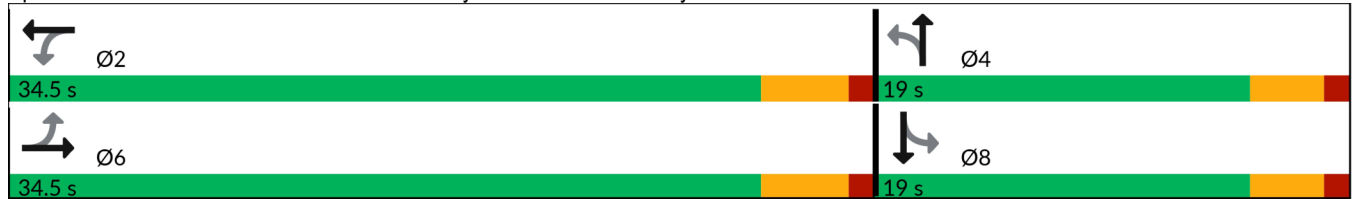
Lanes, Volumes, Timings
 6: 54th Avenue E & Valley Avenue E & Driveway

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		495			411			498			172	
Turn Bay Length (ft)	200			125								
Base Capacity (vph)	855	1619		589	1669			1242			1334	
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	0.02	0.43		0.05	0.25			0.03			0.00	













Intersection Summary	
Area Type:	Other
Cycle Length:	53.5
Actuated Cycle Length:	26.4
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.45
Intersection Signal Delay (s/veh):	3.6
Intersection LOS:	A
Intersection Capacity Utilization	44.8%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 6: 54th Avenue E & Valley Avenue E & Driveway



Lanes, Volumes, Timings
7: Pacific Highway E & 70th Avenue E

2023 EXISTING CONDITIONS

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	59	0	0	0	0	30
Future Volume (vph)	59	0	0	0	0	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	290			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.850	
Flt Protected	0.950					
Satd. Flow (prot)	1641	0	1776	3374	2950	0
Flt Permitted	0.950					
Satd. Flow (perm)	1641	0	1776	3374	2950	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1091	
Link Speed (mph)	30			30	30	
Link Distance (ft)	623			659	553	
Travel Time (s)	14.2			15.0	12.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	7%	7%	4%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	61	0	0	0	31	0
Turn Type	Prot		Prot		NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	5.0		6.0	10.0	10.0	
Minimum Split (s)	22.5		10.5	23.7	33.7	
Total Split (s)	35.0		15.0	60.0	60.0	
Total Split (%)	31.8%		13.6%	54.5%	54.5%	
Yellow Time (s)	3.5		3.5	4.7	4.7	
All-Red Time (s)	1.0		1.0	1.5	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	6.2	6.2	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	Max		None	Max	None	
Act Effct Green (s)	30.5				53.8	
Actuated g/C Ratio	0.32				0.57	
v/c Ratio	0.11				0.01	
Control Delay (s/veh)	23.6				0.0	
Queue Delay	0.0				0.0	
Total Delay (s/veh)	23.6				0.0	
LOS	C				A	
Approach Delay (s/veh)	23.6					
Approach LOS	C					
Queue Length 50th (ft)	26				0	
Queue Length 95th (ft)	55				0	

Lanes, Volumes, Timings
 7: Pacific Highway E & 70th Avenue E

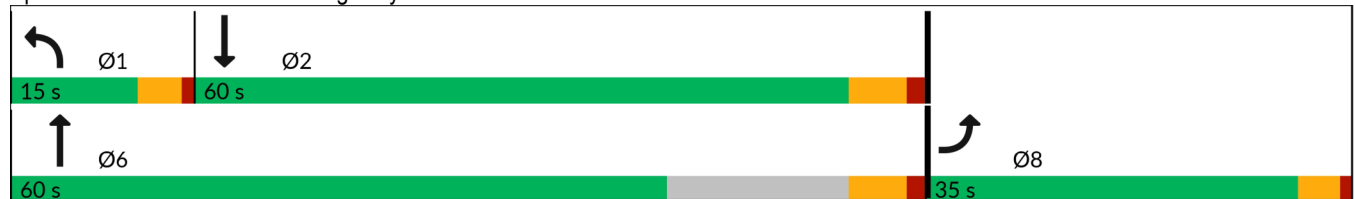
2023 EXISTING CONDITIONS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	543			579	473	
Turn Bay Length (ft)						
Base Capacity (vph)	526				2143	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.12				0.01	

























Intersection Summary	
Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	95
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.12
Intersection Signal Delay (s/veh):	15.7
Intersection LOS:	B
Intersection Capacity Utilization	21.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 7: Pacific Highway E & 70th Avenue E



Lanes, Volumes, Timings
8: 70th Avenue E & 20th Street E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	439	101	119	428	201	136	510	83	163	780	78
Future Volume (vph)	44	439	101	119	428	201	136	510	83	163	780	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	400		400	250		0	225		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.979			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1736	1827	1553	1612	3156	0	3019	3068	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	1845	1568	1736	1827	1553	1612	3156	0	3019	3068	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			207		16			9	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1295			1073			2009			522	
Travel Time (s)		25.2			20.9			39.1			10.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	12%	12%	12%	16%	16%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	45	453	104	123	441	207	140	612	0	168	884	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2						
Detector Phase	1	6	6	5	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	14.5	22.5	14.5	14.5	24.5		14.5	24.5	
Total Split (s)	14.5	44.5	44.5	14.5	44.5	19.5	19.5	44.5		19.5	44.5	
Total Split (%)	11.8%	36.2%	36.2%	11.8%	36.2%	15.9%	15.9%	36.2%		15.9%	36.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	None	None	None		None	None	
Act Effct Green (s)	8.5	40.1	40.1	10.0	43.9	60.6	13.9	39.8		12.2	38.2	
Actuated g/C Ratio	0.07	0.33	0.33	0.08	0.37	0.50	0.12	0.33		0.10	0.32	
v/c Ratio	0.36	0.73	0.17	0.85	0.66	0.23	0.75	0.57		0.54	0.90	
Control Delay (s/veh)	62.4	44.6	8.2	99.1	40.0	3.0	77.1	35.0		58.5	52.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	62.4	44.6	8.2	99.1	40.0	3.0	77.1	35.0		58.5	52.1	
LOS	E	D	A	F	D	A	E	D		E	D	
Approach Delay (s/veh)		39.7			39.5			42.9			53.2	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	35	321	6	98	307	0	109	201		66	345	
Queue Length 95th (ft)	75	450	47	#214	437	40	#203	270		101	#460	

Lanes, Volumes, Timings
 8: 70th Avenue E & 20th Street E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1215			993			1929			442		
Turn Bay Length (ft)	250		200	400		400	250			225		
Base Capacity (vph)	146	615	584	144	667	917	201	1094		377	1028	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.31	0.74	0.18	0.85	0.66	0.23	0.70	0.56		0.45	0.86	

























Intersection Summary	
Area Type:	Other
Cycle Length:	123
Actuated Cycle Length:	120.2
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.90
Intersection Signal Delay (s/veh):	44.9
Intersection LOS:	D
Intersection Capacity Utilization	76.3%
ICU Level of Service	D
Analysis Period (min)	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: 70th Avenue E & 20th Street E

	Ø1		Ø2		Ø3		Ø4
14.5 s		44.5 s		19.5 s		44.5 s	
	Ø5		Ø6		Ø7		Ø8
14.5 s		44.5 s		19.5 s		44.5 s	

Lanes, Volumes, Timings
9: 70th Avenue E & 26th Street E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	45	88	73	23	99	25	565	42	47	885	13
Future Volume (vph)	39	45	88	73	23	99	25	565	42	47	885	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	200		0	225		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.990			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	1597	1357	1656	1743	1482	1597	3163	0	1543	3079	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1517	1597	1357	1656	1743	1482	1597	3163	0	1543	3079	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			94			105		8			1	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1057			880			2032			2009	
Travel Time (s)		20.6			17.1			39.6			39.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	19%	19%	19%	9%	9%	9%	13%	13%	13%	17%	17%	17%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	48	94	78	24	105	27	646	0	50	955	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4	4 5	3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.5	24.5		10.5	24.5		10.5	22.5		10.5	22.5	
Total Split (s)	20.0	24.5		20.0	24.5		20.0	60.0		20.0	60.0	
Total Split (%)	16.1%	19.7%		16.1%	19.7%		16.1%	48.2%		16.1%	48.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	8.3	8.6	20.5	10.2	12.7	26.1	7.4	58.2		8.8	62.0	
Actuated g/C Ratio	0.08	0.08	0.20	0.10	0.13	0.26	0.07	0.57		0.09	0.61	
v/c Ratio	0.33	0.35	0.26	0.46	0.11	0.22	0.23	0.35		0.37	0.50	
Control Delay (s/veh)	52.8	52.8	9.3	53.7	43.0	7.3	51.4	13.9		53.2	14.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	52.8	52.8	9.3	53.7	43.0	7.3	51.4	13.9		53.2	14.9	
LOS	D	D	A	D	D	A	D	B		D	B	
Approach Delay (s/veh)		30.5			28.9			15.4			16.9	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	25	30	0	48	14	0	17	114		31	190	
Queue Length 95th (ft)	63	71	43	101	42	41	48	196		73	311	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	977			800			1952			1929		
Turn Bay Length (ft)	150		150	150		150	200			225		
Base Capacity (vph)	232	316	451	254	345	550	245	1816		236	1880	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.18	0.15	0.21	0.31	0.07	0.19	0.11	0.36		0.21	0.51	

























Intersection Summary	
Area Type:	Other
Cycle Length:	124.5
Actuated Cycle Length:	101.5
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.51
Intersection Signal Delay (s/veh):	18.8
Intersection LOS:	B
Intersection Capacity Utilization:	51.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 9: 70th Avenue E & 26th Street E

Ø1 20 s	Ø2 60 s	Ø3 20 s	Ø4 24.5 s
Ø5 20 s	Ø6 60 s	Ø7 20 s	Ø8 24.5 s

Lanes, Volumes, Timings
10: 70th Avenue E & Valley Avenue E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	467	145	68	248	296	122	257	39	504	464	79
Future Volume (vph)	23	467	145	68	248	296	122	257	39	504	464	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	200		0	200		130	350		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1810	1538	1626	1712	1455	1687	3374	1509	3072	3097	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	1810	1538	1626	1712	1455	1687	3374	1509	3072	3097	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			130			308			164		14	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		831			1056			750			2032	
Travel Time (s)		18.9			24.0			14.6			39.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	11%	11%	11%	7%	7%	7%	14%	14%	14%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	486	151	71	258	308	127	268	41	525	565	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0	8.0	6.0	8.0	8.0	6.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	31.0	31.0	10.5	31.0	31.0	10.5	31.0	31.0	13.0	31.0	
Total Split (s)	30.0	40.0	40.0	20.0	40.0	40.0	20.0	30.0	30.0	40.0	40.0	
Total Split (%)	21.4%	28.6%	28.6%	14.3%	28.6%	28.6%	14.3%	21.4%	21.4%	28.6%	28.6%	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	9.0	63.7	63.7	11.9	68.8	68.8	14.2	17.5	17.5	29.7	33.5	
Actuated g/C Ratio	0.06	0.46	0.46	0.09	0.49	0.49	0.10	0.13	0.13	0.21	0.24	
v/c Ratio	0.21	0.59	0.19	0.51	0.30	0.35	0.74	0.63	0.12	0.80	0.75	
Control Delay (s/veh)	66.1	35.7	7.6	73.4	26.1	4.2	86.1	64.9	0.7	62.1	54.3	
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)	66.1	35.7	7.6	73.4	26.1	4.2	86.1	64.9	0.7	62.1	54.3	
LOS	E	D	A	E	C	A	F	E	A	E	D	
Approach Delay (s/veh)		30.4			20.8			65.1			58.1	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	21	335	11	63	148	0	113	124	0	236	250	
Queue Length 95th (ft)	52	#552	64	112	256	63	#200	166	0	288	288	

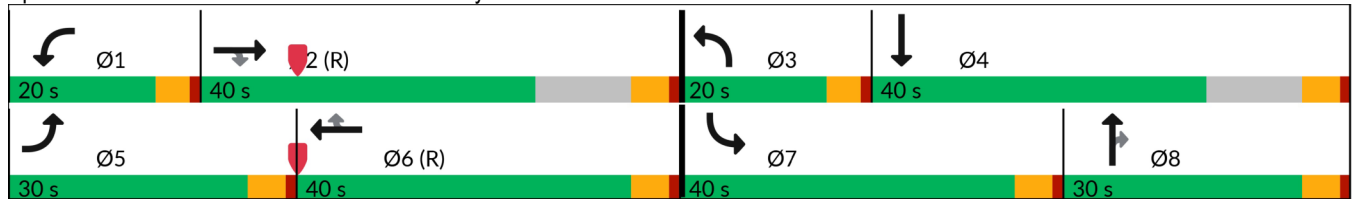
Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		751			976			670			1952	
Turn Bay Length (ft)	150		250	200			200		130	350		
Base Capacity (vph)	306	823	770	182	840	871	186	602	404	768	1004	
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.59	0.20	0.39	0.31	0.35	0.68	0.45	0.10	0.68	0.56	





















Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	30 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.81
Intersection Signal Delay (s/veh):	44.3
Intersection LOS:	D
Intersection Capacity Utilization:	67.5%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 10: 70th Avenue E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	883	99	19	453	110	14	32	28	218	142	20
Future Volume (vph)	25	883	99	19	453	110	14	32	28	218	142	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.971			0.931				0.982
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3262	0	1612	3130	0	1671	1638	0	1736	1794	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1656	3262	0	1612	3130	0	1671	1638	0	1736	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			27			31				5
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	9%	9%	9%	12%	12%	12%	8%	8%	8%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	1103	0	21	633	0	16	67	0	245	182	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.7	41.6		7.4	41.4		8.3	8.3		17.5	17.5	
Actuated g/C Ratio	0.09	0.50		0.09	0.49		0.10	0.10		0.21	0.21	
v/c Ratio	0.18	0.68		0.14	0.40		0.09	0.35		0.67	0.48	
Control Delay (s/veh)	43.8	22.7		44.0	17.4		41.2	30.5		42.5	34.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	43.8	22.7		44.0	17.4		41.2	30.5		42.5	34.8	
LOS	D	C		D	B		D	C		D	C	
Approach Delay (s/veh)		23.3			18.3			32.6			39.3	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	13	205		10	94		7	17		112	77	
Queue Length 95th (ft)	45	#442		37	214		30	63		227	166	

Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	307	1622		299	1565		414	429		516	537	
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	0.09	0.68		0.07	0.40		0.04	0.16		0.47	0.34	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	83.9
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay (s/veh):	25.2
Intersection LOS:	C
Intersection Capacity Utilization:	54.6%
ICU Level of Service:	A
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 11: Freeman Road E & Valley Avenue E



HCM 6th TWSC
 12: Freeman Road E & 48th Street E

2023 EXISTING CONDITIONS

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	4	19	5	60	222	10
Future Vol, veh/h	4	19	5	60	222	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	8	4	4
Mvmt Flow	5	22	6	71	261	12

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	350	267	273	0	0
Stage 1	267	-	-	-	-
Stage 2	83	-	-	-	-
Critical Hdwy	6.4	6.2	4.18	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.272	-	-
Pot Cap-1 Maneuver	651	777	1256	-	-
Stage 1	782	-	-	-	-
Stage 2	945	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	648	777	1256	-	-
Mov Cap-2 Maneuver	648	-	-	-	-
Stage 1	778	-	-	-	-
Stage 2	945	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1256	-	751	-	-
HCM Lane V/C Ratio	0.005	-	0.036	-	-
HCM Control Delay (s/veh)	7.9	0	10	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC
 13: Freeman Road E & 50th Street E

2023 EXISTING CONDITIONS

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			Y	Y	
Traffic Vol, veh/h	10	8	5	56	224	12
Future Vol, veh/h	10	8	5	56	224	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	6	6	7	7	4	4
Mvmt Flow	12	9	6	66	264	14

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	349	271	278	0	-	0
Stage 1	271	-	-	-	-	-
Stage 2	78	-	-	-	-	-
Critical Hdwy	6.46	6.26	4.17	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	2.263	-	-	-
Pot Cap-1 Maneuver	640	758	1257	-	-	-
Stage 1	765	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	637	758	1257	-	-	-
Mov Cap-2 Maneuver	637	-	-	-	-	-
Stage 1	761	-	-	-	-	-
Stage 2	935	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.4	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1257	-	686	-	-
HCM Lane V/C Ratio	0.005	-	0.031	-	-
HCM Control Delay (s/veh)	7.9	0	10.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	2	19	0	5	1	56	5	2	228	1
Future Vol, veh/h	0	0	2	19	0	5	1	56	5	2	228	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	17	17	17	10	10	10	4	4	4
Mvmt Flow	0	0	2	23	0	6	1	67	6	2	275	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	355	355	276	353	352	70	276	0	0	73	0	0
Stage 1	280	280	-	72	72	-	-	-	-	-	-	-
Stage 2	75	75	-	281	280	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.27	6.67	6.37	4.2	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.653	4.153	3.453	2.29	-	-	2.236	-	-
Pot Cap-1 Maneuver	604	574	768	575	549	952	1242	-	-	1514	-	-
Stage 1	731	683	-	901	806	-	-	-	-	-	-	-
Stage 2	939	836	-	694	653	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	599	572	768	572	547	952	1242	-	-	1514	-	-
Mov Cap-2 Maneuver	599	572	-	572	547	-	-	-	-	-	-	-
Stage 1	730	682	-	900	805	-	-	-	-	-	-	-
Stage 2	932	835	-	690	652	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.7	11	0.1	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1242	-	-	768	624	1514	-	-
HCM Lane V/C Ratio	0.001	-	-	0.003	0.046	0.002	-	-
HCM Control Delay (s/veh)	7.9	0	-	9.7	11	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.1	0	-	-

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2023 EXISTING CONDITIONS

Intersection						
Int Delay, s/veh	8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	34	450	133	43	227	29
Future Vol, veh/h	34	450	133	43	227	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	35	469	139	45	236	30


















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	184	0	-	0	701
Stage 1	-	-	-	-	162
Stage 2	-	-	-	-	539
Critical Hdwy	4.13	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.227	-	-	-	3.518
Pot Cap-1 Maneuver	1385	-	-	-	405
Stage 1	-	-	-	-	867
Stage 2	-	-	-	-	585
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1385	-	-	-	391
Mov Cap-2 Maneuver	-	-	-	-	391
Stage 1	-	-	-	-	838
Stage 2	-	-	-	-	585

Approach	EB	WB	SB
HCM Control Delay, s/v	0.5	0	27.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1385	-	-	-	417
HCM Lane V/C Ratio	0.026	-	-	-	0.639
HCM Control Delay (s/veh)	7.7	0	-	-	27.7
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q (veh)	0.1	-	-	-	4.3

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2023 EXISTING CONDITIONS

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 		 	 
Traffic Volume (vph)	897	574	485	1282	1026	811
Future Volume (vph)	897	574	485	1282	1026	811
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	2		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.88	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3303	2682	3505	1568	3335	3438
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	2682	3505	1568	3335	3438
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		356		433		
Link Speed (mph)	35		35			35
Link Distance (ft)	522		278			1175
Travel Time (s)	10.2		5.4			22.9
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	3%	3%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	915	586	495	1308	1047	828
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	10.0	6.0	10.0
Minimum Split (s)	36.6	10.6	38.9	38.9	10.6	36.9
Total Split (s)	36.6	54.6	64.9	64.9	54.6	64.9
Total Split (%)	23.4%	35.0%	41.6%	41.6%	35.0%	41.6%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9	4.9	4.6	4.9
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	32.0	86.6	60.0	60.0	50.0	114.6
Actuated g/C Ratio	0.20	0.55	0.38	0.38	0.32	0.73
v/c Ratio	1.35	0.35	0.36	1.50	0.98	0.32
Control Delay (s/veh)	213.3	7.5	35.4	257.3	75.2	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	213.3	7.5	35.4	257.3	75.2	7.6
LOS	F	A	D	F	E	A
Approach Delay (s/veh)	133.0		196.4			45.4
Approach LOS	F		F			D
Queue Length 50th (ft)	~627	63	190	~1569	546	141
Queue Length 95th (ft)	#762	105	240	#1841	#695	170

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

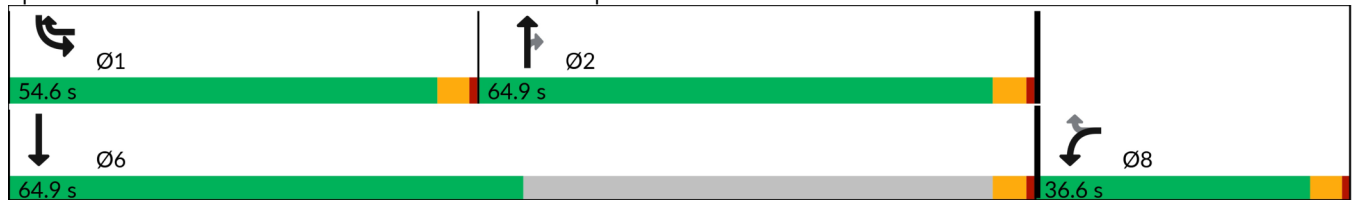
2023 EXISTING CONDITIONS



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	442		198			1095
Turn Bay Length (ft)					250	
Base Capacity (vph)	677	1646	1347	869	1068	2523
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	1.35	0.36	0.37	1.51	0.98	0.33

Intersection Summary	
Area Type:	Other
Cycle Length:	156.1
Actuated Cycle Length:	156.1
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.51
Intersection Signal Delay (s/veh):	123.4
Intersection LOS:	F
Intersection Capacity Utilization	116.6%
ICU Level of Service	H
Analysis Period (min)	15
~ 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.	

Splits and Phases: 16: N Meridian Avenue & SR-167 Ramps



HCM 6th TWSC
 17: N Meridian Avenue & N Levee Road

2023 EXISTING CONDITIONS

Intersection												
Int Delay, s/veh	43.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↔			↕↔	
Traffic Vol, veh/h	0	0	379	0	0	508	0	1295	56	0	1471	89
Future Vol, veh/h	0	0	379	0	0	508	0	1295	56	0	1471	89
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	395	0	0	529	0	1349	58	0	1532	93

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	813	-	-	675	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.96	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.33	-	-
Pot Cap-1 Maneuver	0	0	~ 322	0	0	~ 394	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %								
Mov Cap-1 Maneuver	-	-	~ 322	-	-	~ 394	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v160.6		198.5	0	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	322	394	-	-
HCM Lane V/C Ratio	-	1.226	1.343	-	-
HCM Control Delay (s/veh)	-	160.6	198.5	-	-
HCM Lane LOS	-	F	F	-	-
HCM 95th %tile Q (veh)	-	17.5	24.9	-	-

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

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	997	0	390	19	589	313	0	0	0	0	793	947
Future Volume (vph)	997	0	390	19	589	313	0	0	0	0	793	947
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				72		326						673
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1039	0	406	20	614	326	0	0	0	0	826	986
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2						4	
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2					4	4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	42.0		42.0	29.0	29.0	29.0					34.0	34.0
Total Split (%)	40.0%		40.0%	27.6%	27.6%	27.6%					32.4%	32.4%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	34.5		34.5	30.0	30.0	30.0					29.2	29.2
Actuated g/C Ratio	0.32		0.32	0.28	0.28	0.28					0.27	0.27
v/c Ratio	0.97		0.82	0.03	0.62	0.48					0.87	1.07
Control Delay (s/veh)	58.5		49.5	0.1	38.3	6.2					50.3	67.3
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	58.5		49.5	0.1	38.3	6.2					50.3	67.3
LOS	E		D	A	D	A					D	E
Approach Delay (s/veh)		56.0			26.6						59.6	
Approach LOS		E			C						E	
Queue Length 50th (ft)	367		260	0	204	0					300	~411
Queue Length 95th (ft)	#496		#414	0	266	68					#411	#663

Lanes, Volumes, Timings

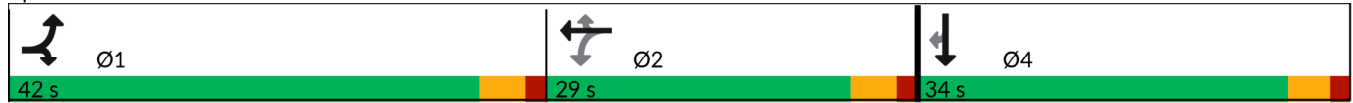
18: N Meridian Avenue & River Road/2nd Street NE

2023 EXISTING CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053				1671
Turn Bay Length (ft)				125								250
Base Capacity (vph)	1143		526	540	976	672					941	913
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	0.91		0.77	0.04	0.63	0.49					0.88	1.08

Intersection Summary	
Area Type:	Other
Cycle Length:	105
Actuated Cycle Length:	108.8
Natural Cycle:	140
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.08
Intersection Signal Delay (s/veh):	50.9
Intersection LOS:	D
Intersection Capacity Utilization:	83.2%
ICU Level of Service:	E
Analysis Period (min):	15
~ 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.	



















Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	194	59	133	274	0	0	0	0	130	992	44
Future Volume (vph)	0	194	59	133	274	0	0	0	0	130	992	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	125		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt			0.850								0.994	
Flt Protected				0.950							0.994	
Satd. Flow (prot)	0	1792	1524	1770	1863	0	0	0	0	0	3531	0
Flt Permitted				0.272							0.994	
Satd. Flow (perm)	0	1792	1524	507	1863	0	0	0	0	0	3531	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51								6	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		393			385			1349			2133	
Travel Time (s)		10.7			10.5			36.8			58.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	0%	0%	0%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	204	62	140	288	0	0	0	0	0	1227	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		8		7	4						2	
Permitted Phases			8	4						2		
Detector Phase		8	8	7	4					2	2	
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					10.0	10.0	
Minimum Split (s)		21.0	21.0	9.0	21.0					23.0	23.0	
Total Split (s)		31.0	31.0	11.0	41.0					66.0	66.0	
Total Split (%)		28.7%	28.7%	10.2%	38.0%					61.1%	61.1%	
Yellow Time (s)		3.0	3.0	3.0	3.0					3.0	3.0	
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0						0.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0						4.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		None	None	None	None					Max	Max	
Act Effct Green (s)		14.2	14.2	24.9	24.9						62.1	
Actuated g/C Ratio		0.15	0.15	0.26	0.26						0.65	
v/c Ratio		0.76	0.22	0.63	0.59						0.53	
Control Delay (s/veh)		57.5	15.0	41.3	35.7						10.3	
Queue Delay		0.0	0.0	0.0	0.1						0.0	
Total Delay (s/veh)		57.5	15.0	41.3	35.8						10.3	
LOS		E	B	D	D						B	
Approach Delay (s/veh)		47.6			37.6						10.4	
Approach LOS		D			D						B	
Queue Length 50th (ft)		120	6	68	152						185	
Queue Length 95th (ft)		195	41	118	233						290	

Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue

2023 EXISTING CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		313			305			1269			2053	
Turn Bay Length (ft)			50	125								
Base Capacity (vph)		509	470	226	745						2309	
Starvation Cap Reductn		0	0	0	63						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.40	0.13	0.62	0.42						0.53	

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	95.1
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay (s/veh):	21.6
Intersection LOS:	C
Intersection Capacity Utilization:	60.2%
ICU Level of Service:	B
Analysis Period (min):	15



















Splits and Phases: 19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue



Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2023 EXISTING CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	261	0	0	317	243	209	638	2	0	0	0
Future Volume (vph)	44	261	0	0	317	243	209	638	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	0		125	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850						
Flt Protected	0.950							0.988				
Satd. Flow (prot)	1752	1845	0	0	1845	1568	0	3531	0	0	0	0
Flt Permitted	0.183							0.988				
Satd. Flow (perm)	338	1845	0	0	1845	1568	0	3531	0	0	0	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		385			615			394				343
Travel Time (s)		10.5			16.8			10.7				9.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	275	0	0	334	256	0	894	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	3	8			4			2				
Permitted Phases	8					4	2					
Detector Phase	3	8			4	4	2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	10.0	10.0				
Minimum Split (s)	9.5	28.0			28.0	28.0	26.0	26.0				
Total Split (s)	10.0	45.0			29.0	29.0	53.0	53.0				
Total Split (%)	10.2%	45.9%			29.6%	29.6%	54.1%	54.1%				
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0				
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	None			None	None	Max	Max				
Act Effct Green (s)	23.1	23.1			17.8	17.8		49.8				
Actuated g/C Ratio	0.29	0.29			0.22	0.22		0.61				
v/c Ratio	0.24	0.52			0.82	0.74		0.41				
Control Delay (s/veh)	22.3	26.9			47.8	43.7		10.5				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay (s/veh)	22.3	26.9			47.8	43.7		10.5				
LOS	C	C			D	D		B				
Approach Delay (s/veh)		26.3			46.1			10.5				
Approach LOS		C			D			B				
Queue Length 50th (ft)	17	114			170	128		129				
Queue Length 95th (ft)	39	181			268	212		211				

Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2023 EXISTING CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		305			535			314			263	
Turn Bay Length (ft)	50					125						
Base Capacity (vph)	202	949			717	610		2171				
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	0.23	0.29			0.47	0.42		0.41				

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	81
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.82
Intersection Signal Delay (s/veh):	24.9
Intersection LOS:	C
Intersection Capacity Utilization:	60.2%
ICU Level of Service:	B
Analysis Period (min):	15























Splits and Phases: 20: 2nd Street NE & E Stewart Avenue/E Main Avenue



APPENDIX C
BASELINE LEVEL OF SERVICE

Lanes, Volumes, Timings
1: 54th Avenue E & 12th Street E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	126	39	69	70	116	24	437	60	71	347	17
Future Volume (vph)	34	126	39	69	70	116	24	437	60	71	347	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.965			0.907			0.982				0.993
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1714	0	1671	1596	0	1347	2646	0	1433	2845	0
Flt Permitted	0.604			0.640			0.510			0.424		
Satd. Flow (perm)	1073	1714	0	1126	1596	0	723	2646	0	639	2845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			94			22			7	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		727			778			1175			536	
Travel Time (s)		19.8			15.2			22.9			10.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	7%	7%	8%	8%	8%	34%	34%	34%	26%	26%	26%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	187	0	78	212	0	27	565	0	81	413	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		10.0	19.0		10.0	17.0	
Total Split (s)	25.0	25.0		25.0	25.0		19.0	40.0		19.0	40.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		22.6%	47.6%		22.6%	47.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effct Green (s)	11.5	11.5		11.5	11.5		24.2	17.8		22.7	22.1	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.53	0.39		0.50	0.48	
v/c Ratio	0.14	0.42		0.27	0.45		0.05	0.53		0.18	0.29	
Control Delay (s/veh)	18.6	19.0		20.1	13.9		5.0	14.0		6.0	8.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	18.6	19.0		20.1	13.9		5.0	14.0		6.0	8.3	
LOS	B	B		C	B		A	B		A	A	
Approach Delay (s/veh)		19.0			15.6			13.6			8.0	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	9	40		18	27		3	62		8	24	
Queue Length 95th (ft)	33	106		57	89		12	124		26	83	

Lanes, Volumes, Timings
 1: 54th Avenue E & 12th Street E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		647			698			1095				456
Turn Bay Length (ft)	100			200			100			100		
Base Capacity (vph)	535	862		561	842		635	2073		649	2225	
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	0.07	0.22		0.14	0.25		0.04	0.27		0.12	0.19	























Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	45.6
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay (s/veh):	13.0
Intersection LOS:	B
Intersection Capacity Utilization:	49.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 1: 54th Avenue E & 12th Street E



Lanes, Volumes, Timings
 2: 54th Avenue E & Pacific Highway E (SR-99)

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	359	255	428	364	122	315	374	362	112	307	57
Future Volume (vph)	82	359	255	428	364	122	315	374	362	112	307	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.962			0.926				0.977
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3167	1417	2993	2968	0	2918	2786	0	1357	2652	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3167	1417	2993	2968	0	2918	2786	0	1357	2652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			151		32			166				14
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1085			1070			320				1175
Travel Time (s)		21.1			20.8			6.2				22.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	14%	14%	17%	17%	17%	20%	20%	20%	33%	33%	33%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	374	266	446	506	0	328	767	0	117	379	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.0	40.0	40.0	20.0	42.0		40.0	40.0		40.0	40.0	
Total Split (%)	12.9%	28.6%	28.6%	14.3%	30.0%		28.6%	28.6%		28.6%	28.6%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	11.6	34.0	79.1	15.5	37.9		45.1	45.1		26.8	26.8	
Actuated g/C Ratio	0.08	0.24	0.57	0.11	0.27		0.32	0.32		0.19	0.19	
v/c Ratio	0.64	0.48	0.30	1.34	0.61		0.34	0.75		0.45	0.73	
Control Delay (s/veh)	84.5	48.0	4.8	220.8	45.8		41.4	42.1		54.5	59.2	
Queue Delay	0.0	0.0	0.0	1.5	0.0		0.9	27.2		0.0	0.0	
Total Delay (s/veh)	84.5	48.0	4.8	222.4	45.8		42.4	69.3		54.5	59.2	
LOS	F	D	A	F	D		D	E		D	E	
Approach Delay (s/veh)		36.5			128.6			61.3			58.2	
Approach LOS		D			F			E			E	
Queue Length 50th (ft)	76	154	26	~273	202		125	280		96	166	
Queue Length 95th (ft)	135	207	66	#384	268		187	#403		149	210	

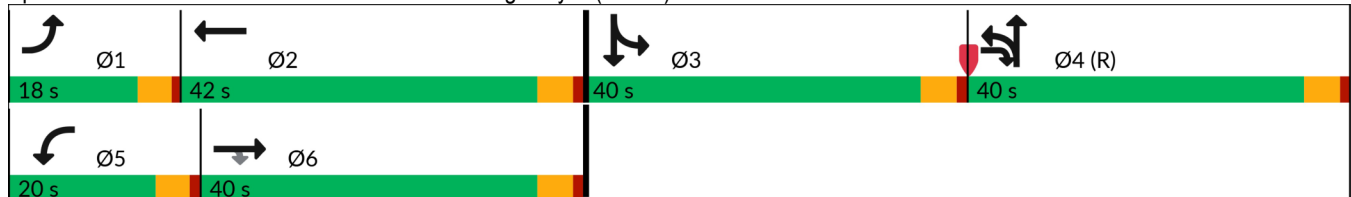
Lanes, Volumes, Timings
 2: 54th Avenue E & Pacific Highway E (SR-99)

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	152	798	866	331	839		940	1010		342	679	
Starvation Cap Reductn	0	0	0	0	0		372	271		0	0	
Spillback Cap Reductn	0	0	84	42	0		0	0		0	1	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.56	0.47	0.34	1.54	0.60		0.58	1.04		0.34	0.56	

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	14 (10%), Referenced to phase 4:NBT, Start of Green
Natural Cycle:	135
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.35
Intersection Signal Delay (s/veh):	74.9
Intersection LOS:	E
Intersection Capacity Utilization:	65.8%
ICU Level of Service:	C
Analysis Period (min)	15
~ 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.	



















Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	245	0	327	0	716	356	0	460	463
Future Volume (vph)	0	0	0	245	0	327	0	716	356	0	460	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		50	0		0
Storage Lanes	0		0	1		1	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850		0.986	0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1433	0	1282	0	3282	1468	0	1508	1300
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1433	0	1282	0	3282	1468	0	1508	1300
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						229			197		7	438
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1083			1080			827			320	
Travel Time (s)		21.1			21.0			16.1			6.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	26%	26%	26%	10%	10%	10%	18%	18%	18%
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	0	0	258	0	344	0	754	375	0	533	438
Turn Type				Prot		custom		NA	Perm		NA	custom
Protected Phases				3		3		6			2	2
Permitted Phases									6			Free
Detector Phase				3		3		6	6		2	2
Switch Phase												
Minimum Initial (s)				5.0				10.0	10.0		10.0	
Minimum Split (s)				9.5				14.7	14.7		14.5	
Total Split (s)				35.0				93.0	93.0		93.0	
Total Split (%)				25.0%				66.4%	66.4%		66.4%	
Yellow Time (s)				3.5				3.7	3.7		3.5	
All-Red Time (s)				1.0				1.0	1.0		1.0	
Lost Time Adjust (s)				0.0				0.0	0.0		0.0	
Total Lost Time (s)				4.5				4.7	4.7		4.5	
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Recall Mode				None				C-Max	C-Max		C-Max	
Act Effct Green (s)				28.1		39.2		91.6	91.6		91.8	140.0
Actuated g/C Ratio				0.20		0.28		0.65	0.65		0.66	1.00
v/c Ratio				0.89		0.65		0.35	0.36		0.53	0.33
Control Delay (s/veh)				86.5		20.2		11.8	6.2		13.3	2.0
Queue Delay				0.0		1.0		0.2	0.0		5.0	0.0
Total Delay (s/veh)				86.5		21.2		12.0	6.2		18.3	2.0
LOS				F		C		B	A		B	A
Approach Delay (s/veh)					49.2			10.1			11.0	
Approach LOS					D			B			B	
Queue Length 50th (ft)				226		87		161	64		310	54
Queue Length 95th (ft)				#372		201		202	123		m327	m61

Lanes, Volumes, Timings
 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 BASELINE CONDITIONS

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	12.0
Total Split (%)	9%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1003			1000			747			240	
Turn Bay Length (ft)									50			
Base Capacity (vph)				312		528		2146	1028		990	1300
Starvation Cap Reductn				0		0		0	0		381	0
Spillback Cap Reductn				0		52		666	0		0	0
Storage Cap Reductn				0		0		0	0		0	0
Reduced v/c Ratio				0.83		0.72		0.51	0.36		0.88	0.34

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 75 (54%), Referenced to phase 2:SBT and 6:NBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay (s/veh): 19.2 Intersection LOS: B

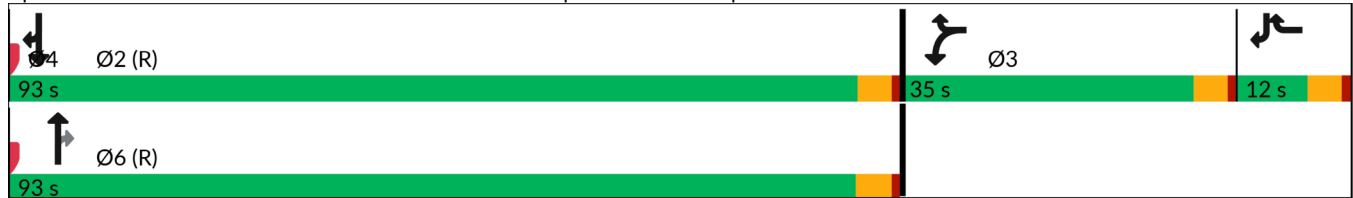
Intersection Capacity Utilization 54.3% ICU Level of Service A

Analysis Period (min) 15

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.






















Splits and Phases: 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp



Lane Group	Ø4
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	215	76	35	105	371	135	379	37	426	317	283
Future Volume (vph)	292	215	76	35	105	371	135	379	37	426	317	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.971				0.850		0.987			0.937	
Flt Protected	0.950	0.987			0.988		0.950			0.950	0.994	
Satd. Flow (prot)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2735	0
Flt Permitted	0.950	0.987			0.988		0.950			0.950	0.994	
Satd. Flow (perm)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2735	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				98		6			125	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	8%	8%	8%	6%	6%	6%
Shared Lane Traffic (%)	34%									18%		
Lane Group Flow (vph)	214	433	0	0	156	412	150	462	0	388	751	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	34.0	34.0		24.0	24.0	53.0	29.0	29.0		53.0	53.0	
Total Split (%)	24.3%	24.3%		17.1%	17.1%	37.9%	20.7%	20.7%		37.9%	37.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	26.1	26.1			17.4	76.8	23.7	23.7		54.9	54.9	
Actuated g/C Ratio	0.19	0.19			0.12	0.55	0.17	0.17		0.39	0.39	
v/c Ratio	0.86	0.84			0.83	0.54	0.59	0.91		0.70	0.65	
Control Delay (s/veh)	86.8	68.4			93.2	19.1	63.8	79.5		46.4	33.1	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	86.8	68.4			93.2	19.1	63.8	79.5		46.4	33.1	
LOS	F	E			F	B	E	E		D	C	
Approach Delay (s/veh)		74.5			39.5			75.7			37.7	
Approach LOS		E			D			E			D	
Queue Length 50th (ft)	205	198			139	188	126	215		347	274	
Queue Length 95th (ft)	#338	264			#244	297	203	#311		#530	360	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	278	575			210	755	263	525		547	1148	
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	0.77	0.75			0.74	0.55	0.57	0.88		0.71	0.65	

Intersection Summary

Area Type:	CBD
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.91
Intersection Signal Delay (s/veh):	53.9
Intersection LOS:	D
Intersection Capacity Utilization:	71.1%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	





















Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	46	0	98	0	439	55	89	422	1
Future Volume (vph)	0	0	0	46	0	98	0	439	55	89	422	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	210		0	100		0
Storage Lanes	0		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.850			0.983				0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	1900	0	1736	1553	0	1759	1729	0	1752	1845	1568
Flt Permitted				0.714						0.287		
Satd. Flow (perm)	0	1900	0	1304	1553	0	1759	1729	0	529	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					541			9				128
Link Speed (mph)		25			25			30				30
Link Distance (ft)		362			838			563				783
Travel Time (s)		9.9			22.9			12.8				17.8
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	8%	8%	8%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	54	115	0	0	581	0	105	496	1
Turn Type				pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	6.0		4.0	6.0	6.0
Minimum Split (s)	8.0	24.5		8.0	24.0		8.0	14.5		8.0	14.5	14.5
Total Split (s)	14.0	16.5		14.0	16.0		14.0	34.5		16.0	34.5	34.5
Total Split (%)	17.3%	20.4%		17.3%	19.8%		17.3%	42.6%		19.8%	42.6%	42.6%
Yellow Time (s)	3.0	3.5		3.0	3.0		3.0	3.5		3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5		4.0	4.0		4.0	4.5		4.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effect Green (s)				7.2	7.2			34.6		43.6	44.1	44.1
Actuated g/C Ratio				0.13	0.13			0.61		0.77	0.78	0.78
v/c Ratio				0.24	0.17			0.54		0.18	0.34	0.00
Control Delay (s/veh)				25.8	0.5			12.3		3.1	3.6	0.0
Queue Delay				0.0	0.0			0.0		0.0	0.0	0.0
Total Delay (s/veh)				25.8	0.5			12.3		3.1	3.6	0.0
LOS				C	A			B		A	A	A
Approach Delay (s/veh)					8.7			12.3			3.6	
Approach LOS					A			B			A	
Queue Length 50th (ft)				17	0			127		7	45	0
Queue Length 95th (ft)				43	0			234		18	85	0

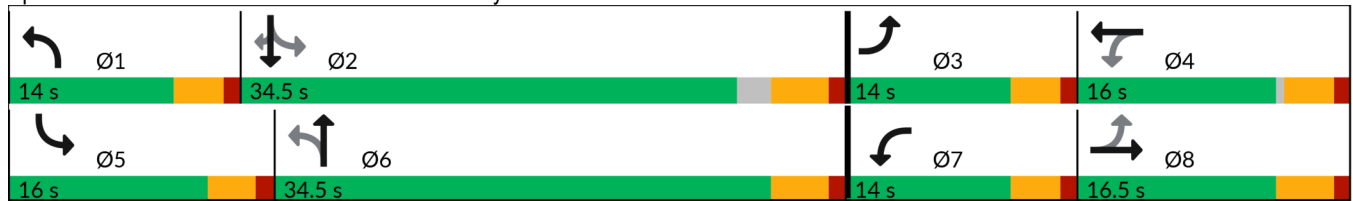
Lanes, Volumes, Timings
 5: 54th Avenue E & Driveway/23rd Street E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	282			758			483			703		
Turn Bay Length (ft)				100						100		
Base Capacity (vph)				308			765			1061		
Starvation Cap Reductn				0			0			0		
Spillback Cap Reductn				0			0			0		
Storage Cap Reductn				0			0			0		
Reduced v/c Ratio				0.18			0.15			0.55		




















Intersection Summary	
Area Type:	Other
Cycle Length:	81
Actuated Cycle Length:	56.6
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay (s/veh):	8.0
Intersection LOS:	A
Intersection Capacity Utilization:	47.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: 54th Avenue E & Driveway/23rd Street E



Lanes, Volumes, Timings
6: 54th Avenue E & Valley Avenue E & Driveway

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	217	130	112	353	5	147	1	87	1	1	0
Future Volume (vph)	3	217	130	112	353	5	147	1	87	1	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.944			0.998			0.950				
Flt Protected	0.950			0.950				0.970				0.976
Satd. Flow (prot)	1656	1646	0	1641	1724	0	0	1700	0	0	1854	0
Flt Permitted	0.392			0.406				0.809			0.883	
Satd. Flow (perm)	683	1646	0	701	1724	0	0	1418	0	0	1678	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		92			2			55				
Link Speed (mph)		30			30			25				25
Link Distance (ft)		563			491			578				252
Travel Time (s)		12.8			11.2			15.8				6.9
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	9%	9%	9%	10%	10%	10%	3%	3%	3%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	482	0	156	497	0	0	326	0	0	2	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4				8
Permitted Phases	6			2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.5	30.5		22.5	22.5		32.0	32.0		32.0	32.0	
Total Split (s)	34.5	34.5		34.5	34.5		19.0	19.0		19.0	19.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)	18.8	18.8		18.8	18.8			12.5			12.5	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.31			0.31	
v/c Ratio	0.01	0.59		0.47	0.61			0.68			0.00	
Control Delay (s/veh)	5.6	9.5		13.0	11.7			21.7			13.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay (s/veh)	5.6	9.5		13.0	11.7			21.7			13.0	
LOS	A	A		B	B			C			B	
Approach Delay (s/veh)		9.6			12.1			21.7			13.0	
Approach LOS		A			B			C			B	
Queue Length 50th (ft)	0	58		23	79			50			0	
Queue Length 95th (ft)	3	81		43	105			110			3	

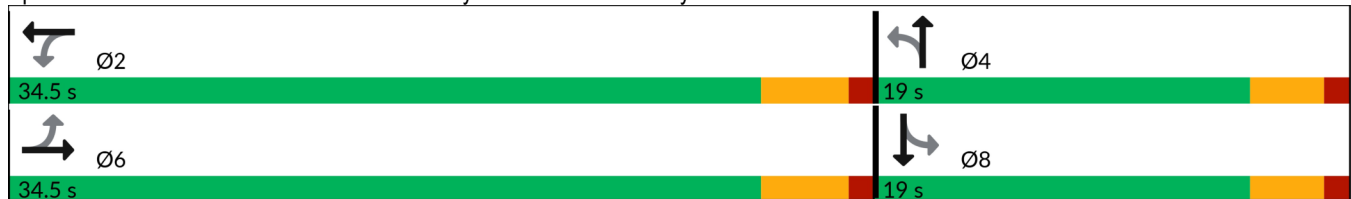
Lanes, Volumes, Timings
 6: 54th Avenue E & Valley Avenue E & Driveway

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		483			411			498			172	
Turn Bay Length (ft)	200			125								
Base Capacity (vph)	521	1279		535	1317			595			665	
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	0.01	0.38		0.29	0.38			0.55			0.00	













Intersection Summary	
Area Type:	Other
Cycle Length:	53.5
Actuated Cycle Length:	40.3
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay (s/veh):	13.4
Intersection LOS:	B
Intersection Capacity Utilization	54.9%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 6: 54th Avenue E & Valley Avenue E & Driveway



Lanes, Volumes, Timings
 7: Pacific Highway E & 70th Avenue E

2025 BASELINE CONDITIONS

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	17	0	0	0	0	58
Future Volume (vph)	17	0	0	0	0	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	290			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.850	
Flt Protected	0.950					
Satd. Flow (prot)	1641	0	1545	2935	2692	0
Flt Permitted	0.950					
Satd. Flow (perm)	1641	0	1545	2935	2692	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1091	
Link Speed (mph)	30			30	30	
Link Distance (ft)	592			513	541	
Travel Time (s)	13.5			11.7	12.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	23%	23%	14%	14%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	0	60	0
Turn Type	Prot		Prot		NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	5.0		6.0	10.0	10.0	
Minimum Split (s)	40.0		10.5	23.7	33.7	
Total Split (s)	40.0		20.0	66.0	66.0	
Total Split (%)	31.7%		15.9%	52.4%	52.4%	
Yellow Time (s)	3.5		3.5	4.7	4.7	
All-Red Time (s)	1.0		1.0	1.5	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	6.2	6.2	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	Max		None	Max	None	
Act Effct Green (s)	35.5				59.8	
Actuated g/C Ratio	0.33				0.56	
v/c Ratio	0.03				0.03	
Control Delay (s/veh)	24.0				0.0	
Queue Delay	0.0				0.0	
Total Delay (s/veh)	24.0				0.0	
LOS	C				A	
Approach Delay (s/veh)	24.1					
Approach LOS	C					
Queue Length 50th (ft)	8				0	
Queue Length 95th (ft)	25				0	

Lanes, Volumes, Timings
 7: Pacific Highway E & 70th Avenue E

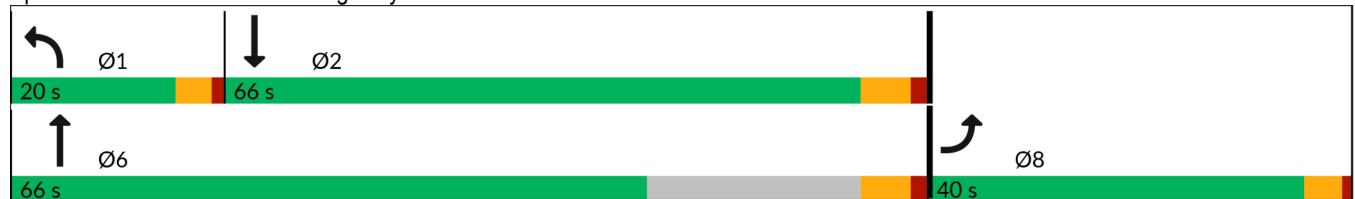
2025 BASELINE CONDITIONS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	512			433	461	
Turn Bay Length (ft)						
Base Capacity (vph)	549				1994	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.03				0.03	

























Intersection Summary	
Area Type:	Other
Cycle Length:	126
Actuated Cycle Length:	106
Natural Cycle:	85
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.03
Intersection Signal Delay (s/veh):	5.6
Intersection LOS:	A
Intersection Capacity Utilization	21.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 7: Pacific Highway E & 70th Avenue E



Lanes, Volumes, Timings
8: 70th Avenue E & 20th Street E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	369	86	107	460	286	92	727	79	128	393	72
Future Volume (vph)	95	369	86	107	460	286	92	727	79	128	393	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	400		400	250		0	225		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.985			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	1759	1495	1656	1743	1482	1467	2891	0	2870	2891	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1671	1759	1495	1656	1743	1482	1467	2891	0	2870	2891	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			84		10			18	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1295			1073			2009			522	
Travel Time (s)		25.2			20.9			39.1			10.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	8%	8%	9%	9%	9%	23%	23%	23%	22%	22%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	380	89	110	474	295	95	830	0	132	479	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2						
Detector Phase	1	6	6	5	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	14.5	22.5	14.5	14.5	24.5		14.5	24.5	
Total Split (s)	14.5	44.5	44.5	14.5	44.5	19.5	19.5	44.4		19.5	44.5	
Total Split (%)	11.8%	36.2%	36.2%	11.8%	36.2%	15.9%	15.9%	36.1%		15.9%	36.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	None	None	None		None	None	
Act Effct Green (s)	9.7	40.1	40.1	10.0	40.4	56.1	12.4	37.3		11.2	36.2	
Actuated g/C Ratio	0.08	0.34	0.34	0.09	0.35	0.48	0.11	0.32		0.10	0.31	
v/c Ratio	0.71	0.62	0.15	0.78	0.78	0.39	0.61	0.89		0.47	0.52	
Control Delay (s/veh)	80.4	38.7	6.1	88.2	46.1	15.5	67.6	50.3		56.4	34.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	80.4	38.7	6.1	88.2	46.1	15.5	67.6	50.3		56.4	34.4	
LOS	F	D	A	F	D	B	E	D		E	C	
Approach Delay (s/veh)		40.8			41.2			52.1			39.2	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	75	247	0	85	331	101	70	307		50	151	
Queue Length 95th (ft)	#163	371	35	#191	#523	170	130	#435		82	209	

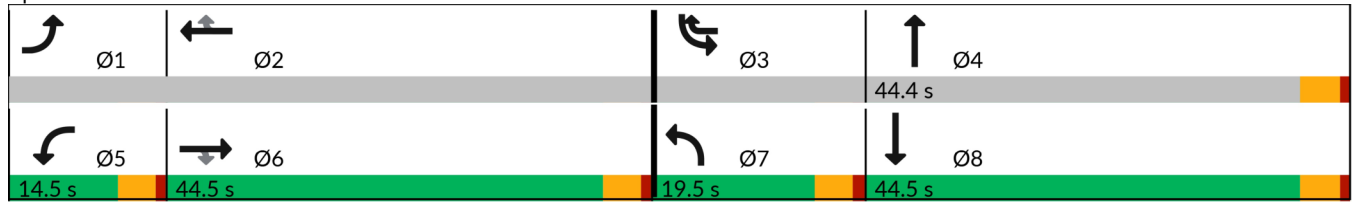
Lanes, Volumes, Timings
 8: 70th Avenue E & 20th Street E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1215			993			1929			442		
Turn Bay Length (ft)	250		200	400		400	250			225		
Base Capacity (vph)	143	604	575	142	603	802	189	1000		369	1005	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.69	0.63	0.15	0.77	0.79	0.37	0.50	0.83		0.36	0.48	

























Intersection Summary	
Area Type:	Other
Cycle Length:	123
Actuated Cycle Length:	116.7
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay (s/veh):	44.1
Intersection LOS:	D
Intersection Capacity Utilization:	72.1%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: 70th Avenue E & 20th Street E



Lanes, Volumes, Timings
9: 70th Avenue E & 26th Street E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	76	41	67	21	60	83	794	64	71	437	18
Future Volume (vph)	39	76	41	67	21	60	83	794	64	71	437	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	200		0	225		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.989			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	1624	1380	1492	1570	1335	1480	2926	0	1530	3041	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1543	1624	1380	1492	1570	1335	1480	2926	0	1530	3041	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53			67		9			4	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1057			880			2032			2009	
Travel Time (s)		20.6			17.1			39.6			39.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	17%	17%	17%	21%	21%	21%	22%	22%	22%	18%	18%	18%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	84	46	74	23	67	92	953	0	79	506	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4	4 5	3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.5	24.5		10.5	24.5		10.5	22.5		10.5	22.5	
Total Split (s)	20.0	24.5		20.0	24.5		20.0	60.0		20.0	60.0	
Total Split (%)	16.1%	19.7%		16.1%	19.7%		16.1%	48.2%		16.1%	48.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	8.6	10.9	24.0	10.6	15.0	27.4	11.5	63.1		10.7	62.4	
Actuated g/C Ratio	0.08	0.11	0.23	0.10	0.14	0.26	0.11	0.61		0.10	0.60	
v/c Ratio	0.33	0.49	0.12	0.48	0.10	0.16	0.56	0.53		0.50	0.27	
Control Delay (s/veh)	56.2	57.2	7.8	58.4	43.4	8.0	60.4	19.2		58.5	15.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	56.2	57.2	7.8	58.4	43.4	8.0	60.4	19.2		58.5	15.6	
LOS	E	E	A	E	D	A	E	B		E	B	
Approach Delay (s/veh)		43.8			35.8			22.9			21.4	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	28	56	0	49	14	0	61	227		52	100	
Queue Length 95th (ft)	70	112	24	103	41	33	124	381		109	172	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	977			800			1952			1929		
Turn Bay Length (ft)	150		150	150		150	200			225		
Base Capacity (vph)	237	322	431	229	319	473	227	1786		235	1835	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.18	0.26	0.11	0.32	0.07	0.14	0.41	0.53		0.34	0.28	

























Intersection Summary	
Area Type:	Other
Cycle Length:	124.5
Actuated Cycle Length:	103.5
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.56
Intersection Signal Delay (s/veh):	25.3
Intersection LOS:	C
Intersection Capacity Utilization	50.6%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 9: 70th Avenue E & 26th Street E



Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	259	99	29	248	411	158	490	42	220	171	95
Future Volume (vph)	53	259	99	29	248	411	158	490	42	220	171	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	200		0	200		130	350		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.946	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1776	1509	1492	1570	1335	1641	3282	1468	2870	2799	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1687	1776	1509	1492	1570	1335	1641	3282	1468	2870	2799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			428			164		80	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		831			1056			750			2032	
Travel Time (s)		18.9			24.0			14.6			39.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	7%	7%	21%	21%	21%	10%	10%	10%	22%	22%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	270	103	30	258	428	165	510	44	229	277	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0	8.0	6.0	8.0	8.0	6.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	31.0	31.0	10.5	31.0	31.0	10.5	31.0	31.0	13.0	31.0	
Total Split (s)	30.0	40.0	40.0	20.0	40.0	40.0	20.0	30.0	30.0	40.0	40.0	
Total Split (%)	21.4%	28.6%	28.6%	14.3%	28.6%	28.6%	14.3%	21.4%	21.4%	28.6%	28.6%	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	11.4	69.6	69.6	8.8	64.5	64.5	15.5	29.1	29.1	17.4	31.6	
Actuated g/C Ratio	0.08	0.50	0.50	0.06	0.46	0.46	0.11	0.21	0.21	0.12	0.23	
v/c Ratio	0.40	0.30	0.12	0.32	0.35	0.50	0.91	0.74	0.10	0.64	0.40	
Control Delay (s/veh)	68.8	25.7	3.0	70.8	29.9	5.1	108.1	58.8	0.4	66.3	32.6	
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)	68.8	25.7	3.0	70.8	29.9	5.1	108.1	58.8	0.4	66.3	32.6	
LOS	E	C	A	E	C	A	F	E	A	E	C	
Approach Delay (s/veh)		25.8			16.8			66.6			47.9	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	48	152	0	27	154	0	151	231	0	104	80	
Queue Length 95th (ft)	92	266	26	60	275	85	#291	280	0	144	111	

Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

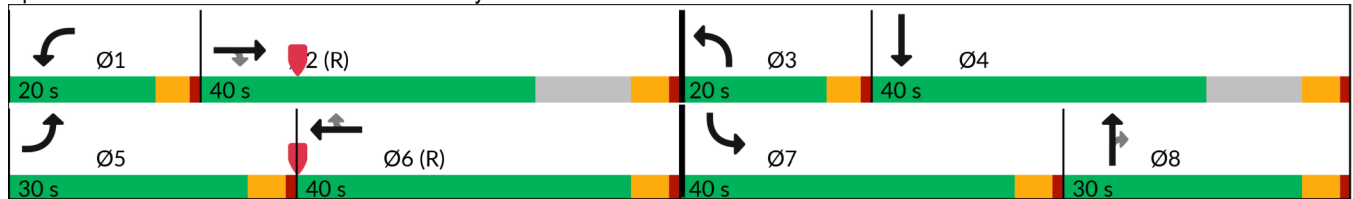
2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		751			976			670				1952
Turn Bay Length (ft)	150		250	200			200		130	350		
Base Capacity (vph)	301	882	812	165	723	846	181	695	440	717	953	
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.31	0.13	0.18	0.36	0.51	0.91	0.73	0.10	0.32	0.29	

Intersection Summary





















Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 30 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay (s/veh): 40.2 Intersection LOS: D
 Intersection Capacity Utilization 56.5% ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 10: 70th Avenue E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	384	14	5	558	142	43	76	29	98	49	18
Future Volume (vph)	21	384	14	5	558	142	43	76	29	98	49	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.970			0.958				0.960
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1492	2969	0	1530	2968	0	1703	1717	0	1641	1658	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1492	2969	0	1530	2968	0	1703	1717	0	1641	1658	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			29			14			14	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		671			1259			2534			494	
Travel Time (s)		15.3			28.6			69.1			13.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	21%	21%	21%	18%	18%	18%	6%	6%	6%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	424	0	5	745	0	46	112	0	104	71	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.4	43.8		6.5	41.0		10.8	10.8		11.2	11.2	
Actuated g/C Ratio	0.09	0.53		0.08	0.50		0.13	0.13		0.14	0.14	
v/c Ratio	0.16	0.26		0.04	0.50		0.20	0.47		0.46	0.29	
Control Delay (s/veh)	40.9	12.9		41.0	17.4		35.7	36.9		41.0	31.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.9	12.9		41.0	17.4		35.7	36.9		41.0	31.4	
LOS	D	B		D	B		D	D		D	C	
Approach Delay (s/veh)		14.4			17.6			36.6			37.2	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	10	52		2	101		19	43		45	24	
Queue Length 95th (ft)	38	133		15	256		60	111		113	74	

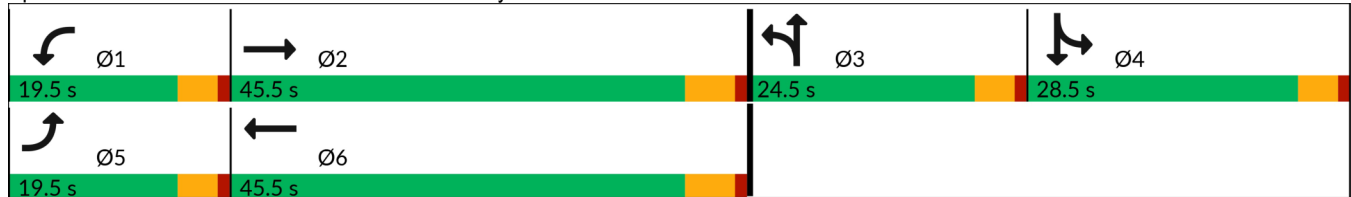
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	275	1578		281	1543		418	432		484	498	
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	0.08	0.27		0.02	0.48		0.11	0.26		0.21	0.14	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	82.5
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.50
Intersection Signal Delay (s/veh):	20.9
Intersection LOS:	C
Intersection Capacity Utilization:	40.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: Freeman Road E & Valley Avenue E



HCM 6th TWSC
 12: Freeman Road E & 48th Street E

2025 BASELINE CONDITIONS

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	3	6	121	59	8
Future Vol, veh/h	3	3	6	121	59	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	5	5	8	8
Mvmt Flow	4	4	7	148	72	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	239	77	82	0	0
Stage 1	77	-	-	-	-
Stage 2	162	-	-	-	-
Critical Hdwy	6.4	6.2	4.15	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.245	-	-
Pot Cap-1 Maneuver	754	990	1497	-	-
Stage 1	951	-	-	-	-
Stage 2	872	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	750	990	1497	-	-
Mov Cap-2 Maneuver	750	-	-	-	-
Stage 1	946	-	-	-	-
Stage 2	872	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.3	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1497	-	853	-	-
HCM Lane V/C Ratio	0.005	-	0.009	-	-
HCM Control Delay (s/veh)	7.4	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0	-	-

HCM 6th TWSC
 13: Freeman Road E & 50th Street E

2025 BASELINE CONDITIONS

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	5	3	123	60	1
Future Vol, veh/h	8	5	3	123	60	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	8	8	6	6	10	10
Mvmt Flow	9	6	3	140	68	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	215	69	69	0	0
Stage 1	69	-	-	-	-
Stage 2	146	-	-	-	-
Critical Hdwy	6.48	6.28	4.16	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.254	-	-
Pot Cap-1 Maneuver	760	977	1507	-	-
Stage 1	939	-	-	-	-
Stage 2	867	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	758	977	1507	-	-
Mov Cap-2 Maneuver	758	-	-	-	-
Stage 1	937	-	-	-	-
Stage 2	867	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.4	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1507	-	830	-	-
HCM Lane V/C Ratio	0.002	-	0.018	-	-
HCM Control Delay (s/veh)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	14	0	4	0	129	18	6	59	2
Future Vol, veh/h	0	0	1	14	0	4	0	129	18	6	59	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	59	59	59	5	5	5	9	9	9
Mvmt Flow	0	0	1	17	0	5	0	154	21	7	70	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	252	260	71	251	251	165	72	0	0	175	0	0
Stage 1	85	85	-	165	165	-	-	-	-	-	-	-
Stage 2	167	175	-	86	86	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.69	7.09	6.79	4.15	-	-	4.19	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.69	6.09	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.69	6.09	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	4.031	4.531	3.831	2.245	-	-	2.281	-	-
Pot Cap-1 Maneuver	706	648	997	599	565	751	1509	-	-	1360	-	-
Stage 1	928	828	-	720	666	-	-	-	-	-	-	-
Stage 2	840	758	-	798	725	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	699	645	997	596	562	751	1509	-	-	1360	-	-
Mov Cap-2 Maneuver	699	645	-	596	562	-	-	-	-	-	-	-
Stage 1	928	824	-	720	666	-	-	-	-	-	-	-
Stage 2	835	758	-	793	721	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	8.6	11	0	0.7
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1509	-	-	997	625	1360	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.034	0.005	-	-
HCM Control Delay (s/veh)	0	-	-	8.6	11	7.7	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.1	0	-	-

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 BASELINE CONDITIONS

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	12	221	440	117	53	10
Future Vol, veh/h	12	221	440	117	53	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	13	248	494	131	60	11


















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	625	0	-	0	834 560
Stage 1	-	-	-	-	560 -
Stage 2	-	-	-	-	274 -
Critical Hdwy	4.26	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.344	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	892	-	-	-	328 513
Stage 1	-	-	-	-	556 -
Stage 2	-	-	-	-	754 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	892	-	-	-	322 513
Mov Cap-2 Maneuver	-	-	-	-	322 -
Stage 1	-	-	-	-	547 -
Stage 2	-	-	-	-	754 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.5	0	18.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	892	-	-	-	342
HCM Lane V/C Ratio	0.015	-	-	-	0.207
HCM Control Delay (s/veh)	9.1	0	-	-	18.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q (veh)	0	-	-	-	0.8

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 BASELINE CONDITIONS

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 		 	 
Traffic Volume (vph)	1229	1006	834	741	532	387
Future Volume (vph)	1229	1006	834	741	532	387
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	2		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.88	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3183	2584	3282	1468	3019	3112
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3183	2584	3282	1468	3019	3112
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		90		491		
Link Speed (mph)	35		35			35
Link Distance (ft)	522		278			1175
Travel Time (s)	10.2		5.4			22.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	10%	10%	10%	10%	16%	16%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1294	1059	878	780	560	407
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	10.0	6.0	10.0
Minimum Split (s)	36.6	10.6	38.9	38.9	10.6	36.9
Total Split (s)	36.6	54.6	64.9	64.9	54.6	64.9
Total Split (%)	23.4%	35.0%	41.6%	41.6%	35.0%	41.6%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9	4.9	4.6	4.9
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	32.1	70.0	60.2	60.2	33.3	98.1
Actuated g/C Ratio	0.23	0.50	0.43	0.43	0.24	0.70
v/c Ratio	1.77	0.79	0.62	0.85	0.77	0.18
Control Delay (s/veh)	384.6	30.9	34.2	23.8	57.5	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	384.6	30.9	34.2	23.8	57.5	7.2
LOS	F	C	C	C	E	A
Approach Delay (s/veh)	225.5		29.4			36.4
Approach LOS	F		C			D
Queue Length 50th (ft)	~894	407	318	269	246	61
Queue Length 95th (ft)	#1150	505	452	#642	311	79

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 BASELINE CONDITIONS

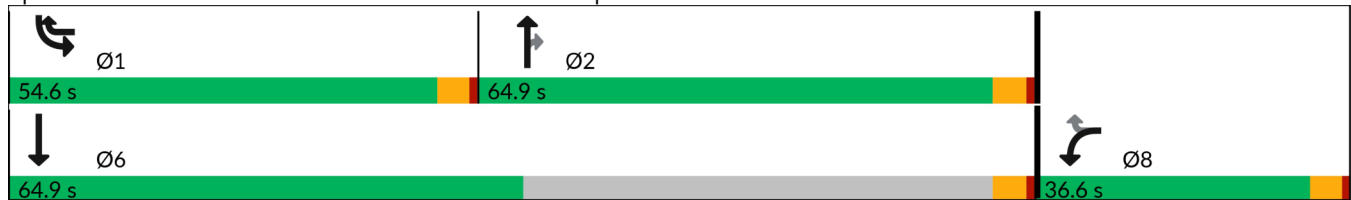


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	442		198			1095
Turn Bay Length (ft)					250	
Base Capacity (vph)	730	1640	1413	911	1083	2560
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.77	0.65	0.62	0.86	0.52	0.16

Intersection Summary

Area Type:	Other
Cycle Length:	156.1
Actuated Cycle Length:	139.7
Natural Cycle:	120
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.77
Intersection Signal Delay (s/veh):	123.4
Intersection LOS:	F
Intersection Capacity Utilization	85.0%
ICU Level of Service	E
Analysis Period (min)	15
~ 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.	

Splits and Phases: 16: N Meridian Avenue & SR-167 Ramps



HCM 6th TWSC
 17: N Meridian Avenue & N Levee Road

2025 BASELINE CONDITIONS

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↔			↕↔	
Traffic Vol, veh/h	0	0	92	0	0	180	0	1289	175	0	1181	401
Future Vol, veh/h	0	0	92	0	0	180	0	1289	175	0	1181	401
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	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, %	6	6	6	10	10	10	9	9	9	9	9	9
Mvmt Flow	0	0	97	0	0	189	0	1357	184	0	1243	422

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	833	-	-	679	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.02	-	-	7.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.36	-	-	3.4	-	-
Pot Cap-1 Maneuver	0	0	304	0	0	376	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	304	-	-	376	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	22.3		23.9		0		0	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	304	376	-	-
HCM Lane V/C Ratio	-	0.319	0.504	-	-
HCM Control Delay (s/veh)	-	22.3	23.9	-	-
HCM Lane LOS	-	C	C	-	-
HCM 95th %tile Q (veh)	-	1.3	2.7	-	-

Lanes, Volumes, Timings
 18: N Meridian Avenue & River Road/2nd Street NE

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	914	0	323	10	470	557	0	0	0	0	280	768
Future Volume (vph)	914	0	323	10	470	557	0	0	0	0	280	768
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3242	0	1495	1736	3471	1553	0	0	0	0	3282	1468
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3242	0	1495	1736	3471	1553	0	0	0	0	3282	1468
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				90		444						610
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	8%	8%	4%	4%	4%	0%	0%	0%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	972	0	344	11	500	593	0	0	0	0	298	817
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2						4	
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2					4	4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	31.0		31.0	31.0	31.0	31.0					22.0	22.0
Total Split (%)	36.9%		36.9%	36.9%	36.9%	36.9%					26.2%	26.2%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	25.9		25.9	30.0	30.0	30.0					17.2	17.2
Actuated g/C Ratio	0.29		0.29	0.34	0.34	0.34					0.20	0.20
v/c Ratio	1.01		0.78	0.01	0.42	0.72					0.46	1.05
Control Delay (s/veh)	66.5		43.0	0.0	23.7	12.2					34.1	57.9
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	66.5		43.0	0.0	23.7	12.2					34.1	57.9
LOS	E		D	A	C	B					C	E
Approach Delay (s/veh)		60.4			17.3						51.6	
Approach LOS		E			B						D	
Queue Length 50th (ft)	~287		174	0	111	60					77	~201
Queue Length 95th (ft)	#418		#310	0	155	192					117	#427

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 BASELINE CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	953		439	650	1181	821					640	777
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	1.02		0.78	0.02	0.42	0.72					0.47	1.05

Intersection Summary

Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	88.1
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.05
Intersection Signal Delay (s/veh):	44.2
Intersection LOS:	D
Intersection Capacity Utilization:	68.8%
ICU Level of Service:	C
Analysis Period (min):	15
~	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.



















Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	155	42	41	155	0	0	0	0	142	466	28
Future Volume (vph)	0	155	42	41	155	0	0	0	0	142	466	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	125		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt			0.850									0.993
Flt Protected				0.950								0.989
Satd. Flow (prot)	0	1776	1509	1703	1792	0	0	0	0	0	3409	0
Flt Permitted				0.421								0.989
Satd. Flow (perm)	0	1776	1509	755	1792	0	0	0	0	0	3409	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91									16
Link Speed (mph)		25			25			25				25
Link Distance (ft)		393			385			1349				2133
Travel Time (s)		10.7			10.5			36.8				58.2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	7%	7%	6%	6%	6%	0%	0%	0%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	48	47	178	0	0	0	0	0	731	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		8		7	4							2
Permitted Phases			8	4						2		
Detector Phase		8	8	7	4					2	2	
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					10.0	10.0	
Minimum Split (s)		21.0	21.0	9.0	21.0					23.0	23.0	
Total Split (s)		9.0	9.0	7.0	13.0					44.0	44.0	
Total Split (%)		15.0%	15.0%	11.7%	21.7%					73.3%	73.3%	
Yellow Time (s)		3.0	3.0	3.0	3.0					3.0	3.0	
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0							0.0
Total Lost Time (s)		4.0	4.0	4.0	4.0							4.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		None	None	None	None					Max	Max	
Act Effct Green (s)		5.5	5.5	9.7	9.7							42.5
Actuated g/C Ratio		0.09	0.09	0.16	0.16							0.70
v/c Ratio		1.09	0.21	0.27	0.61							0.30
Control Delay (s/veh)		132.7	4.8	24.3	32.2							3.9
Queue Delay		0.0	0.0	0.0	0.0							0.0
Total Delay (s/veh)		132.7	4.8	24.3	32.2							3.9
LOS		F	A	C	C							A
Approach Delay (s/veh)		105.6			30.6							4.0
Approach LOS		F			C							A
Queue Length 50th (ft)		~81	0	14	58							46
Queue Length 95th (ft)		#178	9	37	106							64

Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue

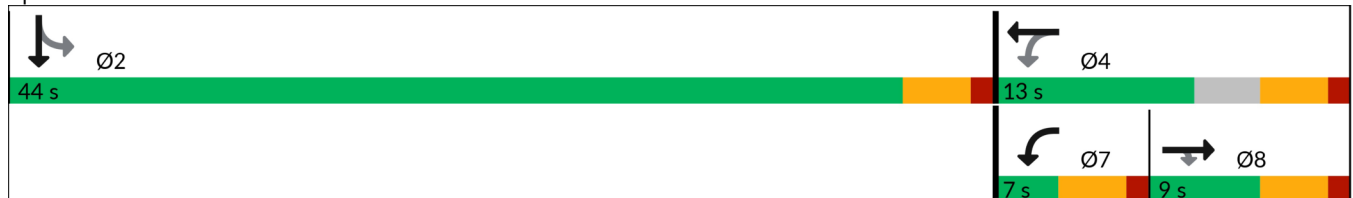
2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		313			305			1269			2053	
Turn Bay Length (ft)			50	125								
Base Capacity (vph)		162	220	169	357						2409	
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		1.10	0.22	0.28	0.50						0.30	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60.3
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.10
Intersection Signal Delay (s/veh):	28.5
Intersection LOS:	C
Intersection Capacity Utilization:	49.7%
ICU Level of Service:	A
Analysis Period (min)	15
~ 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.	



















Splits and Phases: 19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue



Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	232	0	0	125	163	65	851	0	0	0	0
Future Volume (vph)	50	232	0	0	125	163	65	851	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	0		125	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850						
Flt Protected	0.950							0.996				
Satd. Flow (prot)	1719	1810	0	0	1792	1524	0	3457	0	0	0	0
Flt Permitted	0.465							0.996				
Satd. Flow (perm)	841	1810	0	0	1792	1524	0	3457	0	0	0	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		385			615			394				343
Travel Time (s)		10.5			16.8			10.7				9.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	6%	6%	6%	4%	4%	4%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	244	0	0	132	172	0	964	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	3	8			4			2				
Permitted Phases	8					4	2					
Detector Phase	3	8			4	4	2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	10.0	10.0				
Minimum Split (s)	9.5	28.0			28.0	28.0	26.0	26.0				
Total Split (s)	10.0	45.0			29.0	29.0	53.0	53.0				
Total Split (%)	10.2%	45.9%			29.6%	29.6%	54.1%	54.1%				
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0				
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	None			None	None	Max	Max				
Act Effct Green (s)	18.0	18.0			12.6	12.6		49.6				
Actuated g/C Ratio	0.24	0.24			0.17	0.17		0.66				
v/c Ratio	0.20	0.56			0.44	0.67		0.42				
Control Delay (s/veh)	22.7	29.8			34.0	44.5		8.3				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay (s/veh)	22.7	29.8			34.0	44.5		8.3				
LOS	C	C			C	D		A				
Approach Delay (s/veh)		28.6			40.0			8.3				
Approach LOS		C			D			A				
Queue Length 50th (ft)	19	100			60	81		115				
Queue Length 95th (ft)	45	165			111	146		197				

Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 BASELINE CONDITIONS

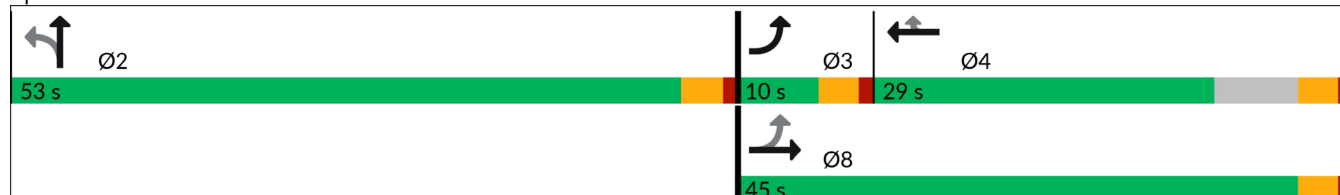


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		305			535			314			263	
Turn Bay Length (ft)	50					125						
Base Capacity (vph)	270	992			742	631		2264				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.20	0.25			0.18	0.27		0.43				

Intersection Summary























Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	75.7
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay (s/veh):	18.3
Intersection LOS:	B
Intersection Capacity Utilization:	49.7%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 20: 2nd Street NE & E Stewart Avenue/E Main Avenue



Lanes, Volumes, Timings
1: 54th Avenue E & 12th Street E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	137	40	76	214	175	33	298	45	140	452	47
Future Volume (vph)	17	137	40	76	214	175	33	298	45	140	452	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.966			0.933			0.980			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1765	0	1736	1705	0	1456	2853	0	1504	2966	0
Flt Permitted	0.362			0.640			0.427			0.536		
Satd. Flow (perm)	661	1765	0	1169	1705	0	654	2853	0	849	2966	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			46			24			16	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		727			778			1175			536	
Travel Time (s)		19.8			15.2			22.9			10.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	24%	24%	24%	20%	20%	20%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	186	0	80	409	0	35	361	0	147	525	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		10.0	19.0		10.0	17.0	
Total Split (s)	25.0	25.0		25.0	25.0		19.0	40.0		19.0	40.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		22.6%	47.6%		22.6%	47.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effct Green (s)	18.7	18.7		18.7	18.7		22.4	13.0		20.8	19.0	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.44	0.25		0.40	0.37	
v/c Ratio	0.07	0.28		0.18	0.63		0.09	0.48		0.32	0.47	
Control Delay (s/veh)	14.6	14.0		15.1	19.1		7.9	19.2		10.1	14.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	14.6	14.0		15.1	19.1		7.9	19.2		10.1	14.8	
LOS	B	B		B	B		A	B		B	B	
Approach Delay (s/veh)		14.1			18.5			18.3			13.8	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	4	36		17	91		6	51		26	53	
Queue Length 95th (ft)	18	92		51	#215		17	90		52	121	

Lanes, Volumes, Timings
 1: 54th Avenue E & 12th Street E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		647			698			1095				456
Turn Bay Length (ft)	100			200			100			100		
Base Capacity (vph)	277	752		491	743		566	2013		616	2090	
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	0.06	0.25		0.16	0.55		0.06	0.18		0.24	0.25	























Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	51.4
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay (s/veh):	16.2
Intersection LOS:	B
Intersection Capacity Utilization:	60.9%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 1: 54th Avenue E & 12th Street E



Lanes, Volumes, Timings
 2: 54th Avenue E & Pacific Highway E (SR-99)

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	466	369	722	721	123	353	255	430	179	428	80
Future Volume (vph)	105	466	369	722	721	123	353	255	430	179	428	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.978			0.906				0.976
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1626	3252	1455	3242	3269	0	3127	2920	0	1517	2961	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1626	3252	1455	3242	3269	0	3127	2920	0	1517	2961	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			65		12			283			14	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1085			1070			320			1175	
Travel Time (s)		21.1			20.8			6.2			22.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	11%	11%	11%	8%	8%	8%	12%	12%	12%	19%	19%	19%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	496	393	768	898	0	376	728	0	190	540	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.0	40.0	47.0	22.0	44.0		47.0	47.0		41.0	41.0	
Total Split (%)	12.0%	26.7%	31.3%	14.7%	29.3%		31.3%	31.3%		27.3%	27.3%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	12.9	35.3	80.7	17.5	39.9		45.4	45.4		33.2	33.2	
Actuated g/C Ratio	0.09	0.24	0.54	0.12	0.27		0.30	0.30		0.22	0.22	
v/c Ratio	0.80	0.64	0.48	2.03	1.02		0.39	0.67		0.56	0.81	
Control Delay (s/veh)	104.1	56.3	11.8	504.5	88.7		45.2	34.6		58.5	64.1	
Queue Delay	0.0	0.0	0.1	4.0	0.0		1.5	4.7		0.0	0.0	
Total Delay (s/veh)	104.1	56.3	12.0	508.6	88.7		46.8	39.4		58.5	64.1	
LOS	F	E	B	F	F		D	D		E	E	
Approach Delay (s/veh)		44.3			282.3			42.0			62.7	
Approach LOS		D			F			D			E	
Queue Length 50th (ft)	109	232	117	~605	~492		160	235		164	255	
Queue Length 95th (ft)	#211	296	177	#735	#630		218	310		247	323	

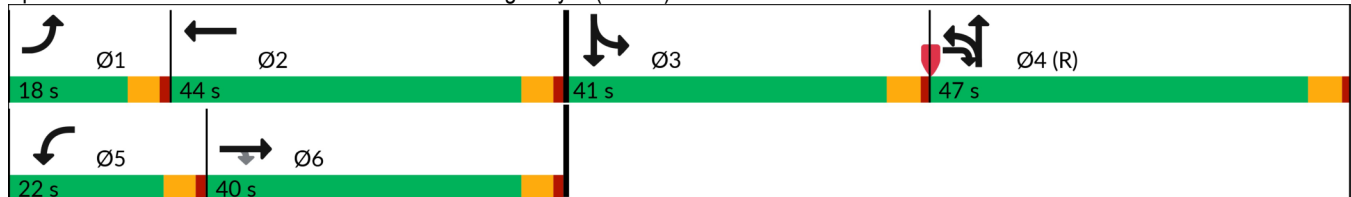
Lanes, Volumes, Timings
 2: 54th Avenue E & Pacific Highway E (SR-99)

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	146	765	813	378	878		946	1081		367	727	
Starvation Cap Reductn	0	0	0	0	0		388	279		0	0	
Spillback Cap Reductn	0	0	64	113	0		0	0		0	1	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.77	0.65	0.52	2.90	1.02		0.67	0.91		0.52	0.74	

Intersection Summary	
Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	138 (92%), Referenced to phase 4:NBTL, Start of Green
Natural Cycle:	145
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	2.03
Intersection Signal Delay (s/veh):	134.8
Intersection LOS:	F
Intersection Capacity Utilization	79.8%
ICU Level of Service	D
Analysis Period (min)	15
~ 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.	



















Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	285	0	302	0	750	490	0	711	700
Future Volume (vph)	0	0	0	285	0	302	0	750	490	0	711	700
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	1		1	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850		0.986	0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1626	0	1455	0	3438	1538	0	1679	1447
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1626	0	1455	0	3438	1538	0	1679	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						227			433		7	663
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1083			1080			827			320	
Travel Time (s)		24.6			24.5			18.8			7.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	11%	11%	11%	5%	5%	5%	6%	6%	6%
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	0	0	300	0	318	0	789	516	0	822	663
Turn Type				Prot		custom		NA	Perm		NA	custom
Protected Phases				3		34		6			2	24
Permitted Phases						4			6			Free
Detector Phase				3		34		6	6		2	24
Switch Phase												
Minimum Initial (s)				5.0				10.0	10.0		10.0	
Minimum Split (s)				9.5				14.7	14.7		14.5	
Total Split (s)				35.0				103.0	103.0		103.0	
Total Split (%)				23.3%				68.7%	68.7%		68.7%	
Yellow Time (s)				3.5				3.7	3.7		3.5	
All-Red Time (s)				1.0				1.0	1.0		1.0	
Lost Time Adjust (s)				0.0				0.0	0.0		0.0	
Total Lost Time (s)				4.5				4.7	4.7		4.5	
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Recall Mode				None				C-Max	C-Max		C-Max	
Act Effct Green (s)				29.6		39.3		101.5	101.5		101.7	150.0
Actuated g/C Ratio				0.20		0.26		0.68	0.68		0.68	1.00
v/c Ratio				0.93		0.58		0.33	0.43		0.72	0.45
Control Delay (s/veh)				95.4		17.9		10.8	2.9		19.3	4.6
Queue Delay				0.0		0.1		0.0	0.0		50.9	0.0
Total Delay (s/veh)				95.4		18.1		10.9	2.9		70.3	4.6
LOS				F		B		B	A		E	A
Approach Delay (s/veh)					55.7			7.8			41.0	
Approach LOS					E			A			D	
Queue Length 50th (ft)				290		72		160	26		558	203
Queue Length 95th (ft)				#468		175		202	72		m482	m115

Lanes, Volumes, Timings
 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 BASELINE CONDITIONS

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	12.0
Total Split (%)	8%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

Lanes, Volumes, Timings

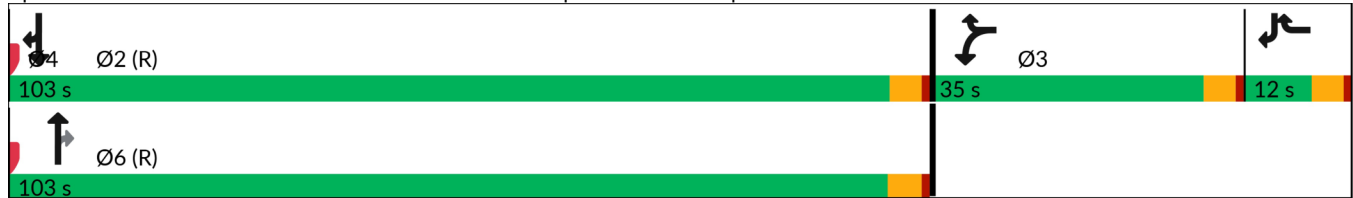
3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1003			1000			747			240	
Turn Bay Length (ft)									100			
Base Capacity (vph)				330		566		2326	1180		1140	1447
Starvation Cap Reductn				0		0		0	0		429	0
Spillback Cap Reductn				0		22		338	0		0	0
Storage Cap Reductn				0		0		0	0		0	0
Reduced v/c Ratio				0.91		0.58		0.40	0.44		1.16	0.46

Intersection Summary	
Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	60 (40%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay (s/veh):	31.0
Intersection LOS:	C
Intersection Capacity Utilization	74.5%
ICU Level of Service	D
Analysis Period (min)	15
#	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.























Splits and Phases: 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp



Lane Group	Ø4
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	308	195	24	182	535	150	423	23	356	652	280
Future Volume (vph)	313	308	195	24	182	535	150	423	23	356	652	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.946				0.850		0.992			0.957	
Flt Protected	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (prot)	1395	2769	0	0	1634	1398	1593	3160	0	1408	2831	0
Flt Permitted	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (perm)	1395	2769	0	0	1634	1398	1593	3160	0	1408	2831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59				109		3			43	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)	12%									10%		
Lane Group Flow (vph)	281	551	0	0	210	546	153	455	0	327	987	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	38.0	38.0		26.0	26.0	60.0	26.0	26.0		60.0	60.0	
Total Split (%)	25.3%	25.3%		17.3%	17.3%	40.0%	17.3%	17.3%		40.0%	40.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	32.1	32.1			20.8	82.1	22.3	22.3		56.8	56.8	
Actuated g/C Ratio	0.21	0.21			0.14	0.55	0.15	0.15		0.38	0.38	
v/c Ratio	0.94	0.86			0.92	0.67	0.64	0.96		0.61	0.89	
Control Delay (s/veh)	96.9	64.9			107.1	23.9	74.1	95.3		44.2	54.0	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	96.9	64.9			107.1	23.9	74.1	95.3		44.2	54.0	
LOS	F	E			F	C	E	F		D	D	
Approach Delay (s/veh)		75.7			47.1			90.0			51.6	
Approach LOS		E			D			F			D	
Queue Length 50th (ft)	296	257			205	304	144	236		287	487	
Queue Length 95th (ft)	#486	#336			#359	446	226	#358		412	#630	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	311	664			234	814	237	473		532	1099	
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	0.90	0.83			0.90	0.67	0.65	0.96		0.61	0.90	

Intersection Summary	
Area Type:	CBD
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.96
Intersection Signal Delay (s/veh):	63.0
Intersection LOS:	E
Intersection Capacity Utilization:	86.2%
ICU Level of Service:	E
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	





















Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	3	6	0	111	1	405	5	88	633	0
Future Volume (vph)	1	0	3	6	0	111	1	405	5	88	633	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	210		0	100		0
Storage Lanes	0		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.899			0.850			0.998				
Flt Protected		0.988		0.950			0.950			0.950		
Satd. Flow (prot)	0	1350	0	1805	1615	0	1752	1841	0	1752	1845	1845
Flt Permitted		0.878		0.672			0.365			0.405		
Satd. Flow (perm)	0	1200	0	1277	1615	0	673	1841	0	747	1845	1845
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74			581			1				
Link Speed (mph)		25			25			30				30
Link Distance (ft)		362			838			575				783
Travel Time (s)		9.9			22.9			13.1				17.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	25%	25%	25%	0%	0%	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	6	117	0	1	431	0	93	666	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	6.0		4.0	6.0	6.0
Minimum Split (s)	8.0	24.5		8.0	24.0		8.0	14.5		8.0	14.5	14.5
Total Split (s)	14.0	16.5		14.0	16.0		14.0	34.5		16.0	34.5	34.5
Total Split (%)	17.3%	20.4%		17.3%	19.8%		17.3%	42.6%		19.8%	42.6%	42.6%
Yellow Time (s)	3.0	3.5		3.0	3.0		3.0	3.5		3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5		4.0	4.0		4.0	4.5		4.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effct Green (s)		5.6		7.7	7.7		39.4	35.2		43.6	42.7	
Actuated g/C Ratio		0.10		0.13	0.13		0.69	0.61		0.76	0.74	
v/c Ratio		0.02		0.02	0.16		0.00	0.38		0.13	0.48	
Control Delay (s/veh)		0.2		21.3	0.4		4.0	10.4		3.4	8.0	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		0.2		21.3	0.4		4.0	10.4		3.4	8.0	
LOS		A		C	A		A	B		A	A	
Approach Delay (s/veh)		0.3			1.5			10.5			7.5	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		0		2	0		0	78		5	62	
Queue Length 95th (ft)		0		10	0		2	203		27	338	

Lanes, Volumes, Timings

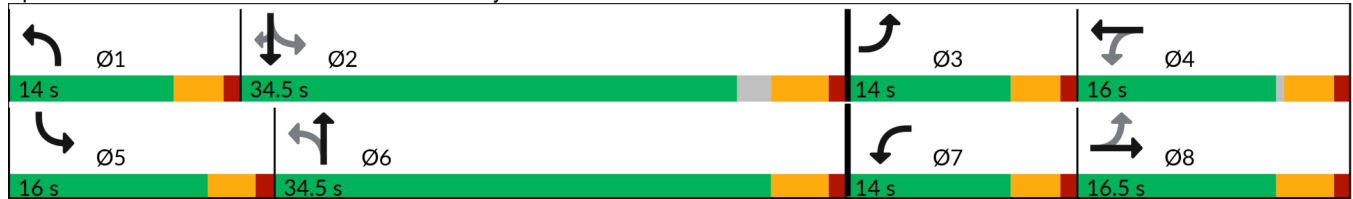
5: 54th Avenue E & Driveway/23rd Street E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		282			758			495			703	
Turn Bay Length (ft)				100			210			100		
Base Capacity (vph)		311		341	820		687	1129		782	1371	
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		0.01		0.02	0.14		0.00	0.38		0.12	0.49	




















Intersection Summary	
Area Type:	Other
Cycle Length:	81
Actuated Cycle Length:	57.4
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay (s/veh):	7.9
Intersection LOS:	A
Intersection Capacity Utilization:	53.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: 54th Avenue E & Driveway/23rd Street E



Lanes, Volumes, Timings
6: 54th Avenue E & Valley Avenue E & Driveway

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	630	55	30	400	0	17	0	21	1	0	0
Future Volume (vph)	18	630	55	30	400	0	17	0	21	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988						0.924				
Flt Protected	0.950			0.950				0.979			0.950	
Satd. Flow (prot)	1752	1823	0	1787	1881	0	0	1719	0	0	1805	0
Flt Permitted	0.510			0.326								
Satd. Flow (perm)	941	1823	0	613	1881	0	0	1756	0	0	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13						31				
Link Speed (mph)		30			30			25				25
Link Distance (ft)		575			491			578				252
Travel Time (s)		13.1			11.2			15.8				6.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	745	0	33	435	0	0	41	0	0	1	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4				8
Permitted Phases	6			2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.5	30.5		22.5	22.5		32.0	32.0		32.0	32.0	
Total Split (s)	34.5	34.5		34.5	34.5		19.0	19.0		19.0	19.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effect Green (s)	23.3	23.3		23.3	23.3			7.3			7.3	
Actuated g/C Ratio	0.86	0.86		0.86	0.86			0.27			0.27	
v/c Ratio	0.02	0.47		0.06	0.26			0.08			0.00	
Control Delay (s/veh)	2.5	4.1		2.8	2.7			9.0			15.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay (s/veh)	2.5	4.1		2.8	2.7			9.0			15.0	
LOS	A	A		A	A			A			B	
Approach Delay (s/veh)		4.1			2.7			9.1			15.0	
Approach LOS		A			A			A			B	
Queue Length 50th (ft)	0	0		0	0			1			0	
Queue Length 95th (ft)	6	161		9	72			21			3	

Lanes, Volumes, Timings
 6: 54th Avenue E & Valley Avenue E & Driveway

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		495			411			498			172	
Turn Bay Length (ft)	200			125								
Base Capacity (vph)	825	1600		537	1649			1217			1306	
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	0.02	0.47		0.06	0.26			0.03			0.00	













Intersection Summary	
Area Type:	Other
Cycle Length:	53.5
Actuated Cycle Length:	27.2
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay (s/veh):	3.7
Intersection LOS:	A
Intersection Capacity Utilization	46.9%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 6: 54th Avenue E & Valley Avenue E & Driveway



Lanes, Volumes, Timings
7: Pacific Highway E & 70th Avenue E

2025 BASELINE CONDITIONS

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	63	0	0	0	0	32
Future Volume (vph)	63	0	0	0	0	32
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	290			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.850	
Flt Protected	0.950					
Satd. Flow (prot)	1641	0	1776	3374	2950	0
Flt Permitted	0.950					
Satd. Flow (perm)	1641	0	1776	3374	2950	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1091	
Link Speed (mph)	30			30	30	
Link Distance (ft)	623			659	553	
Travel Time (s)	14.2			15.0	12.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	7%	7%	4%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	0	0	0	33	0
Turn Type	Prot		Prot		NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	5.0		6.0	10.0	10.0	
Minimum Split (s)	22.5		10.5	23.7	33.7	
Total Split (s)	35.0		15.0	60.0	60.0	
Total Split (%)	31.8%		13.6%	54.5%	54.5%	
Yellow Time (s)	3.5		3.5	4.7	4.7	
All-Red Time (s)	1.0		1.0	1.5	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	6.2	6.2	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	Max		None	Max	None	
Act Effct Green (s)	30.5				53.8	
Actuated g/C Ratio	0.32				0.57	
v/c Ratio	0.12				0.01	
Control Delay (s/veh)	23.7				0.0	
Queue Delay	0.0				0.0	
Total Delay (s/veh)	23.7				0.0	
LOS	C				A	
Approach Delay (s/veh)	23.7					
Approach LOS	C					
Queue Length 50th (ft)	28				0	
Queue Length 95th (ft)	59				0	

Lanes, Volumes, Timings
 7: Pacific Highway E & 70th Avenue E

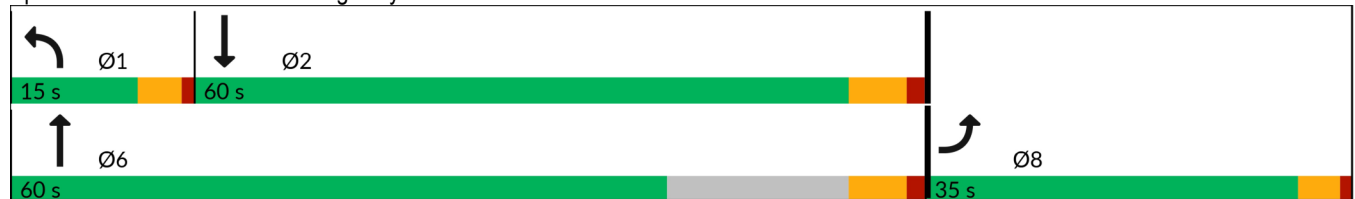
2025 BASELINE CONDITIONS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	543			579	473	
Turn Bay Length (ft)						
Base Capacity (vph)	526				2143	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.13				0.02	

























Intersection Summary	
Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	95
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.13
Intersection Signal Delay (s/veh):	15.8
Intersection LOS:	B
Intersection Capacity Utilization	21.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 7: Pacific Highway E & 70th Avenue E



Lanes, Volumes, Timings
8: 70th Avenue E & 20th Street E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	466	107	126	454	213	144	541	88	173	828	83
Future Volume (vph)	47	466	107	126	454	213	144	541	88	173	828	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	400		400	250		0	225		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.979			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1736	1827	1553	1612	3156	0	3019	3068	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	1845	1568	1736	1827	1553	1612	3156	0	3019	3068	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			192		16			9	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1295			1073			2009			522	
Travel Time (s)		25.2			20.9			39.1			10.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	12%	12%	12%	16%	16%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	480	110	130	468	220	148	649	0	178	940	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2						
Detector Phase	1	6	6	5	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	14.5	22.5	14.5	14.5	24.5		14.5	24.5	
Total Split (s)	14.5	44.5	44.5	14.5	44.5	19.5	19.5	44.5		19.5	44.5	
Total Split (%)	11.8%	36.2%	36.2%	11.8%	36.2%	15.9%	15.9%	36.2%		15.9%	36.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	None	None	None		None	None	
Act Effct Green (s)	8.6	40.0	40.0	10.0	43.6	60.7	14.2	40.8		12.6	39.2	
Actuated g/C Ratio	0.07	0.33	0.33	0.08	0.36	0.50	0.12	0.34		0.10	0.32	
v/c Ratio	0.38	0.78	0.18	0.90	0.71	0.25	0.78	0.60		0.57	0.94	
Control Delay (s/veh)	63.4	48.1	8.9	110.5	42.5	4.4	80.5	35.8		59.2	57.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	63.4	48.1	8.9	110.5	42.5	4.4	80.5	35.8		59.2	57.9	
LOS	E	D	A	F	D	A	F	D		E	E	
Approach Delay (s/veh)		42.5			43.1			44.2			58.1	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	37	347	9	104	333	12	116	217		70	377	
Queue Length 95th (ft)	78	#495	51	#227	#473	54	#218	288		106	#512	

Lanes, Volumes, Timings
 8: 70th Avenue E & 20th Street E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1215			993			1929			442	
Turn Bay Length (ft)	250		200	400		400	250			225		
Base Capacity (vph)	144	608	579	143	657	900	199	1081		373	1017	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.33	0.79	0.19	0.91	0.71	0.24	0.74	0.60		0.48	0.92	

























Intersection Summary	
Area Type:	Other
Cycle Length:	123
Actuated Cycle Length:	121.4
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay (s/veh):	48.2
Intersection LOS:	D
Intersection Capacity Utilization:	80.0%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: 70th Avenue E & 20th Street E

	Ø1		Ø2		Ø3		Ø4
14.5 s		44.5 s		19.5 s		44.5 s	
	Ø5		Ø6		Ø7		Ø8
14.5 s		44.5 s		19.5 s		44.5 s	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	48	93	77	24	105	27	599	45	50	939	14
Future Volume (vph)	41	48	93	77	24	105	27	599	45	50	939	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	200		0	225		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.989			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	1597	1357	1656	1743	1482	1597	3160	0	1543	3079	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1517	1597	1357	1656	1743	1482	1597	3160	0	1543	3079	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			112		8			2	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1057			880			2032			2009	
Travel Time (s)		20.6			17.1			39.6			39.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	19%	19%	19%	9%	9%	9%	13%	13%	13%	17%	17%	17%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	51	99	82	26	112	29	685	0	53	1014	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4	4 5	3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.5	24.5		10.5	24.5		10.5	22.5		10.5	22.5	
Total Split (s)	20.0	24.5		20.0	24.5		20.0	60.0		20.0	60.0	
Total Split (%)	16.1%	19.7%		16.1%	19.7%		16.1%	48.2%		16.1%	48.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	8.5	8.8	20.8	10.4	12.9	26.5	7.5	57.3		9.0	61.2	
Actuated g/C Ratio	0.08	0.09	0.21	0.10	0.13	0.26	0.07	0.57		0.09	0.61	
v/c Ratio	0.34	0.36	0.27	0.48	0.11	0.23	0.24	0.38		0.38	0.54	
Control Delay (s/veh)	53.4	53.4	9.2	54.0	43.1	7.1	52.0	14.5		53.8	15.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	53.4	53.4	9.2	54.0	43.1	7.1	52.0	14.5		53.8	15.9	
LOS	D	D	A	D	D	A	D	B		D	B	
Approach Delay (s/veh)		30.9			28.9			16.1			17.8	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	27	32	0	51	16	0	18	125		33	211	
Queue Length 95th (ft)	68	75	43	106	44	42	51	215		77	346	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	977			800			1952			1929		
Turn Bay Length (ft)	150		150	150		150	200			225		
Base Capacity (vph)	234	318	458	256	348	560	246	1795		238	1865	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.19	0.16	0.22	0.32	0.07	0.20	0.12	0.38		0.22	0.54	

























Intersection Summary	
Area Type:	Other
Cycle Length:	124.5
Actuated Cycle Length:	101.1
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay (s/veh):	19.5
Intersection LOS:	B
Intersection Capacity Utilization:	53.6%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 9: 70th Avenue E & 26th Street E

Ø1 20 s	Ø2 60 s	Ø3 20 s	Ø4 24.5 s
Ø5 20 s	Ø6 60 s	Ø7 20 s	Ø8 24.5 s

Lanes, Volumes, Timings
10: 70th Avenue E & Valley Avenue E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	495	154	72	263	314	129	273	41	535	492	84
Future Volume (vph)	24	495	154	72	263	314	129	273	41	535	492	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	200		0	200		130	350		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1810	1538	1626	1712	1455	1687	3374	1509	3072	3097	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	1810	1538	1626	1712	1455	1687	3374	1509	3072	3097	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129			327			164			15
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		831			1056			750			2032	
Travel Time (s)		18.9			24.0			14.6			39.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	11%	11%	11%	7%	7%	7%	14%	14%	14%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	516	160	75	274	327	134	284	43	557	601	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0	8.0	6.0	8.0	8.0	6.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	31.0	31.0	10.5	31.0	31.0	10.5	31.0	31.0	13.0	31.0	
Total Split (s)	30.0	40.0	40.0	20.0	40.0	40.0	20.0	30.0	30.0	40.0	40.0	
Total Split (%)	21.4%	28.6%	28.6%	14.3%	28.6%	28.6%	14.3%	21.4%	21.4%	28.6%	28.6%	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	9.1	59.3	59.3	12.3	67.0	67.0	14.5	18.1	18.1	30.8	35.0	
Actuated g/C Ratio	0.07	0.42	0.42	0.09	0.48	0.48	0.10	0.13	0.13	0.22	0.25	
v/c Ratio	0.22	0.67	0.22	0.52	0.33	0.37	0.77	0.65	0.12	0.82	0.76	
Control Delay (s/veh)	66.2	40.3	8.9	73.6	27.6	4.3	88.4	64.7	0.7	62.6	53.9	
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)	66.2	40.3	8.9	73.6	27.6	4.3	88.4	64.7	0.7	62.6	53.9	
LOS	E	D	A	E	C	A	F	E	A	E	D	
Approach Delay (s/veh)		34.1			21.5			65.7			58.1	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	22	376	17	66	163	0	120	131	0	250	264	
Queue Length 95th (ft)	53	#647	74	117	276	66	#217	174	0	308	307	

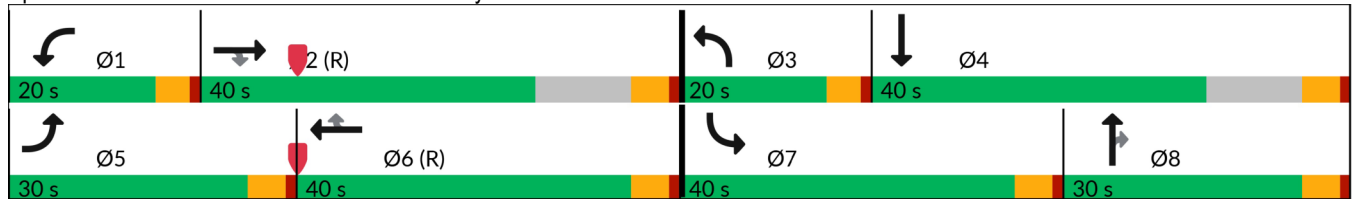
Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		751			976			670			1952	
Turn Bay Length (ft)	150		250	200			200		130	350		
Base Capacity (vph)	306	766	725	183	818	866	186	602	404	768	1005	
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.67	0.22	0.41	0.33	0.38	0.72	0.47	0.11	0.73	0.60	





















Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	30 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.82
Intersection Signal Delay (s/veh):	45.4
Intersection LOS:	D
Intersection Capacity Utilization	70.3%
ICU Level of Service	C
Analysis Period (min)	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 10: 70th Avenue E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	937	105	20	481	117	15	34	30	231	151	21
Future Volume (vph)	27	937	105	20	481	117	15	34	30	231	151	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.971			0.929				0.981
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3262	0	1612	3130	0	1671	1634	0	1736	1792	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1656	3262	0	1612	3130	0	1671	1634	0	1736	1792	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			27			33				5
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	9%	9%	9%	12%	12%	12%	8%	8%	8%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	1171	0	22	671	0	17	72	0	260	194	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.8	41.5		7.4	41.3		8.5	8.5		18.5	18.5	
Actuated g/C Ratio	0.09	0.49		0.09	0.49		0.10	0.10		0.22	0.22	
v/c Ratio	0.19	0.73		0.15	0.43		0.10	0.37		0.68	0.49	
Control Delay (s/veh)	44.3	24.7		44.5	18.3		41.4	31.1		42.8	35.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	44.3	24.7		44.5	18.3		41.4	31.1		42.8	35.0	
LOS	D	C		D	B		D	C		D	D	
Approach Delay (s/veh)		25.3			19.2			33.1			39.5	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	15	237		11	106		8	19		120	83	
Queue Length 95th (ft)	48	#521		39	232		32	67		244	178	

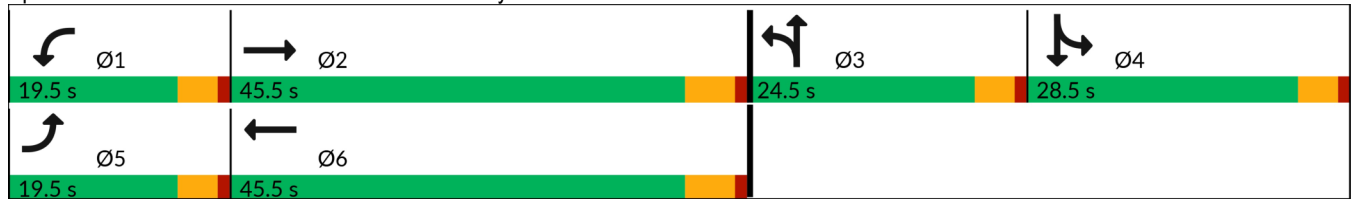
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454				414
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	303	1599		295	1543		408	424		508	528	
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	0.10	0.73		0.07	0.43		0.04	0.17		0.51	0.37	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	85
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.73
Intersection Signal Delay (s/veh):	26.5
Intersection LOS:	C
Intersection Capacity Utilization:	57.0%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 11: Freeman Road E & Valley Avenue E



HCM 6th TWSC
 12: Freeman Road E & 48th Street E

2025 BASELINE CONDITIONS

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	4	20	5	64	236	11
Future Vol, veh/h	4	20	5	64	236	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	8	4	4
Mvmt Flow	5	24	6	75	278	13

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	372	285	291	0	0
Stage 1	285	-	-	-	-
Stage 2	87	-	-	-	-
Critical Hdwy	6.4	6.2	4.18	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.272	-	-
Pot Cap-1 Maneuver	633	759	1237	-	-
Stage 1	768	-	-	-	-
Stage 2	941	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	630	759	1237	-	-
Mov Cap-2 Maneuver	630	-	-	-	-
Stage 1	764	-	-	-	-
Stage 2	941	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.1	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1237	-	734	-	-
HCM Lane V/C Ratio	0.005	-	0.038	-	-
HCM Control Delay (s/veh)	7.9	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC
 13: Freeman Road E & 50th Street E

2025 BASELINE CONDITIONS

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	8	5	59	238	13
Future Vol, veh/h	11	8	5	59	238	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	6	6	7	7	4	4
Mvmt Flow	13	9	6	69	280	15

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	369	288	295	0	0
Stage 1	288	-	-	-	-
Stage 2	81	-	-	-	-
Critical Hdwy	6.46	6.26	4.17	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-
Follow-up Hdwy	3.554	3.354	2.263	-	-
Pot Cap-1 Maneuver	623	742	1238	-	-
Stage 1	752	-	-	-	-
Stage 2	932	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	620	742	1238	-	-
Mov Cap-2 Maneuver	620	-	-	-	-
Stage 1	748	-	-	-	-
Stage 2	932	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.6	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1238	-	666	-	-
HCM Lane V/C Ratio	0.005	-	0.034	-	-
HCM Control Delay (s/veh)	7.9	0	10.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	2	20	0	5	1	59	5	2	242	1
Future Vol, veh/h	0	0	2	20	0	5	1	59	5	2	242	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	17	17	17	10	10	10	4	4	4
Mvmt Flow	0	0	2	24	0	6	1	71	6	2	292	1

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	376	376	293	374	373	74	293	0	0	77	0	0
Stage 1	297	297	-	76	76	-	-	-	-	-	-	-
Stage 2	79	79	-	298	297	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.27	6.67	6.37	4.2	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.653	4.153	3.453	2.29	-	-	2.236	-	-
Pot Cap-1 Maneuver	585	558	751	556	534	947	1224	-	-	1509	-	-
Stage 1	716	671	-	897	803	-	-	-	-	-	-	-
Stage 2	935	833	-	680	641	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	580	556	751	553	532	947	1224	-	-	1509	-	-
Mov Cap-2 Maneuver	580	556	-	553	532	-	-	-	-	-	-	-
Stage 1	715	670	-	896	802	-	-	-	-	-	-	-
Stage 2	928	832	-	676	640	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.8	11.3	0.1	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1224	-	-	751	603	1509	-	-
HCM Lane V/C Ratio	0.001	-	-	0.003	0.05	0.002	-	-
HCM Control Delay (s/veh)	7.9	0	-	9.8	11.3	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.2	0	-	-

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 BASELINE CONDITIONS

Intersection						
Int Delay, s/veh	9.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	36	477	141	46	241	31
Future Vol, veh/h	36	477	141	46	241	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	38	497	147	48	251	32


















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	195	0	-	0	744 171
Stage 1	-	-	-	-	171 -
Stage 2	-	-	-	-	573 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1372	-	-	-	382 873
Stage 1	-	-	-	-	859 -
Stage 2	-	-	-	-	564 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1372	-	-	-	367 873
Mov Cap-2 Maneuver	-	-	-	-	367 -
Stage 1	-	-	-	-	826 -
Stage 2	-	-	-	-	564 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.5	0	34.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1372	-	-	-	393
HCM Lane V/C Ratio	0.027	-	-	-	0.721
HCM Control Delay (s/veh)	7.7	0	-	-	34.5
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q (veh)	0.1	-	-	-	5.5

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 BASELINE CONDITIONS

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 		 	 
Traffic Volume (vph)	952	609	515	1360	1088	860
Future Volume (vph)	952	609	515	1360	1088	860
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	2		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.88	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3303	2682	3505	1568	3335	3438
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	2682	3505	1568	3335	3438
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		319		431		
Link Speed (mph)	35		35			35
Link Distance (ft)	522		278			1175
Travel Time (s)	10.2		5.4			22.9
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	3%	3%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	971	621	526	1388	1110	878
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	10.0	6.0	10.0
Minimum Split (s)	36.6	10.6	38.9	38.9	10.6	36.9
Total Split (s)	36.6	54.6	64.9	64.9	54.6	64.9
Total Split (%)	23.4%	35.0%	41.6%	41.6%	35.0%	41.6%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9	4.9	4.6	4.9
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	32.0	86.6	60.0	60.0	50.0	114.6
Actuated g/C Ratio	0.20	0.55	0.38	0.38	0.32	0.73
v/c Ratio	1.43	0.38	0.39	1.59	1.03	0.34
Control Delay (s/veh)	246.6	9.4	35.8	298.5	89.0	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	246.6	9.4	35.8	298.5	89.0	7.8
LOS	F	A	D	F	F	A
Approach Delay (s/veh)	154.1		226.3			53.2
Approach LOS	F		F			D
Queue Length 50th (ft)	~689	88	203	~1743	~627	153
Queue Length 95th (ft)	#824	133	255	#2012	#764	183

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 BASELINE CONDITIONS

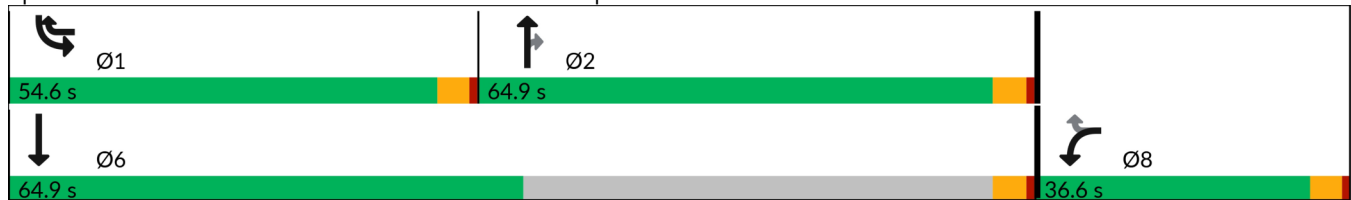


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	442		198			1095
Turn Bay Length (ft)					250	
Base Capacity (vph)	677	1629	1347	868	1068	2523
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.43	0.38	0.39	1.60	1.04	0.35

Intersection Summary

Area Type:	Other
Cycle Length:	156.1
Actuated Cycle Length:	156.1
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.60
Intersection Signal Delay (s/veh):	142.8
Intersection LOS:	F
Intersection Capacity Utilization	123.2%
ICU Level of Service	H
Analysis Period (min)	15
~ 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.	

Splits and Phases: 16: N Meridian Avenue & SR-167 Ramps



HCM 6th TWSC
 17: N Meridian Avenue & N Levee Road

2025 BASELINE CONDITIONS

Intersection												
Int Delay, s/veh	60.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↔			↕↔	
Traffic Vol, veh/h	0	0	402	0	0	539	0	1374	59	0	1561	94
Future Vol, veh/h	0	0	402	0	0	539	0	1374	59	0	1561	94
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	419	0	0	561	0	1431	61	0	1626	98

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	862	-	-	716	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.96	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.33	-	-
Pot Cap-1 Maneuver	0	0	~ 298	0	0	~ 370	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %							-	-
Mov Cap-1 Maneuver	-	-	~ 298	-	-	~ 370	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v234.5		273.3	0	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	298	370	-	-
HCM Lane V/C Ratio	-	1.405	1.517	-	-
HCM Control Delay (s/veh)	-	234.5	273.3	-	-
HCM Lane LOS	-	F	F	-	-
HCM 95th %tile Q (veh)	-	22.2	30.8	-	-

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

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1058	0	414	20	625	332	0	0	0	0	841	1005
Future Volume (vph)	1058	0	414	20	625	332	0	0	0	0	841	1005
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				72		346						671
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1102	0	431	21	651	346	0	0	0	0	876	1047
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2							4
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2						4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	42.0		42.0	29.0	29.0	29.0					34.0	34.0
Total Split (%)	40.0%		40.0%	27.6%	27.6%	27.6%					32.4%	32.4%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	35.9		35.9	30.0	30.0	30.0					29.2	29.2
Actuated g/C Ratio	0.33		0.33	0.27	0.27	0.27					0.27	0.27
v/c Ratio	1.00		0.85	0.03	0.67	0.50					0.94	1.15
Control Delay (s/veh)	65.5		52.0	0.1	40.0	6.2					58.9	96.4
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	65.5		52.0	0.1	40.0	6.2					58.9	96.4
LOS	E		D	A	D	A					E	F
Approach Delay (s/veh)		61.8			27.8						79.4	
Approach LOS		E			C						E	
Queue Length 50th (ft)	400		283	0	218	0					323	~506
Queue Length 95th (ft)	#546		#454	0	284	70					#452	#760

Lanes, Volumes, Timings

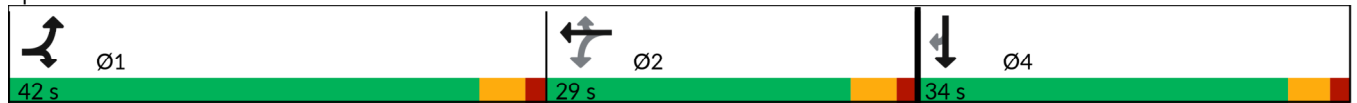
18: N Meridian Avenue & River Road/2nd Street NE

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	1128		520	534	964	683					929	908
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	0.98		0.83	0.04	0.68	0.51					0.94	1.15

Intersection Summary	
Area Type:	Other
Cycle Length:	105
Actuated Cycle Length:	110.1
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.15
Intersection Signal Delay (s/veh):	61.6
Intersection LOS:	E
Intersection Capacity Utilization:	87.8%
ICU Level of Service:	E
Analysis Period (min):	15
~ 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.	



















Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue

2025 BASELINE CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	206	63	141	291	0	0	0	0	138	1052	47
Future Volume (vph)	0	206	63	141	291	0	0	0	0	138	1052	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	125		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt			0.850								0.994	
Flt Protected				0.950							0.994	
Satd. Flow (prot)	0	1792	1524	1770	1863	0	0	0	0	0	3531	0
Flt Permitted				0.259							0.994	
Satd. Flow (perm)	0	1792	1524	482	1863	0	0	0	0	0	3531	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51								6	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		393			385			1349			2133	
Travel Time (s)		10.7			10.5			36.8			58.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	0%	0%	0%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	217	66	148	306	0	0	0	0	0	1301	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		8		7	4						2	
Permitted Phases			8	4						2		
Detector Phase		8	8	7	4					2	2	
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					10.0	10.0	
Minimum Split (s)		21.0	21.0	9.0	21.0					23.0	23.0	
Total Split (s)		31.0	31.0	11.0	41.0					66.0	66.0	
Total Split (%)		28.7%	28.7%	10.2%	38.0%					61.1%	61.1%	
Yellow Time (s)		3.0	3.0	3.0	3.0					3.0	3.0	
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0						0.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0						4.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		None	None	None	None					Max	Max	
Act Effct Green (s)		15.0	15.0	25.8	25.8						62.2	
Actuated g/C Ratio		0.16	0.16	0.27	0.27						0.65	
v/c Ratio		0.77	0.23	0.66	0.61						0.56	
Control Delay (s/veh)		57.8	15.7	43.7	36.1						11.2	
Queue Delay		0.0	0.0	0.0	0.1						0.0	
Total Delay (s/veh)		57.8	15.7	43.7	36.3						11.2	
LOS		E	B	D	D						B	
Approach Delay (s/veh)		48.1			38.8						11.3	
Approach LOS		D			D						B	
Queue Length 50th (ft)		129	8	72	163						209	
Queue Length 95th (ft)		206	44	123	247						327	

Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue

2025 BASELINE CONDITIONS

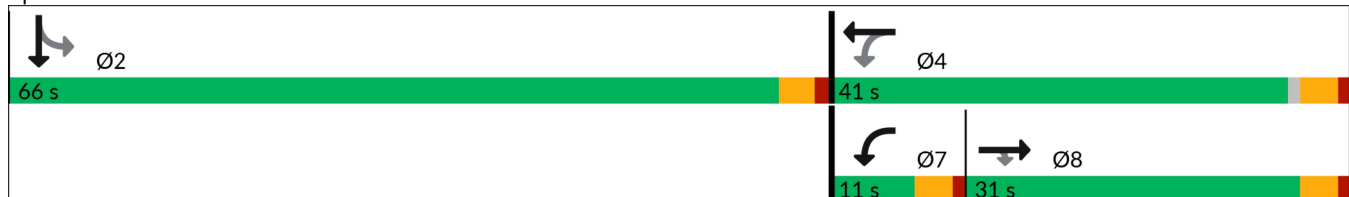


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		313				305		1269			2053	
Turn Bay Length (ft)			50	125								
Base Capacity (vph)		505	466	223	739						2289	
Starvation Cap Reductn		0	0	0	76						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.43	0.14	0.66	0.46						0.57	

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	96
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay (s/veh):	22.5
Intersection LOS:	C
Intersection Capacity Utilization:	63.2%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue



Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 BASELINE CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	277	0	0	336	258	222	677	2	0	0	0
Future Volume (vph)	47	277	0	0	336	258	222	677	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	0		125	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850						
Flt Protected	0.950							0.988				
Satd. Flow (prot)	1752	1845	0	0	1845	1568	0	3531	0	0	0	0
Flt Permitted	0.174							0.988				
Satd. Flow (perm)	321	1845	0	0	1845	1568	0	3531	0	0	0	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		385			615			394				343
Travel Time (s)		10.5			16.8			10.7				9.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	292	0	0	354	272	0	949	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	3	8			4			2				
Permitted Phases	8					4	2					
Detector Phase	3	8			4	4	2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	10.0	10.0				
Minimum Split (s)	9.5	28.0			28.0	28.0	26.0	26.0				
Total Split (s)	10.0	45.0			29.0	29.0	53.0	53.0				
Total Split (%)	10.2%	45.9%			29.6%	29.6%	54.1%	54.1%				
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0				
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	None			None	None	Max	Max				
Act Effct Green (s)	24.3	24.3			19.0	19.0		49.7				
Actuated g/C Ratio	0.30	0.30			0.23	0.23		0.61				
v/c Ratio	0.25	0.53			0.83	0.75		0.44				
Control Delay (s/veh)	22.4	26.9			47.8	43.6		11.2				
Queue Delay	0.0	0.1			0.0	0.0		0.0				
Total Delay (s/veh)	22.4	27.0			47.8	43.6		11.2				
LOS	C	C			D	D		B				
Approach Delay (s/veh)		26.4			46.0			11.3				
Approach LOS		C			D			B				
Queue Length 50th (ft)	18	123			183	137		146				
Queue Length 95th (ft)	41	193			285	226		227				

Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 BASELINE CONDITIONS

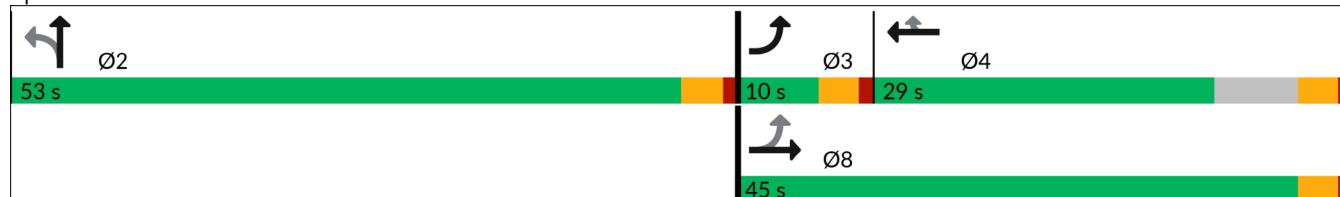


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		305			535			314			263	
Turn Bay Length (ft)	50					125						
Base Capacity (vph)	200	934			706	600		2138				
Starvation Cap Reductn	0	124			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.25	0.36			0.50	0.45		0.44				

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	82.1
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay (s/veh):	25.3
Intersection LOS:	C
Intersection Capacity Utilization:	63.2%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 20: 2nd Street NE & E Stewart Avenue/E Main Avenue



APPENDIX D

LUC 154 – HIGH-CUBE ANALYSIS

LUC - 154
 High-Cube Transload
 Short-Term Storage Warehouse

Freeman Road Logistics
 KH 090222083

Trip Generation for: Development Peak Weekday
 (a.k.a.): Average Weekday Daily Trips (AWDT)

NET EXTERNAL TRIPS BY TYPE																					
										IN BOTH DIRECTIONS					DIRECTIONAL ASSIGNMENTS						
			Gross Trips				Internal Crossover			TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out	
High-Cube Transload and Short-Term Storage Warehouse - Building A (Total)	238.525 KSF	154	1.40	50%	50%	333.94	0%	0.00	333.94	0%	0.00	0%	0.00	333.94	0.00	0.00	0.00	0.00	166.97	166.97	
High-Cube Transload and Short-Term Storage Warehouse - Building B (Total)	266.911 KSF	154	1.40	50%	50%	373.68	0%	0.00	373.68	0%	0.00	0%	0.00	373.68	0.00	0.00	0.00	0.00	186.84	186.84	
Single-Family Detached	-14 Units	210	9.43	50%	50%	-132.02	0%	0.00	-132.02	0%	0.00	0%	0.00	-132.02	0.00	0.00	0.00	0.00	-66.01	-66.01	
Total Vehicle Trips						575.60		0.00	575.60		0.00		0.00	575.60	0.00	0.00	0.00	0.00	287.80	287.80	

			Gross Truck Trips				Internal Crossover			TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Truck Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out	
High-Cube Transload and Short-Term Storage Warehouse - Building A (Truck)	238.525 KSF	154	0.22	50%	50%	52.48	0%	0.00	52.48	0%	0.00	0%	0.00	52.48	0.00	0.00	0.00	0.00	26.24	26.24	
High-Cube Transload and Short-Term Storage Warehouse - Building A (Truck)	266.911 KSF	154	0.22	50%	50%	58.72	0%	0.00	58.72	0%	0.00	0%	0.00	58.72	0.00	0.00	0.00	0.00	29.36	29.36	
Total Truck Trips						111.20		0.00	111.20		0.00		0.00	111.20	0.00	0.00	0.00	0.00	55.60	55.60	

Total Passenger Car Trips:	464.40	232.20	232.20
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LUC - 154
 High-Cube Transload
 Short-Term Storage Warehouse

Freeman Road Logistics
 KH 090222083

Trip Generation for: Development Peak Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 7 and 9 AM
(a.k.a.): Weekday AM Peak Hour

NET EXTERNAL TRIPS BY TYPE																					
		Gross Trips							Internal Crossover		IN BOTH DIRECTIONS				DIRECTIONAL ASSIGNMENTS						
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	TOTAL In+Out (Total)	PASS-BY		DIVERTED LINK		NEW In+Out (Total)	PASS-BY		DIVERTED LINK		NEW		
										% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)		In	Out	In	Out	In	Out	
High-Cube Transload and Short-Term Storage Warehouse - Building A (Total)	238.525 KSF	154	0.08	77%	23%	19.08	0%	0.00	19.08	0%	0.00	0%	0.00	19.08	0.00	0.00	0.00	0.00	14.69	4.39	
High-Cube Transload and Short-Term Storage Warehouse - Building B (Total)	266.911 KSF	154	0.08	77%	23%	21.35	0%	0.00	21.35	0%	0.00	0%	0.00	21.35	0.00	0.00	0.00	0.00	16.44	4.91	
Single-Family Detached	-14 Units	210	0.70	26%	74%	-9.80	0%	0.00	-9.80	0%	0.00	0%	0.00	-9.80	0.00	0.00	0.00	0.00	-2.55	-7.25	
Total Vehicle Trips						30.63		0.00	30.63		0.00		0.00	30.63	0.00	0.00	0.00	0.00	28.58	2.05	

		Gross Truck Trips					Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Truck Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
High-Cube Transload and Short-Term Storage Warehouse - Building A (Truck)	266.911 KSF	154	0.02	49%	51%	5.34	0%	0.00	5.34	0%	0.00	0%	0.00	5.34	0.00	0.00	0.00	0.00	2.62	2.72
Total Truck Trips						10.11		0.00	10.11		0.00		0.00	10.11	0.00	0.00	0.00	0.00	4.96	5.15

Total Passenger Car Trips:	20.52	23.62	-3.10
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LUC - 154
 High-Cube Transload
 Short-Term Storage Warehouse

Freeman Road Logistics
 KH 090222083

Trip Generation for: Development Peak Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 4 and 6 PM
(a.k.a.): Weekday PM Peak Hour

NET EXTERNAL TRIPS BY TYPE																					
		Gross Trips							Internal Crossover		IN BOTH DIRECTIONS				DIRECTIONAL ASSIGNMENTS						
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	TOTAL In+Out (Total)	PASS-BY		DIVERTED LINK		NEW In+Out (Total)	PASS-BY		DIVERTED LINK		NEW		
										% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)		In	Out	In	Out	In	Out	
High-Cube Transload and Short-Term Storage Warehouse - Building A (Total)	238.525 KSF	154	0.10	28%	72%	23.85	0%	0.00	23.85	0%	0.00	0%	0.00	23.85	0.00	0.00	0.00	0.00	6.68	17.17	
High-Cube Transload and Short-Term Storage Warehouse - Building B (Total)	266.911 KSF	154	0.10	28%	72%	26.69	0%	0.00	26.69	0%	0.00	0%	0.00	26.69	0.00	0.00	0.00	0.00	7.47	19.22	
Single-Family Detached	-14 Units	210	0.94	63%	37%	-13.16	0%	0.00	-13.16	0%	0.00	0%	0.00	-13.16	0.00	0.00	0.00	0.00	-8.29	-4.87	
Total Vehicle Trips						37.38		0.00	37.38		0.00		0.00	37.38	0.00	0.00	0.00	0.00	5.86	31.52	

		Gross Truck Trips							Internal Crossover		IN BOTH DIRECTIONS				DIRECTIONAL ASSIGNMENTS						
LAND USES	VARIABLE	ITE LU code	Truck Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	TOTAL In+Out (Total)	PASS-BY		DIVERTED LINK		NEW In+Out (Total)	PASS-BY		DIVERTED LINK		NEW		
										% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)		In	Out	In	Out	In	Out	
High-Cube Transload and Short-Term Storage Warehouse - Building A (Truck)	238.525 KSF	154	0.01	47%	53%	2.39	0%	0.00	2.39	0%	0.00	0%	0.00	2.39	0.00	0.00	0.00	0.00	1.12	1.27	
High-Cube Transload and Short-Term Storage Warehouse - Building A (Truck)	266.911 KSF	154	0.01	47%	53%	2.67	0%	0.00	2.67	0%	0.00	0%	0.00	2.67	0.00	0.00	0.00	0.00	1.25	1.42	
Total Truck Trips						5.06		0.00	5.06		0.00		0.00	5.06	0.00	0.00	0.00	0.00	2.37	2.69	

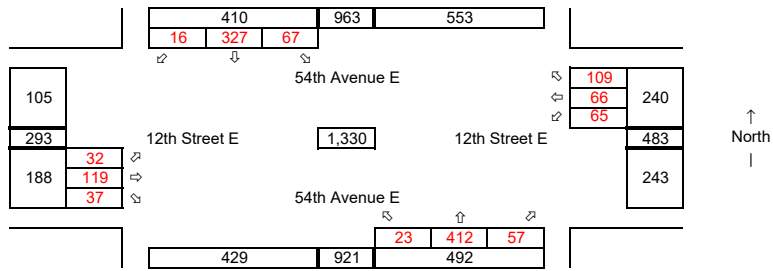
Total Passenger Car Trips:	32.32	3.49	28.83
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Freeman Logistics
154 - Short-Term Storage Warehouse

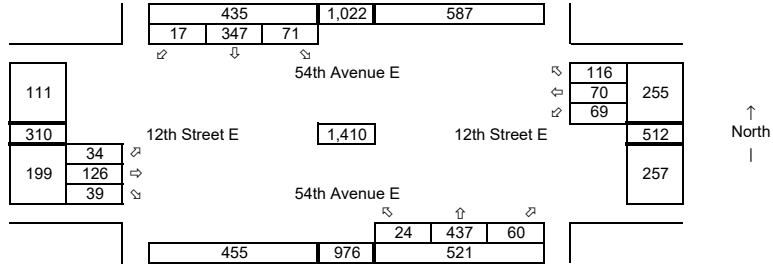
1 54th Ave E @ 12th St E

AM Peak-Hour

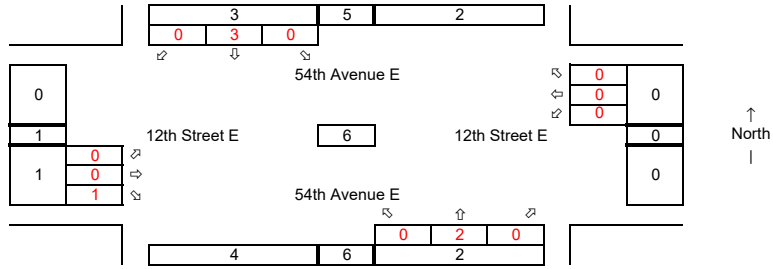
Synchro ID: 1
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



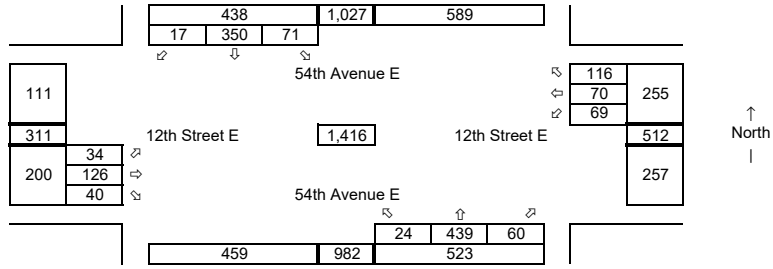
Future without Project
 Average Weekday
 AM Peak Hour
 Year: **2025**
 Growth Rate = **3.0%**
 Years of Growth = **2**
 Total Growth = **1.0609**



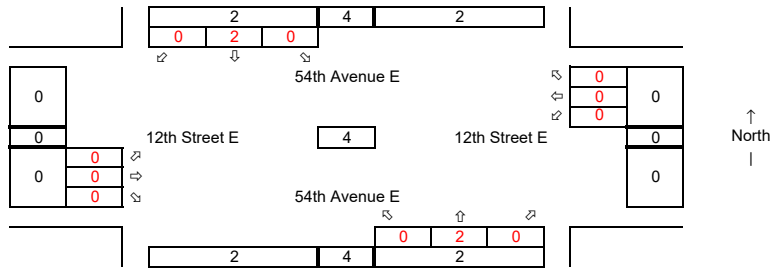
Total Development Trips
 Average Weekday
 AM Peak Hour



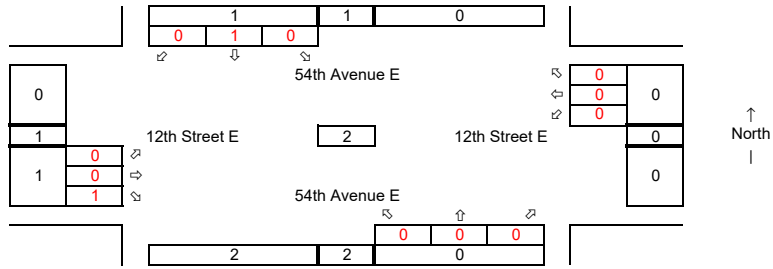
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



Freeman Logistics
154 - Short-Term Storage Warehouse

2 54th Ave E @ SR-99

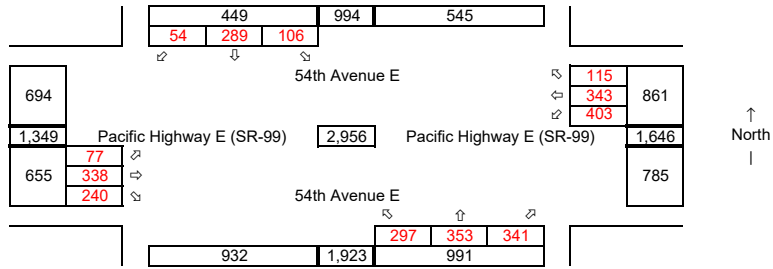
AM Peak-Hour

Synchro ID: 2
Existing
 Average Weekday
 AM Peak Hour

 Year: **6/15/2023**

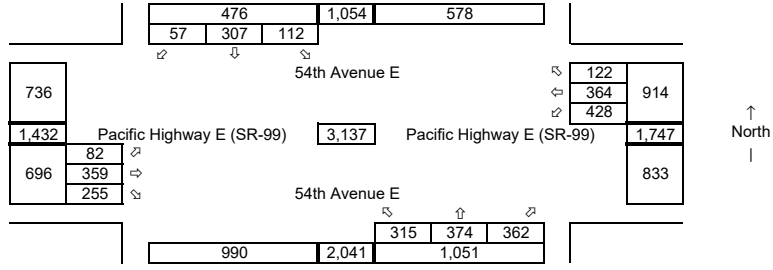
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 Two (2) Eastbound U-turns added
 to Eastbound left-turns

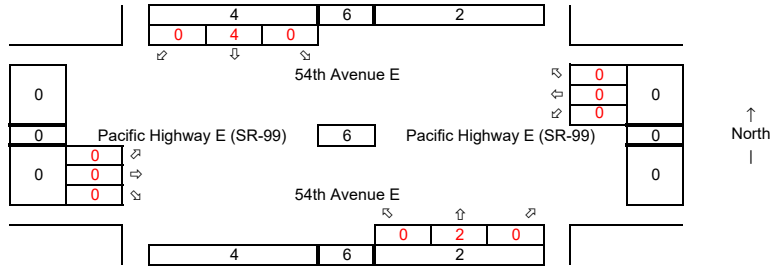


Future without Project
 Average Weekday
 AM Peak Hour

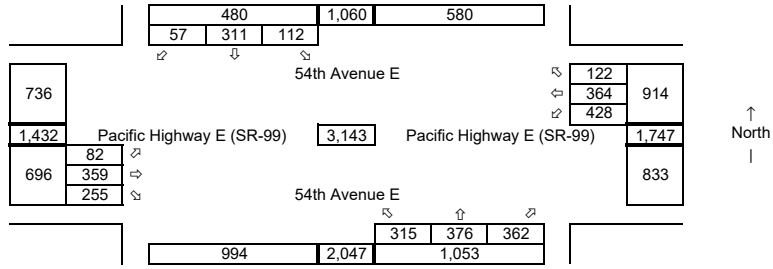
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



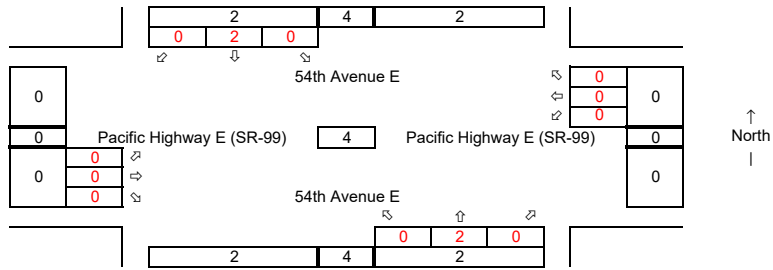
Total Development Trips
 Average Weekday
 AM Peak Hour



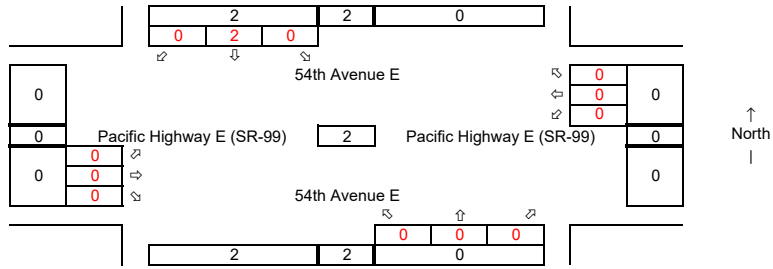
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



Freeman Logistics
154 - Short-Term Storage Warehouse

3 54th Ave E @ I-5 Ramps

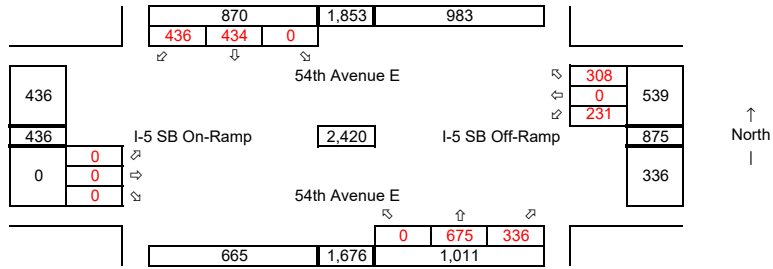
AM Peak-Hour

Synchro ID: 3
Existing
 Average Weekday
 AM Peak Hour

 Year: **6/15/2023**

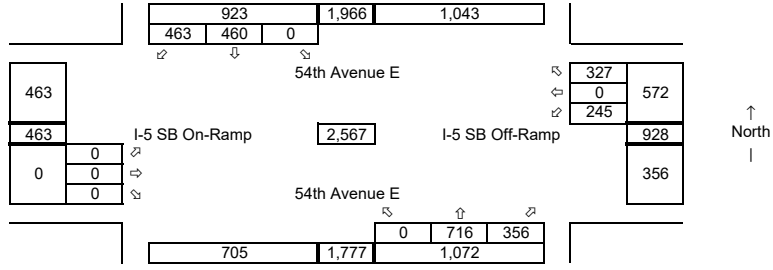
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 One (1) Northbound U-turn added
 to Northbound Thru

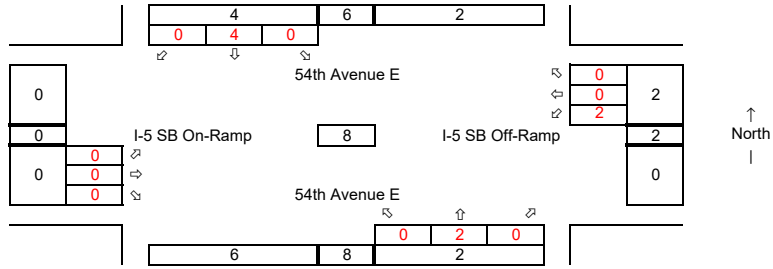


Future without Project
 Average Weekday
 AM Peak Hour

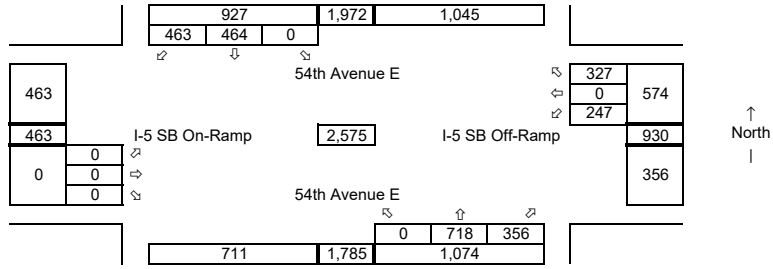
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



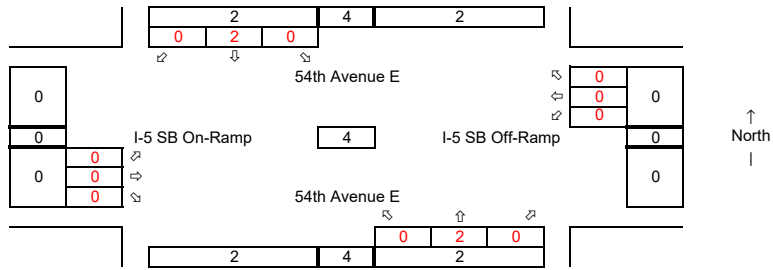
Total Development Trips
 Average Weekday
 AM Peak Hour



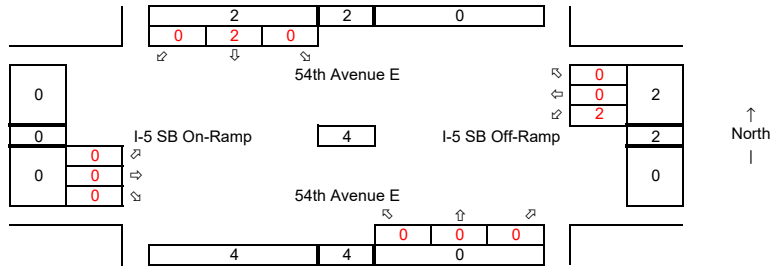
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour

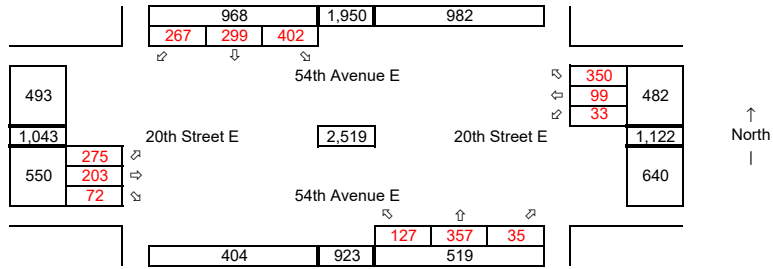


Freeman Logistics
154 - Short-Term Storage Warehouse

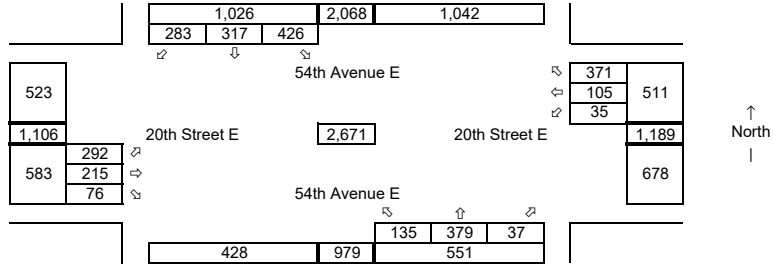
4 54th Ave E @ 20th St

AM Peak-Hour

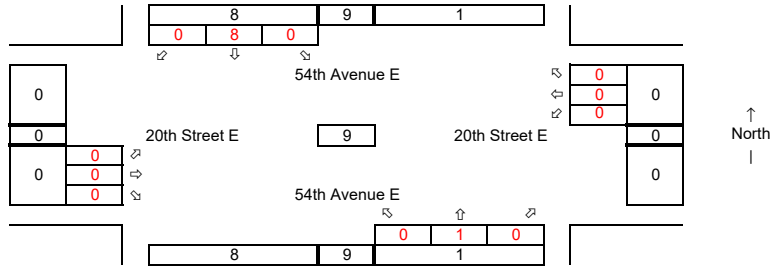
Synchro ID: 4
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/15/2023**
 Data Source: **IDAX**



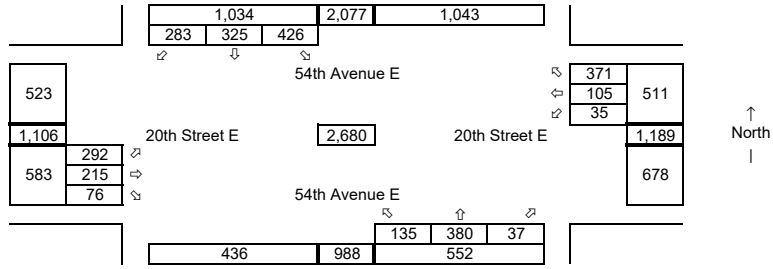
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



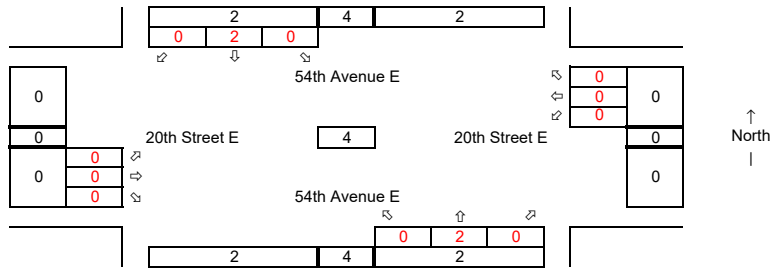
Total Development Trips
 Average Weekday
 AM Peak Hour



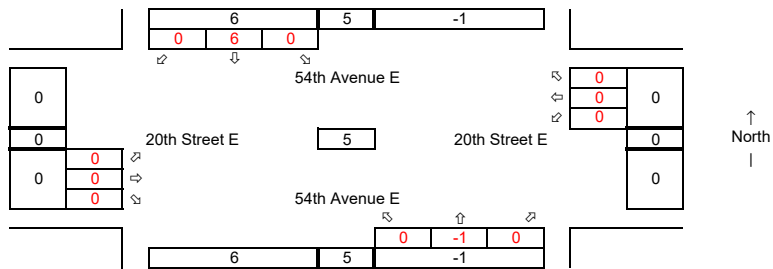
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour

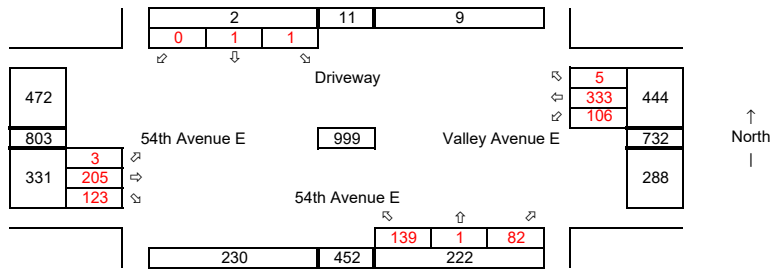


Freeman Logistics
154 - Short-Term Storage Warehouse

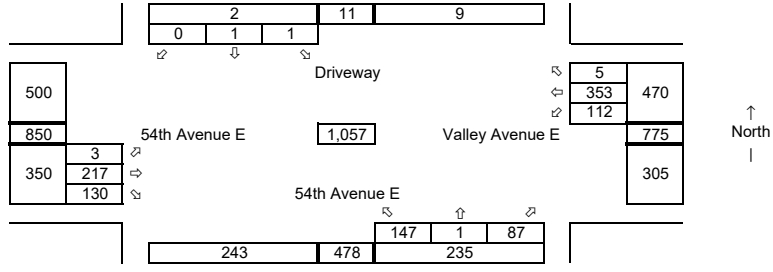
6 54th Ave E @ Valley Ave E

AM Peak-Hour

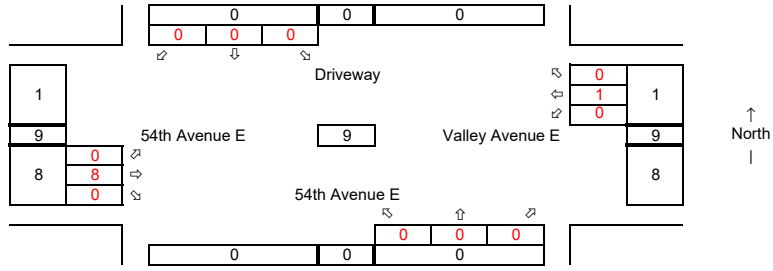
Synchro ID: 6
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/15/2023**
 Data Source: **IDAX**



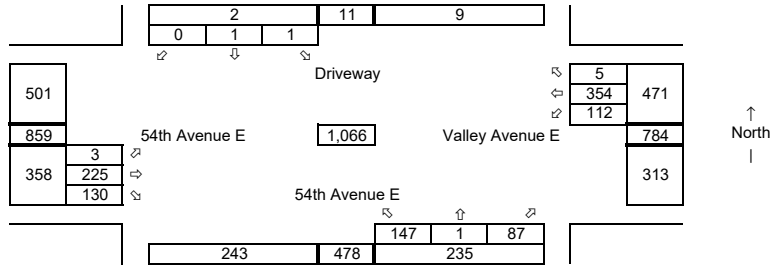
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



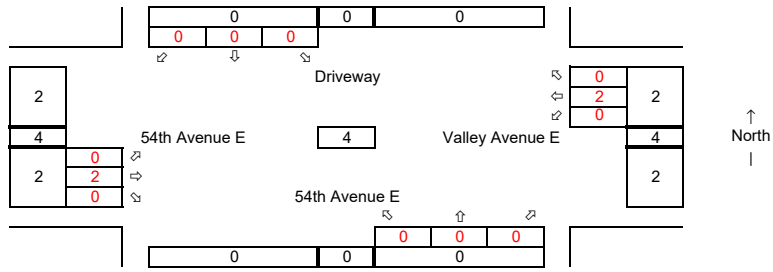
Total Development Trips
 Average Weekday
 AM Peak Hour



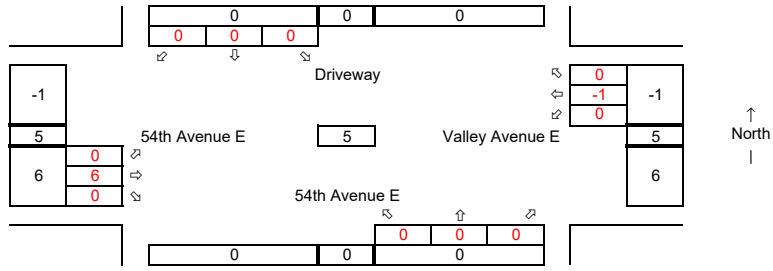
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



Freeman Logistics
154 - Short-Term Storage Warehouse

7 70th Ave E @ SR-99

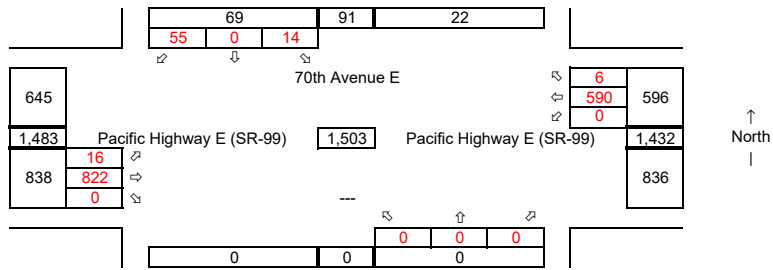
AM Peak-Hour

Synchro ID: 7

Existing
 Average Weekday
 AM Peak Hour

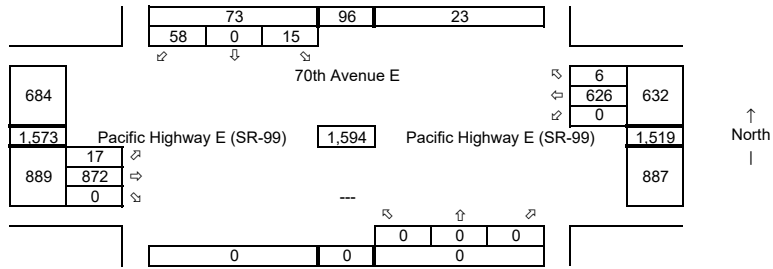
Year: **6/15/2023**

Data Source: **IDAX**

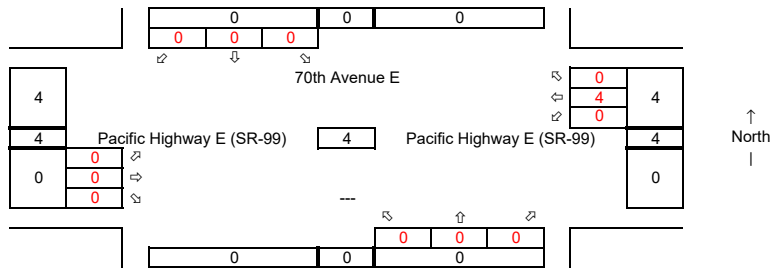


Future without Project
 Average Weekday
 AM Peak Hour

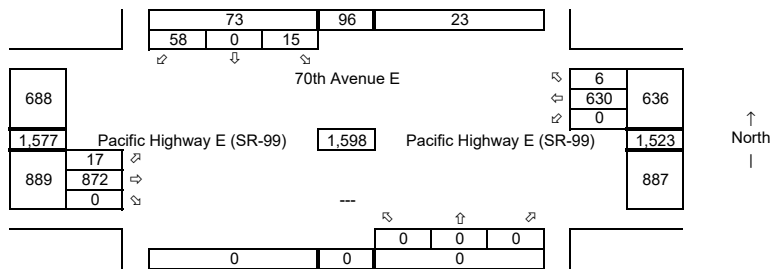
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



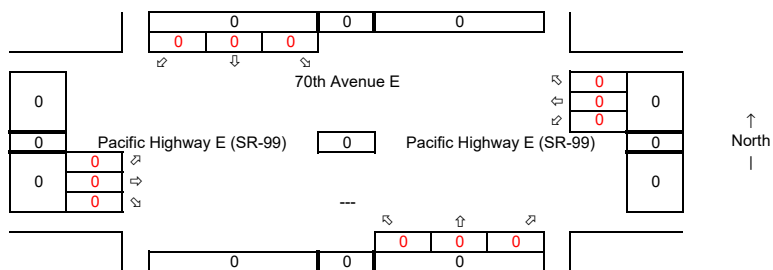
Total Development Trips
 Average Weekday
 AM Peak Hour



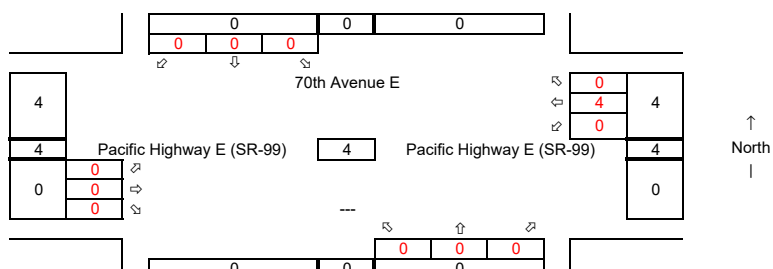
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour

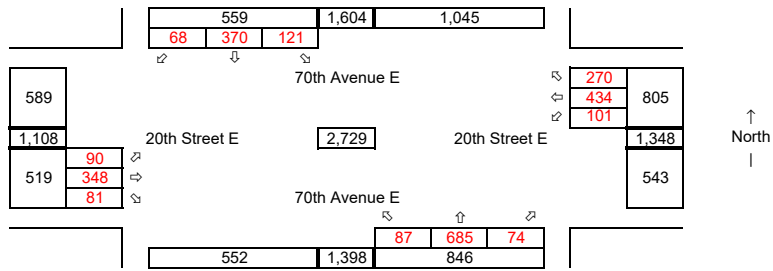


Freeman Logistics
154 - Short-Term Storage Warehouse

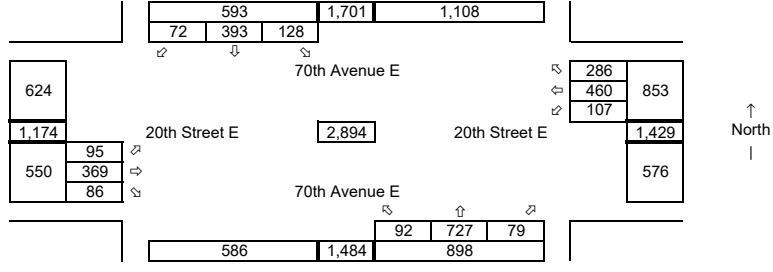
8 70th Ave E @ 20th St E

AM Peak-Hour

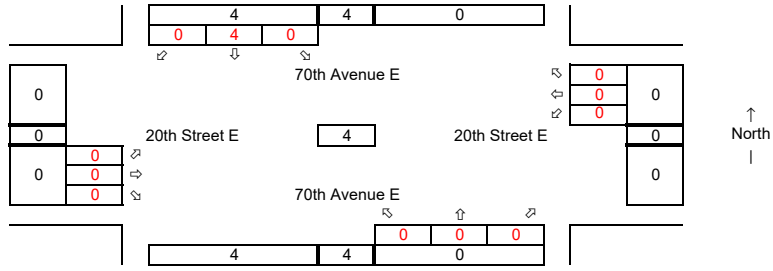
Synchro ID: 8
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



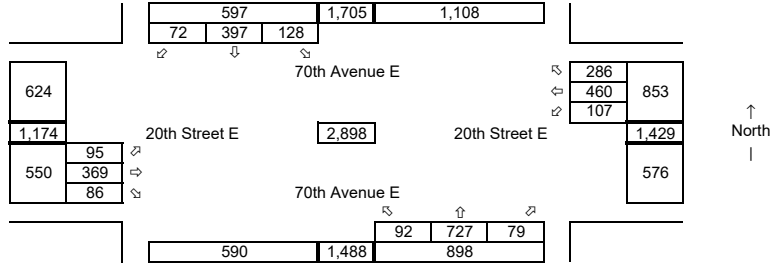
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



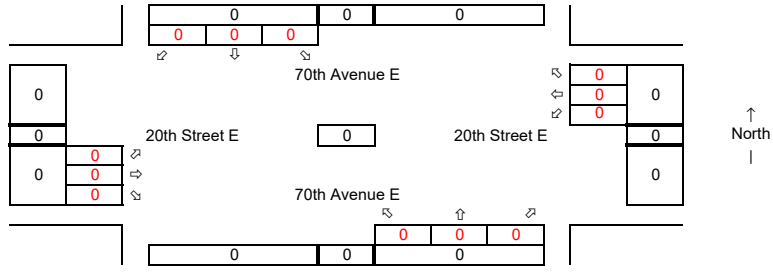
Total Development Trips
 Average Weekday
 AM Peak Hour



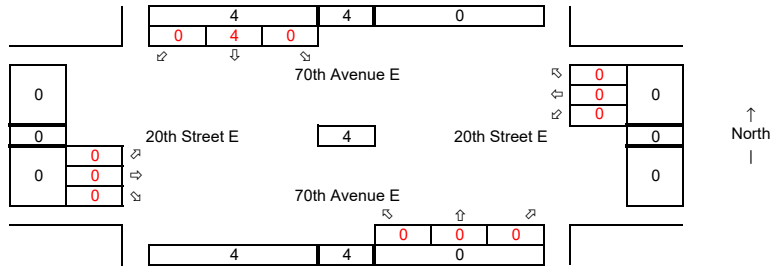
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



Freeman Logistics
154 - Short-Term Storage Warehouse

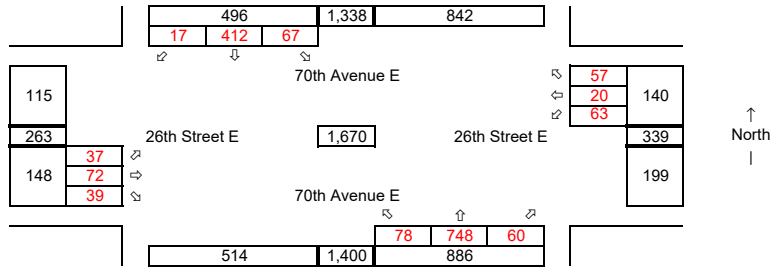
9 70th Ave E @ 26th St E

AM Peak-Hour

Synchro ID: 9
Existing
 Average Weekday
 AM Peak Hour

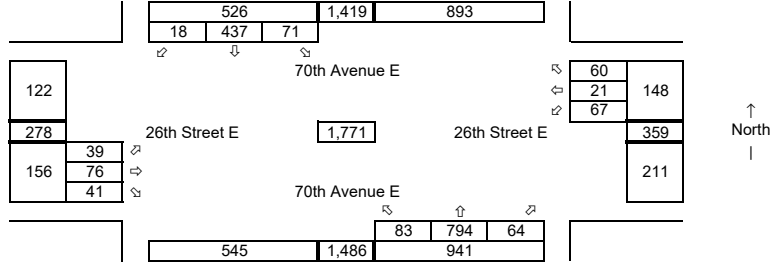
Year: **6/8/2023**

Data Source: **IDAX**

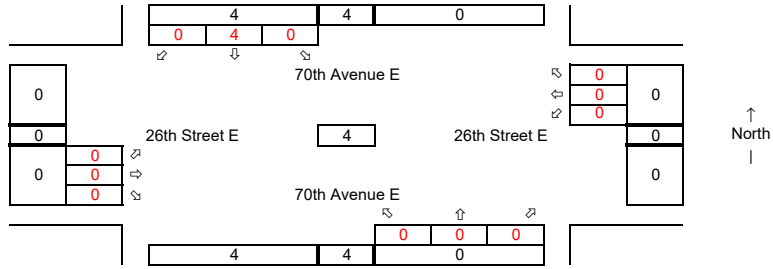


Future without Project
 Average Weekday
 AM Peak Hour

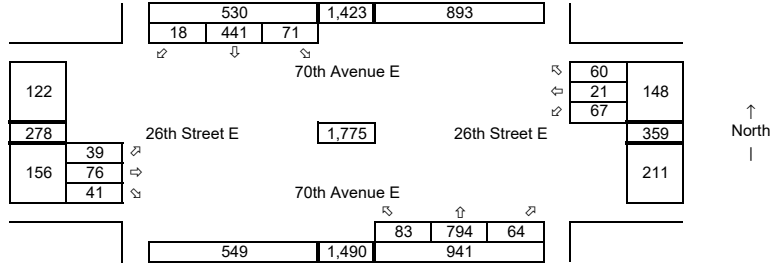
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



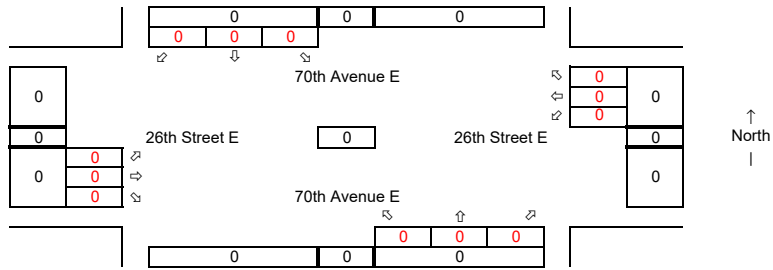
Total Development Trips
 Average Weekday
 AM Peak Hour



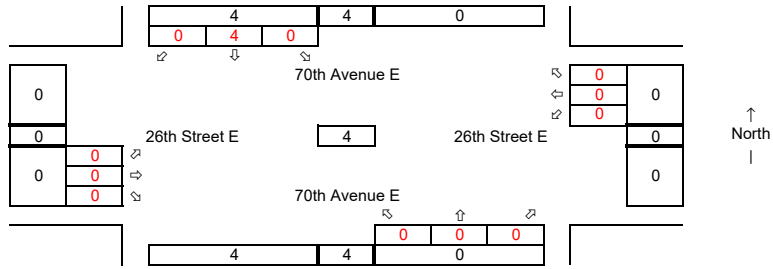
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour

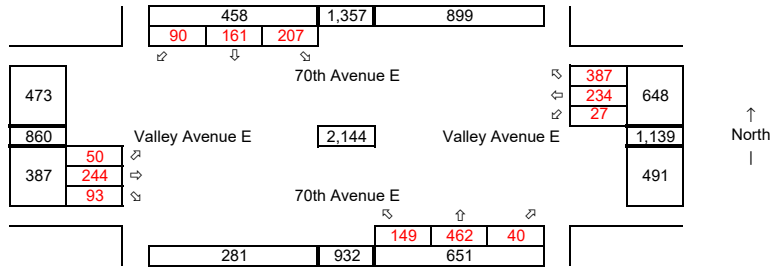


Freeman Logistics
154 - Short-Term Storage Warehouse

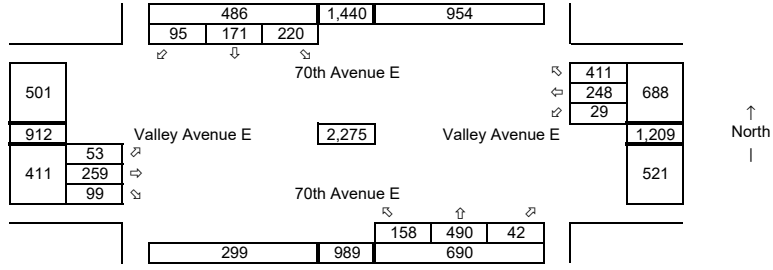
10 70th Ave E @ Valley Ave E

AM Peak-Hour

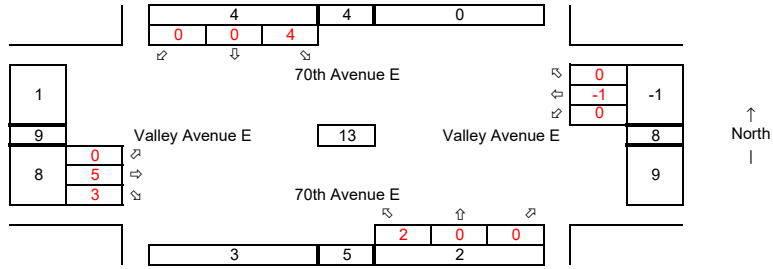
Synchro ID: 10
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



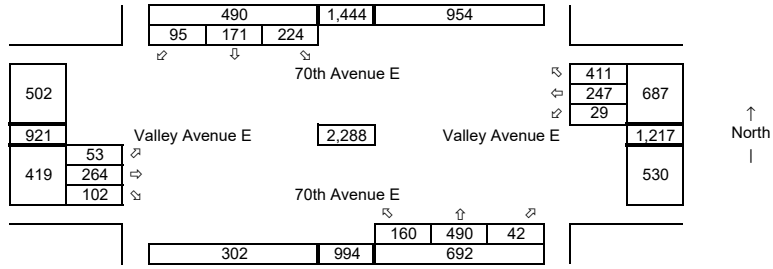
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



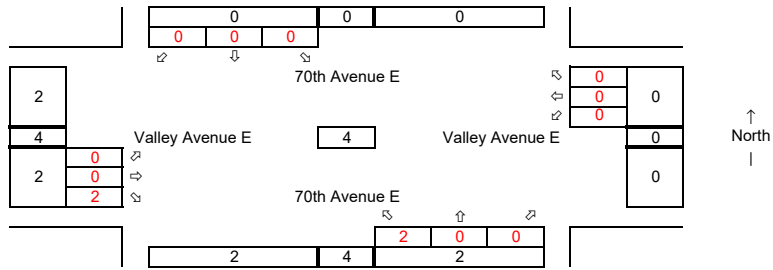
Total Development Trips
 Average Weekday
 AM Peak Hour



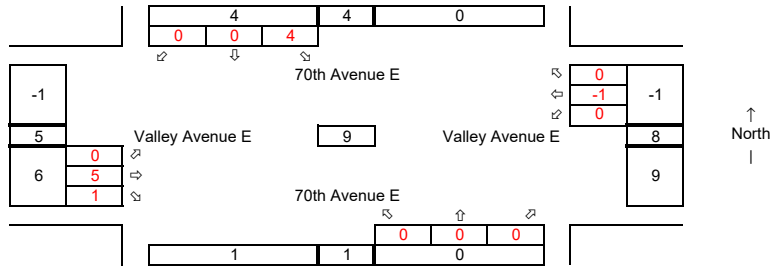
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



Freeman Logistics
154 - Short-Term Storage Warehouse

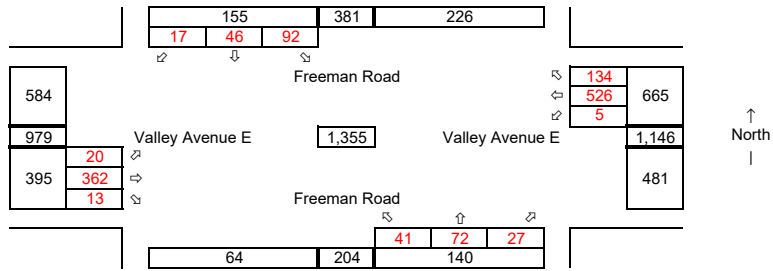
11 Freeman Rd @ Valley Ave E

AM Peak-Hour

Synchro ID: 11
Existing
 Average Weekday
 AM Peak Hour

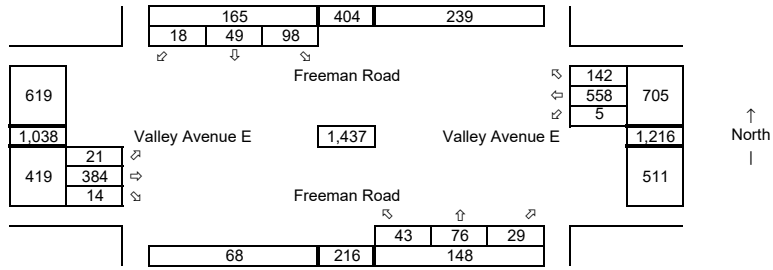
Year: **6/14/2023**

Data Source: **IDAX**

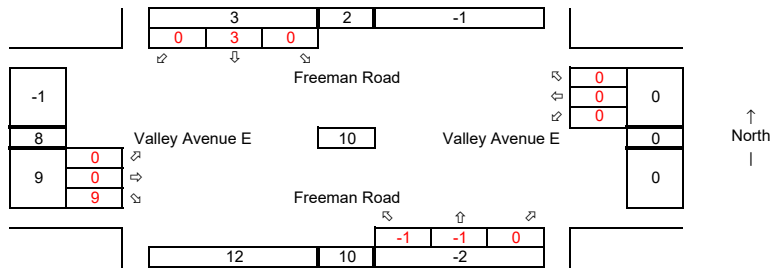


Future without Project
 Average Weekday
 AM Peak Hour

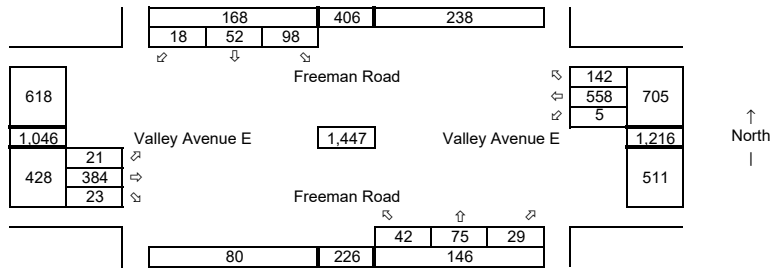
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



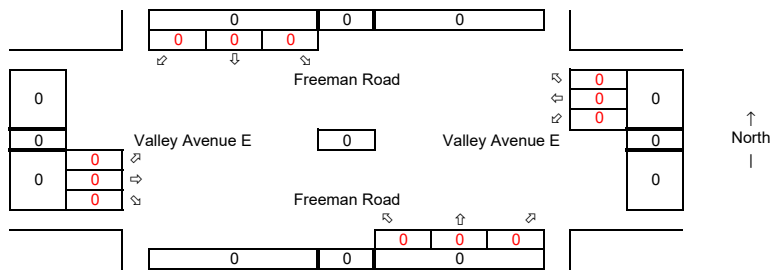
Total Development Trips
 Average Weekday
 AM Peak Hour



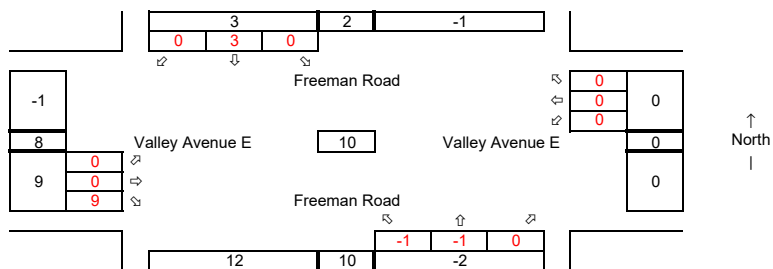
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



LUC - 154
Short-Term Storage Warehouse

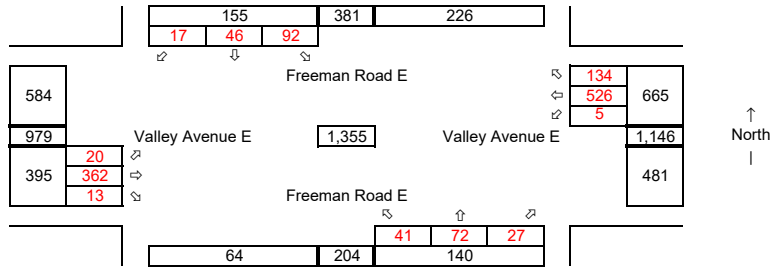
11 Freeman Rd E @ Valley Ave E

AM Peak-Hour

Synchro ID: 11
 With SR-167 Extension **Existing**
 Average Weekday
 AM Peak Hour

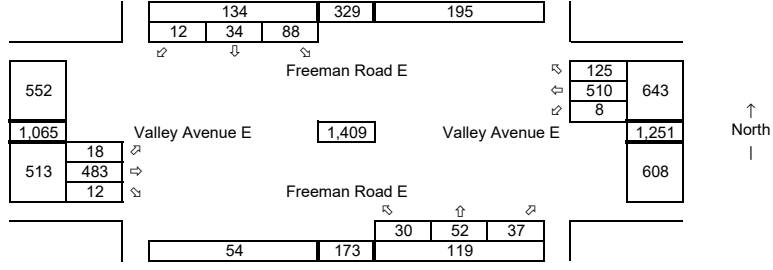
Year: **6/14/23**

Data Source: **IDAX**

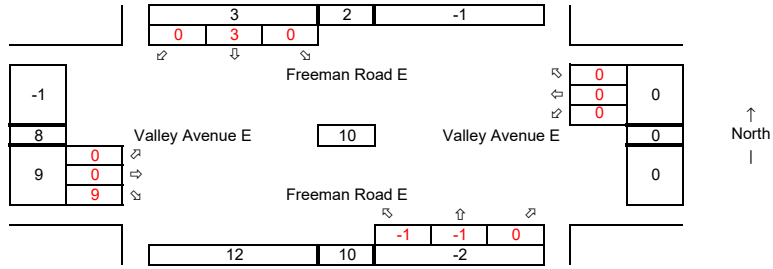


Future without Project
 Average Weekday
 AM Peak Hour

Year: **2025**
 Growth Rate = **3.0%**
 Years of Growth = **2**
 Total Growth = **1.0609**

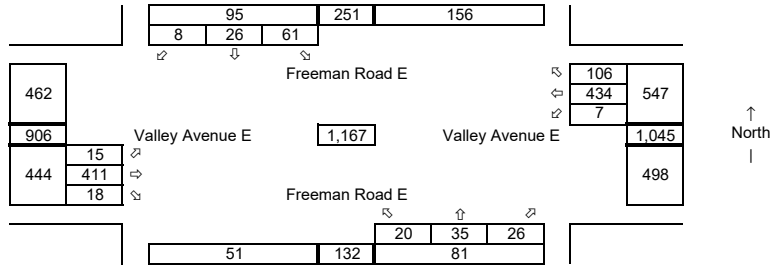


Total Development Trips
 Average Weekday
 AM Peak Hour

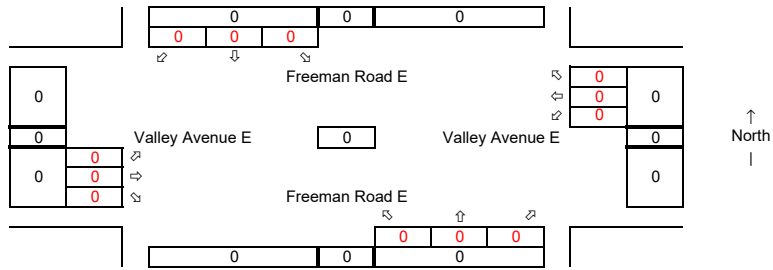


Future with Project
 Average Weekday
 AM Peak Hour

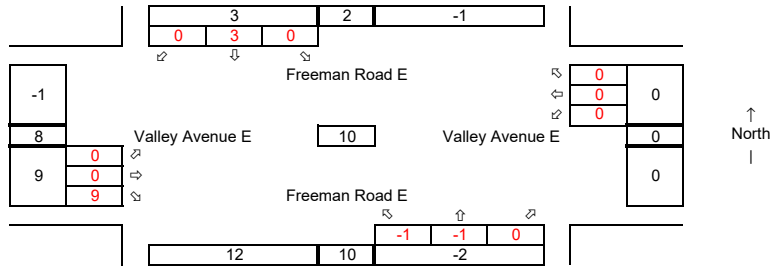
N/S Diversion % **31%**
 E/W Diversion % **15%**



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour

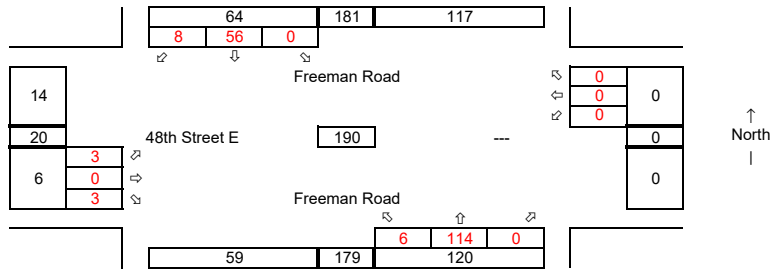


Freeman Logistics
154 - Short-Term Storage Warehouse

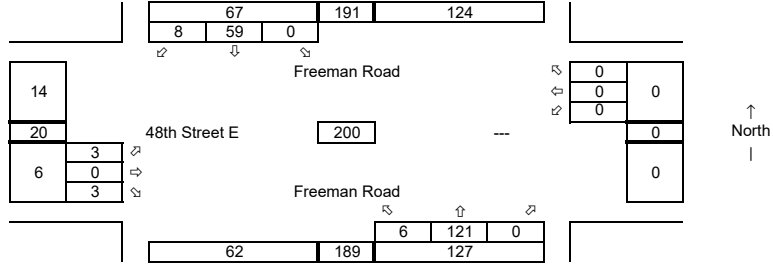
12 Freeman Rd E @ 48th St E

AM Peak-Hour

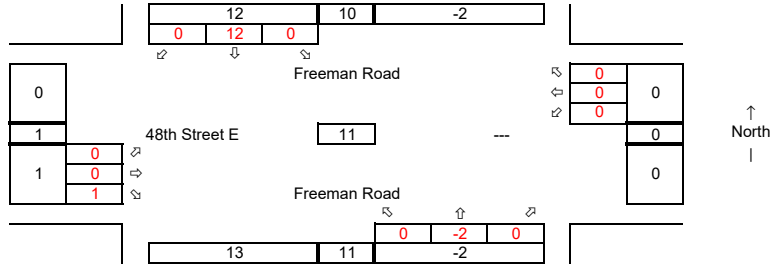
Synchro ID: 12
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



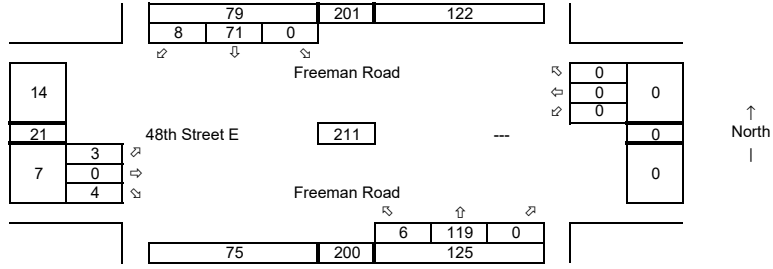
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



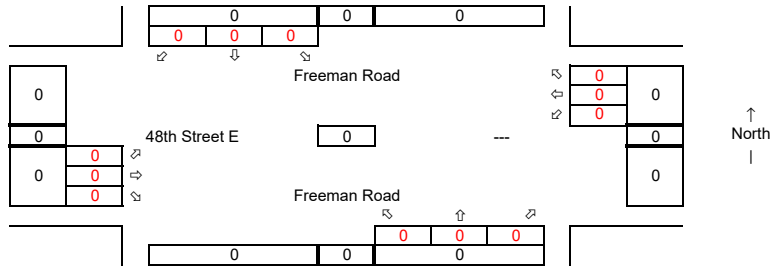
Total Development Trips
 Average Weekday
 AM Peak Hour



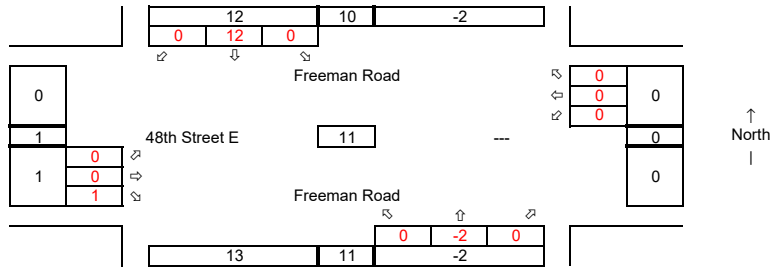
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour

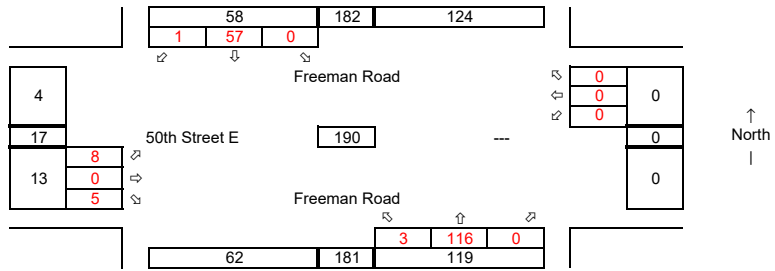


Freeman Logistics
154 - Short-Term Storage Warehouse

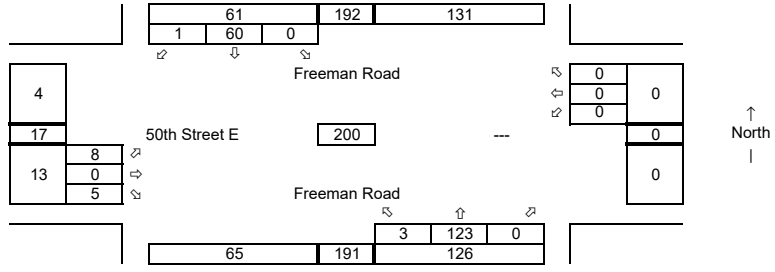
13 Freeman Rd @ 50th St E

AM Peak-Hour

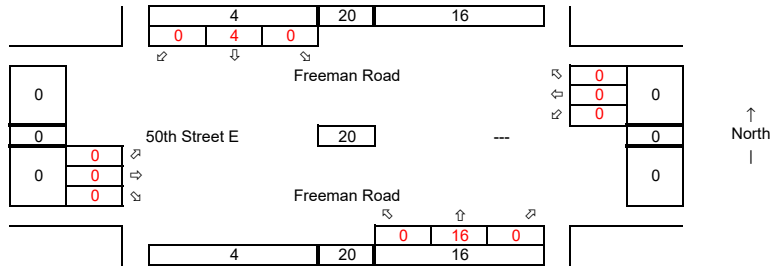
Synchro ID: 13
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



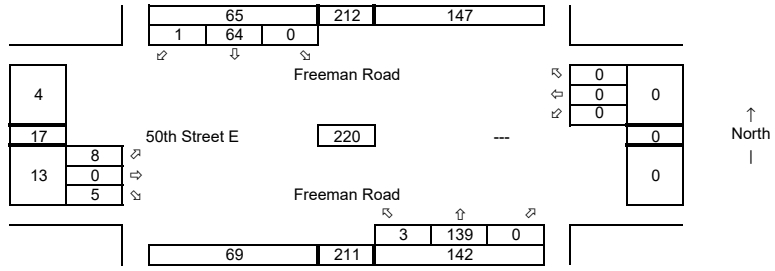
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



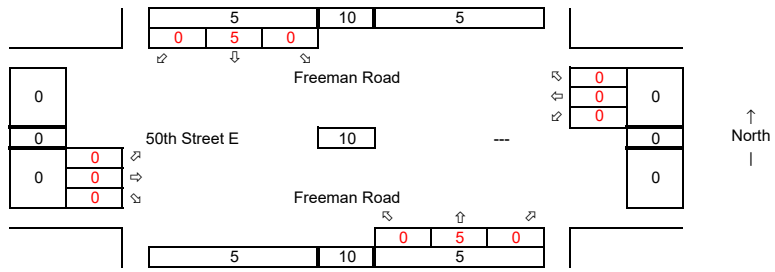
Total Development Trips
 Average Weekday
 AM Peak Hour



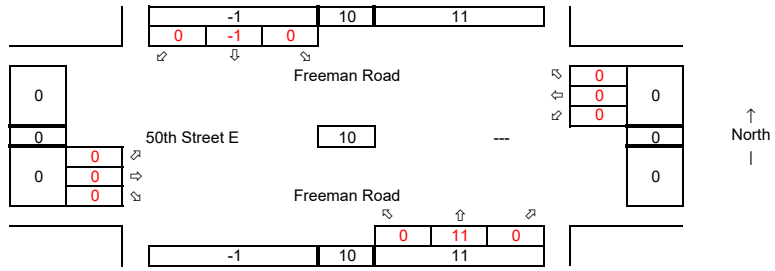
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



Freeman Logistics
154 - Short-Term Storage Warehouse

14 Freeman Rd @ 52nd St E

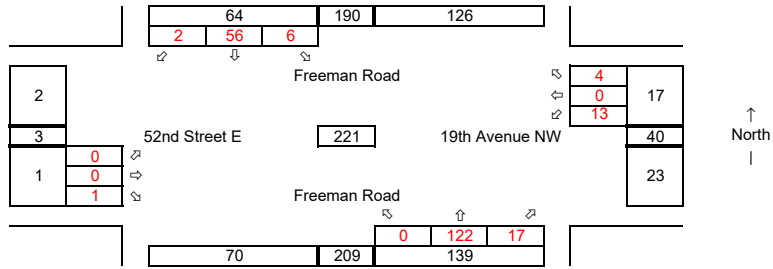
AM Peak-Hour

Synchro ID: 14
Existing
 Average Weekday
 AM Peak Hour

 Year: **6/8/2023**

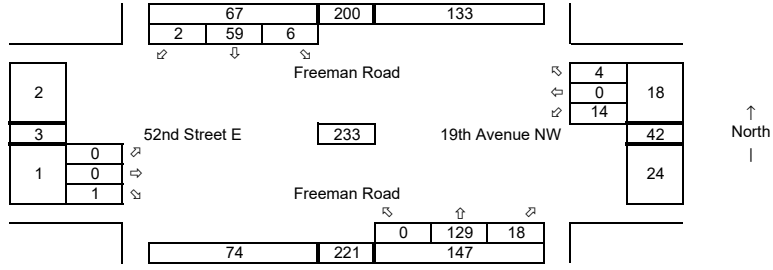
 Data Source: **IDAX**

 Two (2) Westbound U-turns
 added to Westbound Left-turns

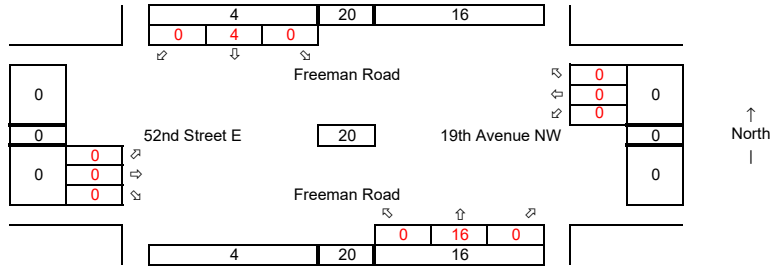


Future without Project
 Average Weekday
 AM Peak Hour

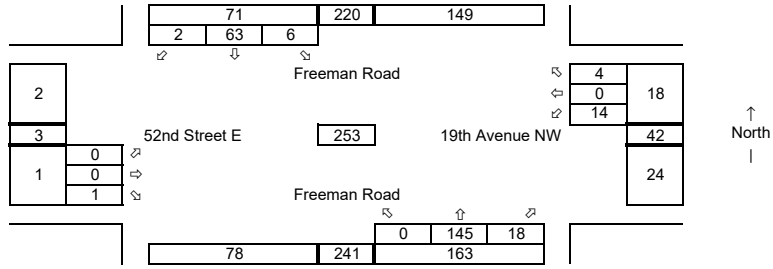
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



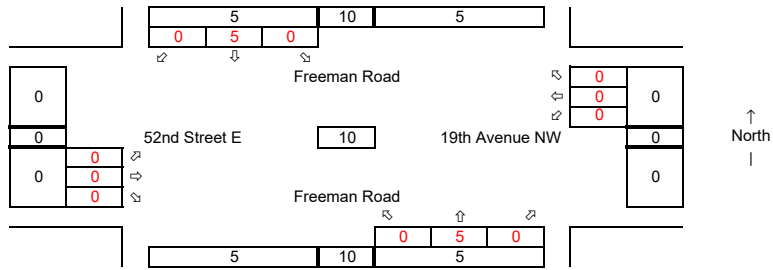
Total Development Trips
 Average Weekday
 AM Peak Hour



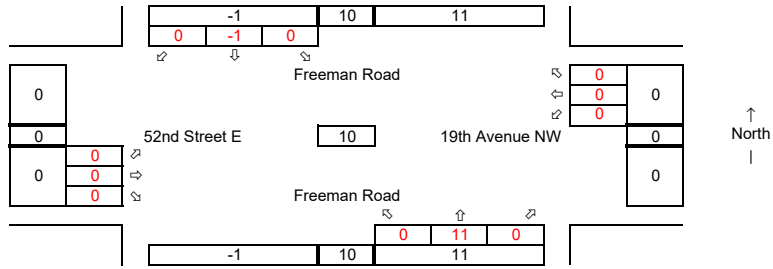
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



Freeman Logistics
154 - Short-Term Storage Warehouse

15 Freeman Rd @ N Levee Rd E

AM Peak-Hour

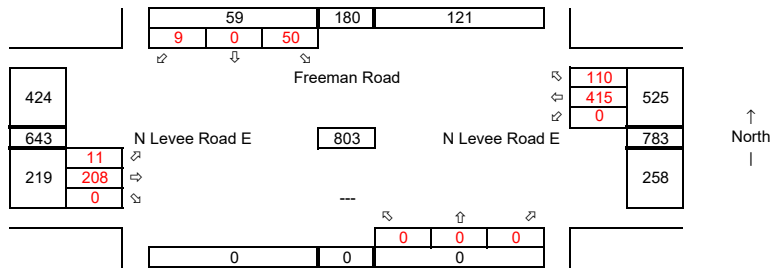
Synchro ID: 15

Existing
 Average Weekday
 AM Peak Hour

Year: **6/15/2023**

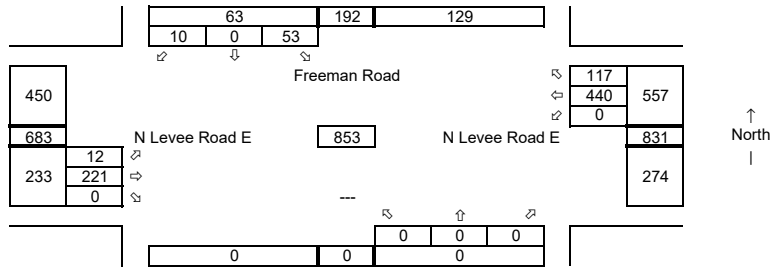
Data Source: **IDAX**

One (1) Westbound U-turn added
 to Southbound Left-turns

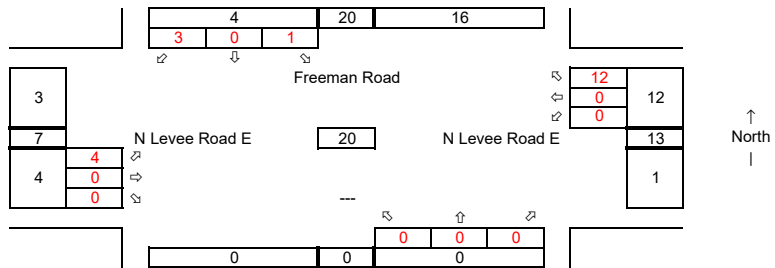


Future without Project
 Average Weekday
 AM Peak Hour

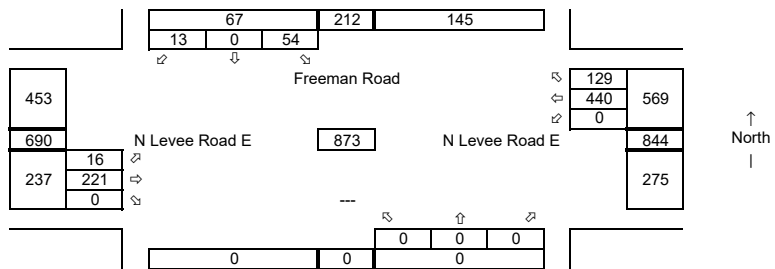
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



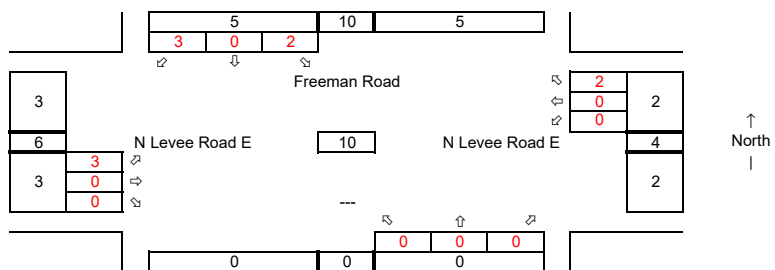
Total Development Trips
 Average Weekday
 AM Peak Hour



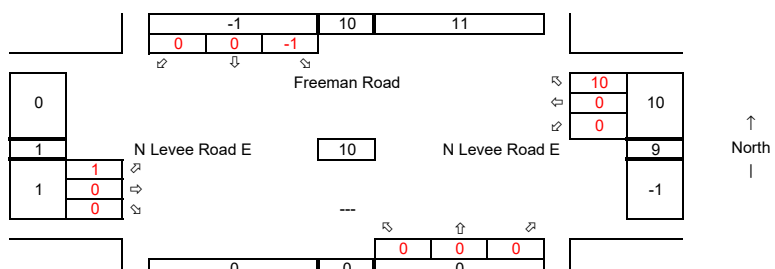
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



LUC - 154
Short-Term Storage Warehouse

15 Freeman Rd E @ N Levee Rd

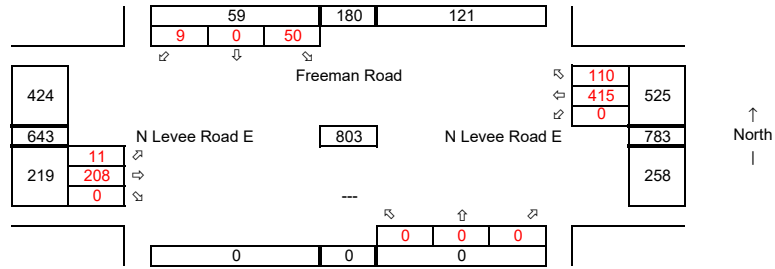
AM Peak-Hour

Synchro ID: 15
 With SR-167 Extension **Existing**
 Average Weekday
 AM Peak Hour

Year: **6/15/2023**

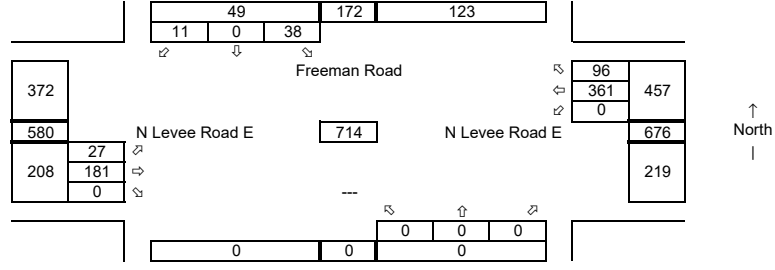
Data Source: **IDAX**

One (1) Westbound U-turn added
 to Southbound Left-turns

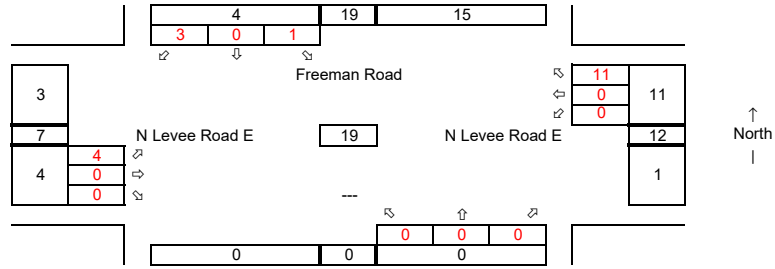


Future without Project
 Average Weekday
 AM Peak Hour

Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609

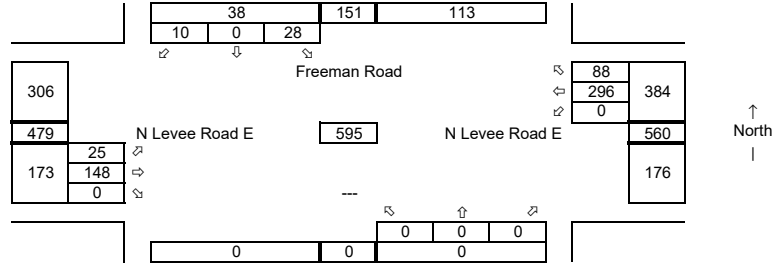


Total Development Trips
 Average Weekday
 AM Peak Hour

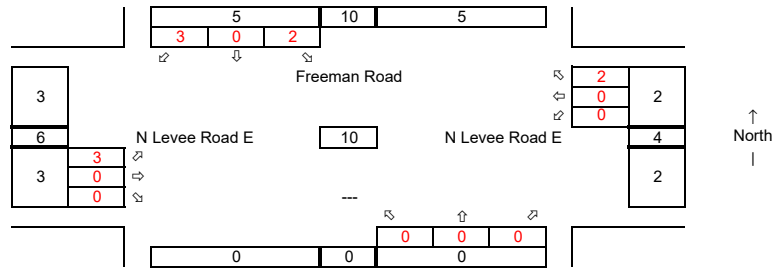


Future with Project
 Average Weekday
 AM Peak Hour

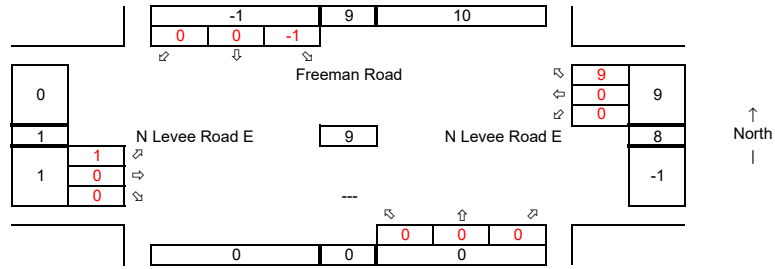
N/S Diversion % 29%
 E/W Diversion % 18%



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



Freeman Logistics
154 - Short-Term Storage Warehouse

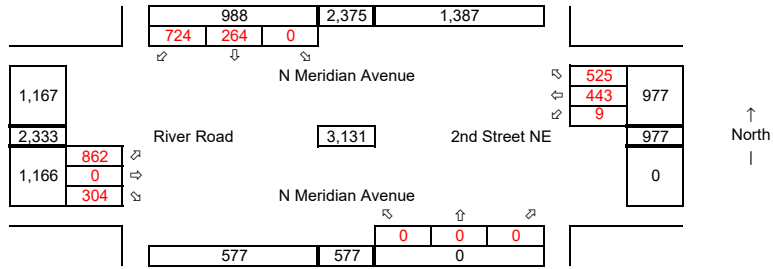
18 N Meridian Ave @ River Rd

AM Peak-Hour

Synchro ID: 18
Existing
 Average Weekday
 AM Peak Hour

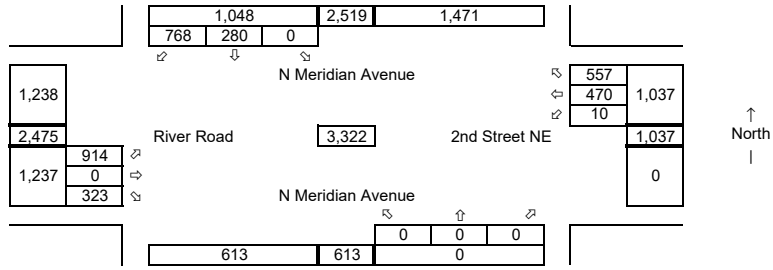
Year: **6/14/2023**

Data Source: **IDAX**

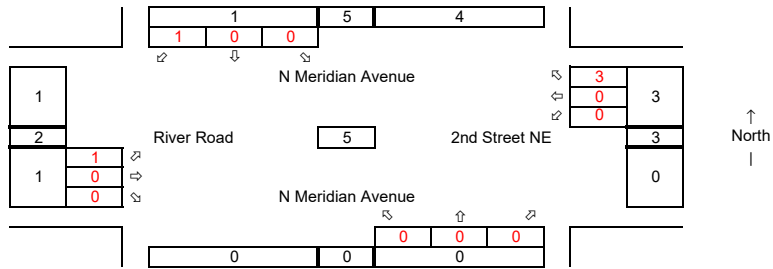


Future without Project
 Average Weekday
 AM Peak Hour

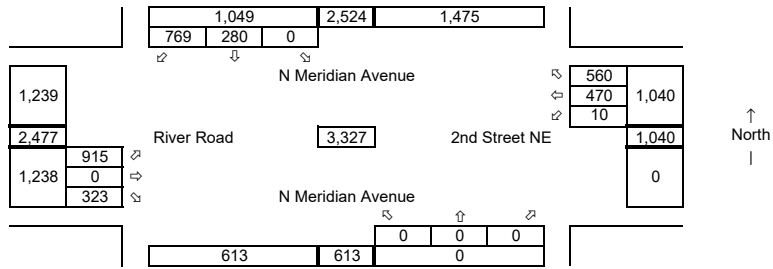
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



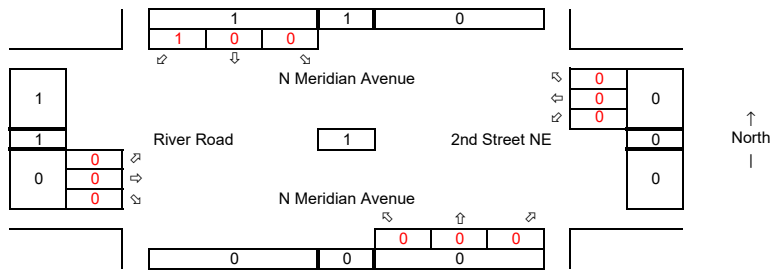
Total Development Trips
 Average Weekday
 AM Peak Hour



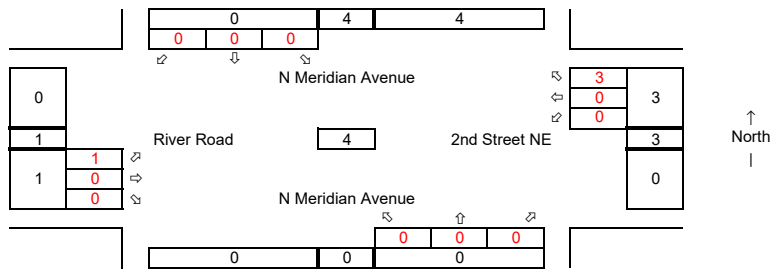
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



Freeman Logistics
154 - Short-Term Storage Warehouse

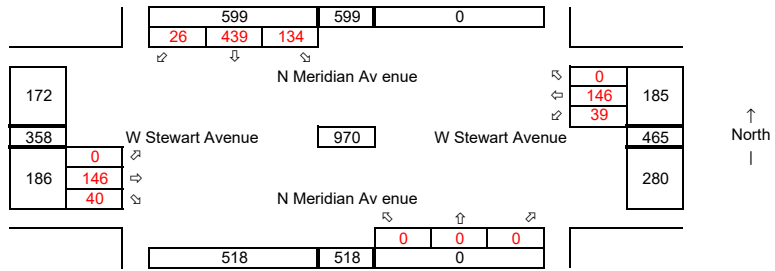
19 Meridian Ave @ W Stewart Ave

AM Peak-Hour

Synchro ID: 19
Existing
 Average Weekday
 AM Peak Hour

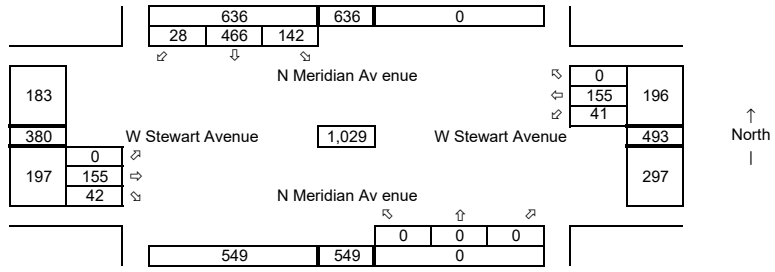
Year: **6/14/2023**

Data Source: **IDAX**

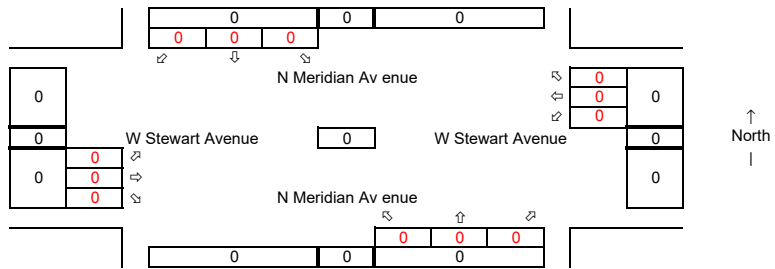


Future without Project
 Average Weekday
 AM Peak Hour

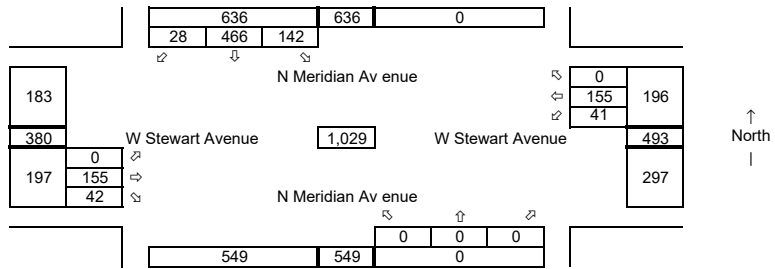
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



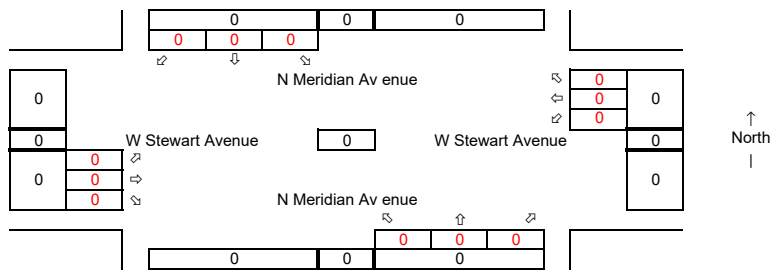
Total Development Trips
 Average Weekday
 AM Peak Hour



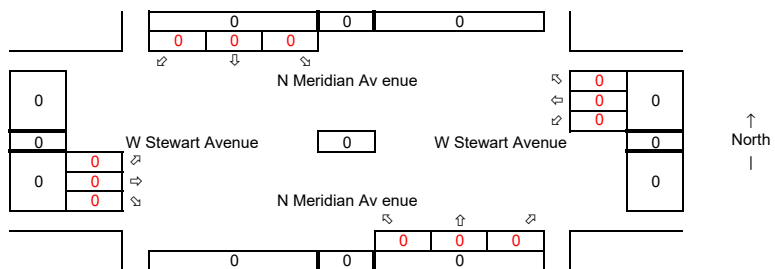
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour

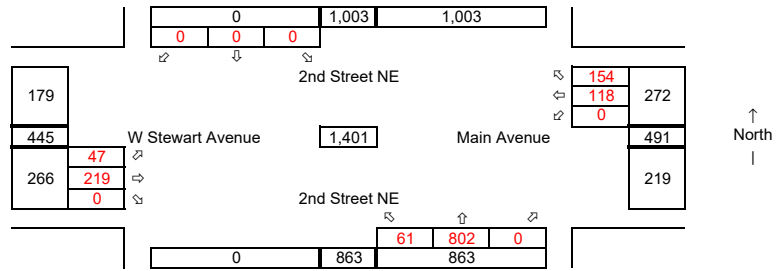


Freeman Logistics
154 - Short-Term Storage Warehouse

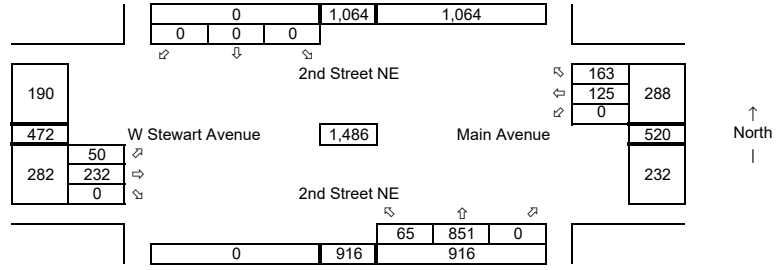
20 2nd St NE @ w Stewart Ave

AM Peak-Hour

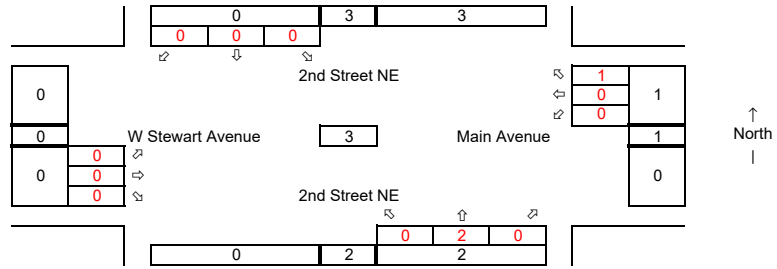
Synchro ID: 20
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/15/2023**
 Data Source: **IDAX**



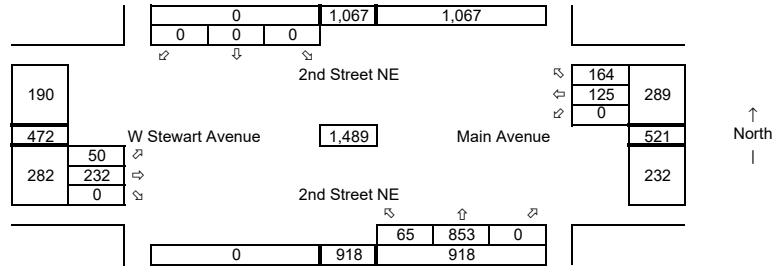
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



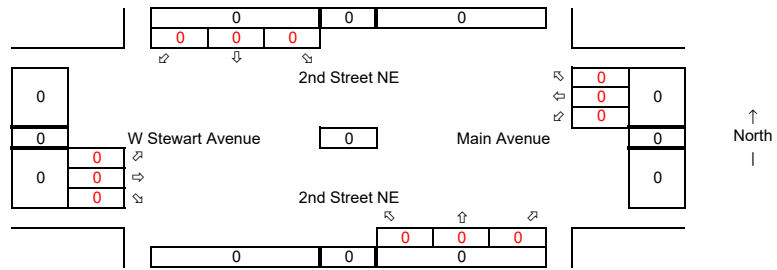
Total Development Trips
 Average Weekday
 AM Peak Hour



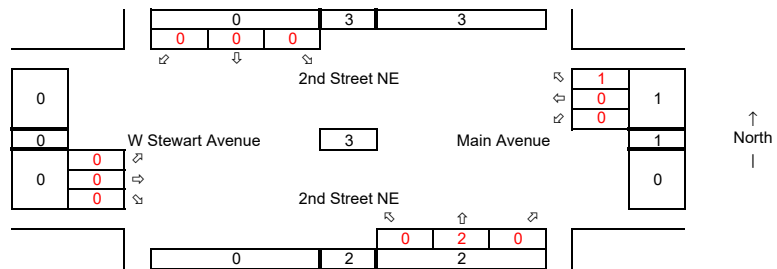
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour

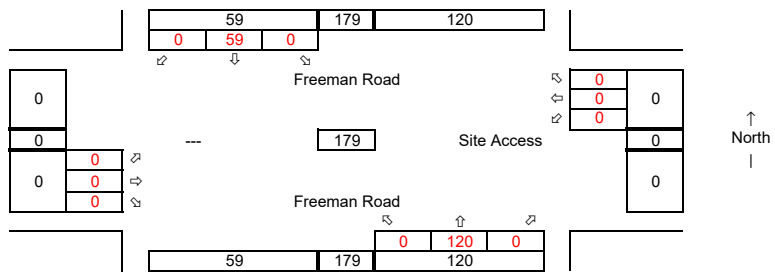


Freeman Logistics
154 - Short-Term Storage Warehouse

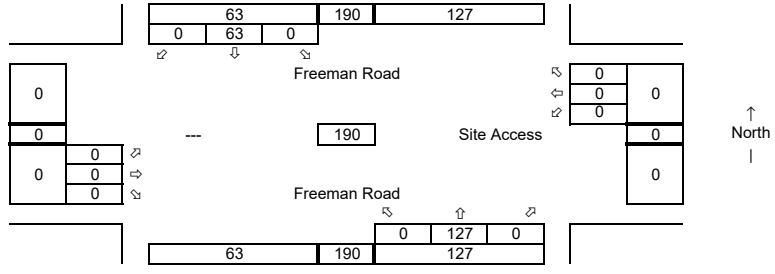
21 Freeman Rd E @ Site Access

AM Peak-Hour

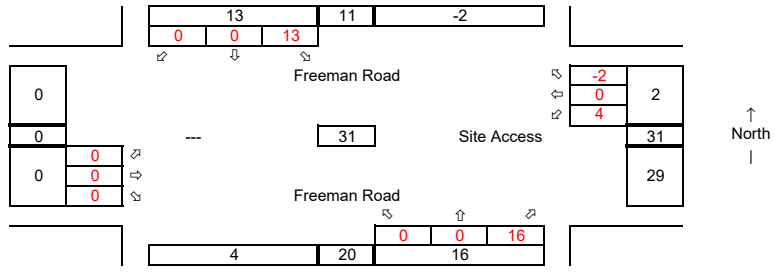
Synchro ID: 21
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**
 NB/SB volumes extrapolated
 from Freeman at 48th Street E



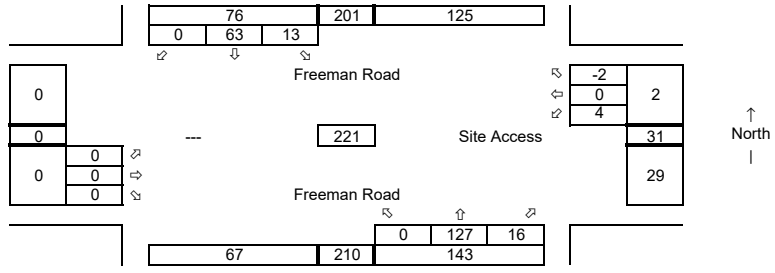
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



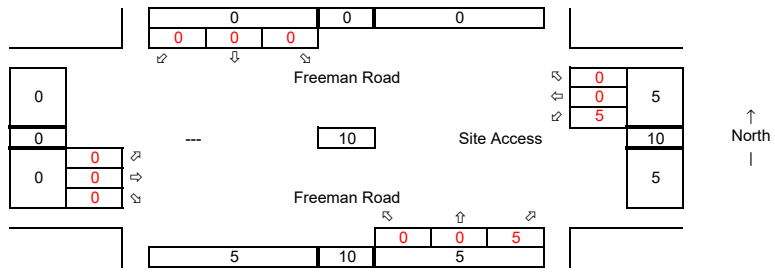
Total Development Trips
 Average Weekday
 AM Peak Hour



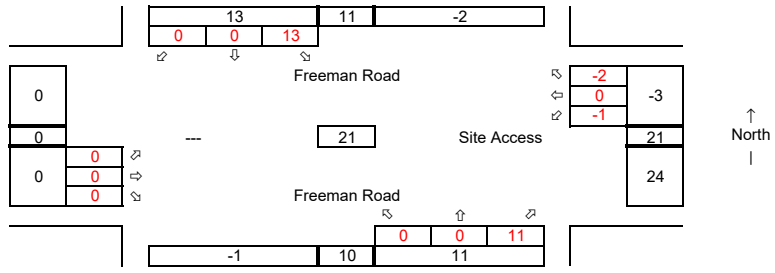
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



Lanes, Volumes, Timings
1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	126	40	69	70	116	24	439	60	71	350	17
Future Volume (vph)	34	126	40	69	70	116	24	439	60	71	350	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.964			0.907			0.982			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1712	0	1671	1596	0	1347	2646	0	1433	2845	0
Flt Permitted	0.604			0.639			0.508			0.423		
Satd. Flow (perm)	1073	1712	0	1124	1596	0	720	2646	0	638	2845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			94			22			7	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		727			778			1175			536	
Travel Time (s)		19.8			15.2			22.9			10.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	7%	7%	8%	8%	8%	34%	34%	34%	26%	26%	26%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	188	0	78	212	0	27	567	0	81	417	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		10.0	19.0		10.0	17.0	
Total Split (s)	25.0	25.0		25.0	25.0		19.0	40.0		19.0	40.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		22.6%	47.6%		22.6%	47.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effect Green (s)	11.5	11.5		11.5	11.5		24.2	17.9		22.8	22.1	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.53	0.39		0.50	0.48	
v/c Ratio	0.14	0.42		0.27	0.45		0.05	0.54		0.18	0.30	
Control Delay (s/veh)	18.6	19.0		20.2	13.9		5.0	14.0		6.0	8.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	18.6	19.0		20.2	13.9		5.0	14.0		6.0	8.3	
LOS	B	B		C	B		A	B		A	A	
Approach Delay (s/veh)		19.0			15.7			13.6			8.0	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	9	40		18	27		3	63		8	25	
Queue Length 95th (ft)	33	106		57	89		12	125		26	84	

Lanes, Volumes, Timings
 1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		647			698			1095			456	
Turn Bay Length (ft)	100			200			100			100		
Base Capacity (vph)	535	863		560	843		635	2072		650	2224	
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	0.07	0.22		0.14	0.25		0.04	0.27		0.12	0.19	























Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	45.7
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay (s/veh):	13.0
Intersection LOS:	B
Intersection Capacity Utilization:	49.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 1: 54th Avenue E & 12th Street E



Lanes, Volumes, Timings
2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	359	255	428	364	122	315	376	362	112	311	57
Future Volume (vph)	82	359	255	428	364	122	315	376	362	112	311	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.962			0.926				0.977
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3167	1417	2993	2968	0	2918	2786	0	1357	2652	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3167	1417	2993	2968	0	2918	2786	0	1357	2652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			148		32			166				14
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1085			1070			320				1175
Travel Time (s)		21.1			20.8			6.2				22.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	14%	14%	17%	17%	17%	20%	20%	20%	33%	33%	33%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	374	266	446	506	0	328	769	0	117	383	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.0	40.0	40.0	20.0	42.0		40.0	40.0		40.0	40.0	
Total Split (%)	12.9%	28.6%	28.6%	14.3%	30.0%		28.6%	28.6%		28.6%	28.6%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	11.6	34.0	78.9	15.5	37.9		44.9	44.9		27.0	27.0	
Actuated g/C Ratio	0.08	0.24	0.56	0.11	0.27		0.32	0.32		0.19	0.19	
v/c Ratio	0.64	0.48	0.30	1.34	0.61		0.35	0.76		0.44	0.73	
Control Delay (s/veh)	84.5	48.0	4.9	220.8	45.8		41.6	42.4		54.2	59.2	
Queue Delay	0.0	0.0	0.0	1.6	0.0		0.9	29.5		0.0	0.0	
Total Delay (s/veh)	84.5	48.0	5.0	222.4	45.8		42.6	71.9		54.2	59.2	
LOS	F	D	A	F	D		D	E		D	E	
Approach Delay (s/veh)		36.5			128.6			63.2			58.1	
Approach LOS		D			F			E			E	
Queue Length 50th (ft)	76	154	27	~273	202		125	282		95	168	
Queue Length 95th (ft)	135	207	68	#384	268		187	#406		149	212	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

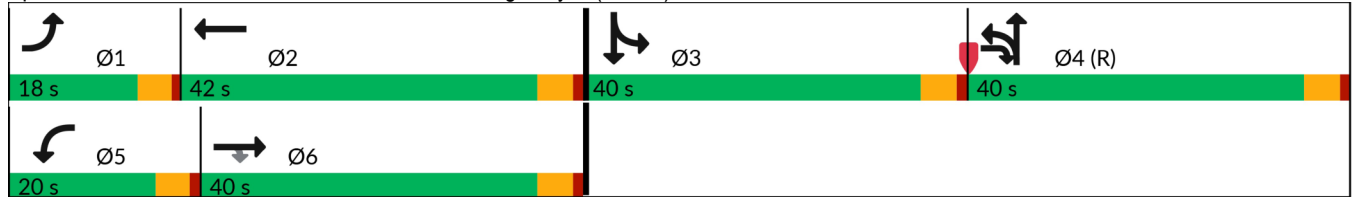
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Internal Link Dist (ft)		1005				990				240				1095		
Turn Bay Length (ft)	225			550			150			125						
Base Capacity (vph)	152	798	863	331	839		936	1006		342	679					
Starvation Cap Reductn	0	0	0	0	0		369	270		0	0					
Spillback Cap Reductn	0	0	84	43	0		0	0		0	1					
Storage Cap Reductn	0	0	0	0	0		0	0		0	0					
Reduced v/c Ratio	0.56	0.47	0.34	1.55	0.60		0.58	1.04		0.34	0.56					

Intersection Summary























Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 14 (10%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.35
 Intersection Signal Delay (s/veh): 75.5 Intersection LOS: E
 Intersection Capacity Utilization 65.9% ICU Level of Service C
 Analysis Period (min) 15
 ~ 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.

Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings
 2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	359	255	428	364	122	315	376	362	112	311	57
Future Volume (vph)	82	359	255	428	364	122	315	376	362	112	311	57
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.962			0.926				0.977
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3167	1417	2993	2968	0	2918	2786	0	1357	2652	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3167	1417	2993	2968	0	2918	2786	0	1357	2652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			144		33			169				15
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1085			1070			320				1175
Travel Time (s)		21.1			20.8			6.2				22.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	14%	14%	17%	17%	17%	20%	20%	20%	33%	33%	33%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	374	266	446	506	0	328	769	0	117	383	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	19.0	38.7	36.6	21.0	40.7		36.6	36.6		38.7	38.7	
Total Split (%)	14.1%	28.7%	27.1%	15.6%	30.1%		27.1%	27.1%		28.7%	28.7%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	11.9	34.0	73.7	16.5	38.6		39.7	39.7		26.2	26.2	
Actuated g/C Ratio	0.09	0.25	0.55	0.12	0.29		0.29	0.29		0.19	0.19	
v/c Ratio	0.61	0.46	0.31	1.22	0.58		0.38	0.82		0.44	0.72	
Control Delay (s/veh)	77.2	45.1	5.2	170.5	42.1		40.8	43.1		52.1	56.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.8	30.6		0.0	0.0	
Total Delay (s/veh)	77.2	45.1	5.2	170.5	42.1		41.7	73.8		52.1	56.7	
LOS	E	D	A	F	D		D	E		D	E	
Approach Delay (s/veh)		34.3			102.3			64.2				55.7
Approach LOS		C			F			E				E
Queue Length 50th (ft)	73	147	27	~246	188		118	264		92	161	
Queue Length 95th (ft)	129	198	69	#356	255		176	#426		144	204	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

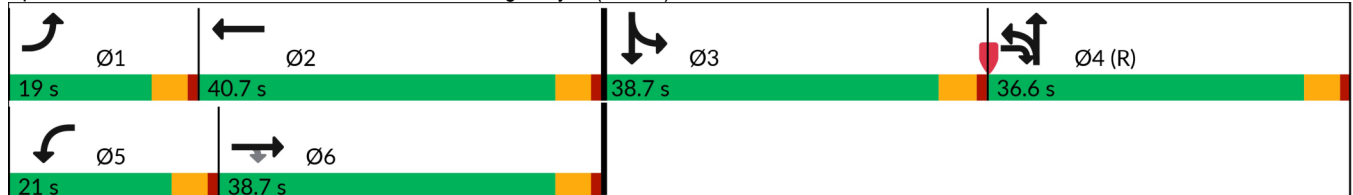
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	170	797	838	365	872		857	937		341	679	
Starvation Cap Reductn	0	0	0	0	0		286	205		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.50	0.47	0.32	1.22	0.58		0.57	1.05		0.34	0.56	

Intersection Summary

Area Type: Other
 Cycle Length: 135
 Actuated Cycle Length: 135
 Offset: 0 (0%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.22
 Intersection Signal Delay (s/veh): 67.4 Intersection LOS: E
 Intersection Capacity Utilization 65.9% ICU Level of Service C
 Analysis Period (min) 15
 ~ 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.



















Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	247	0	327	0	718	356	0	464	463
Future Volume (vph)	0	0	0	247	0	327	0	718	356	0	464	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		50	0		0
Storage Lanes	0		0	1		1	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850		0.986	0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1433	0	1282	0	3282	1468	0	1508	1300
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1433	0	1282	0	3282	1468	0	1508	1300
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						228			197		7	438
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1083			1080			827			320	
Travel Time (s)		21.1			21.0			16.1			6.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	26%	26%	26%	10%	10%	10%	18%	18%	18%
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	0	0	260	0	344	0	756	375	0	537	438
Turn Type				Prot		custom		NA	Perm		NA	custom
Protected Phases				3		3		6			2	2
Permitted Phases									6			Free
Detector Phase				3		3		6	6		2	2
Switch Phase												
Minimum Initial (s)				5.0				10.0	10.0		10.0	
Minimum Split (s)				9.5				14.7	14.7		14.5	
Total Split (s)				35.0				93.0	93.0		93.0	
Total Split (%)				25.0%				66.4%	66.4%		66.4%	
Yellow Time (s)				3.5				3.7	3.7		3.5	
All-Red Time (s)				1.0				1.0	1.0		1.0	
Lost Time Adjust (s)				0.0				0.0	0.0		0.0	
Total Lost Time (s)				4.5				4.7	4.7		4.5	
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Recall Mode				None				C-Max	C-Max		C-Max	
Act Effct Green (s)				28.2		39.3		91.5	91.5		91.7	140.0
Actuated g/C Ratio				0.20		0.28		0.65	0.65		0.66	1.00
v/c Ratio				0.90		0.65		0.35	0.36		0.54	0.33
Control Delay (s/veh)				87.0		20.3		11.8	6.2		13.4	1.9
Queue Delay				0.0		1.0		0.2	0.0		5.1	0.0
Total Delay (s/veh)				87.0		21.3		12.1	6.2		18.5	1.9
LOS				F		C		B	A		B	A
Approach Delay (s/veh)					49.6			10.2			11.1	
Approach LOS					D			B			B	
Queue Length 50th (ft)				228		88		162	64		311	52
Queue Length 95th (ft)				#378		202		203	123		m330	m60

Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	12.0
Total Split (%)	9%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

Lanes, Volumes, Timings

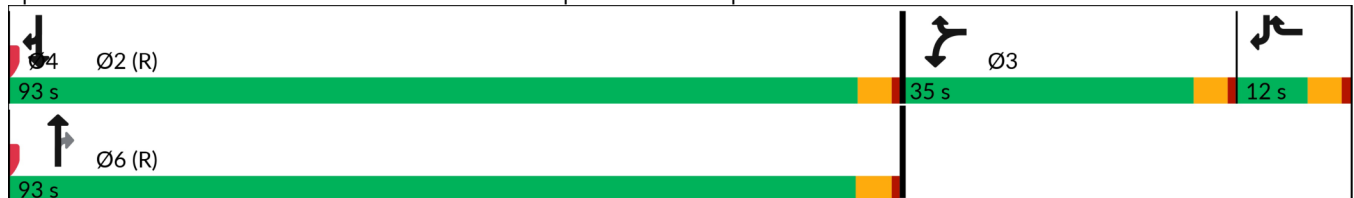
3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1003			1000			747			240	
Turn Bay Length (ft)									50			
Base Capacity (vph)				312		527		2144	1027		989	1300
Starvation Cap Reductn				0		0		0	0		378	0
Spillback Cap Reductn				0		52		675	0		0	0
Storage Cap Reductn				0		0		0	0		0	0
Reduced v/c Ratio				0.83		0.72		0.51	0.37		0.88	0.34

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	75 (54%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.90
Intersection Signal Delay (s/veh):	19.3
Intersection LOS:	B
Intersection Capacity Utilization:	54.6%
ICU Level of Service:	A
Analysis Period (min):	15
#	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.

Splits and Phases: 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp



Lanes, Volumes, Timings























3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	215	76	35	105	371	135	380	37	426	325	283
Future Volume (vph)	292	215	76	35	105	371	135	380	37	426	325	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.971					0.850		0.987			0.938
Flt Protected	0.950	0.987			0.988		0.950			0.950	0.994	
Satd. Flow (prot)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2737	0
Flt Permitted	0.950	0.987			0.988		0.950			0.950	0.994	
Satd. Flow (perm)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2737	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				98		6			119	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	8%	8%	8%	6%	6%	6%
Shared Lane Traffic (%)	34%									18%		
Lane Group Flow (vph)	214	433	0	0	156	412	150	463	0	388	760	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	34.0	34.0		24.0	24.0	53.0	29.0	29.0		53.0	53.0	
Total Split (%)	24.3%	24.3%		17.1%	17.1%	37.9%	20.7%	20.7%		37.9%	37.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	26.1	26.1			17.4	76.7	23.7	23.7		54.9	54.9	
Actuated g/C Ratio	0.19	0.19			0.12	0.55	0.17	0.17		0.39	0.39	
v/c Ratio	0.86	0.84			0.83	0.54	0.59	0.91		0.71	0.66	
Control Delay (s/veh)	86.8	68.4			93.2	19.1	63.7	79.7		46.4	33.8	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	86.8	68.4			93.2	19.1	63.7	79.7		46.4	33.8	
LOS	F	E			F	B	E	E		D	C	
Approach Delay (s/veh)		74.5			39.5			75.8			38.1	
Approach LOS		E			D			E			D	
Queue Length 50th (ft)	205	198			139	188	127	216		346	282	
Queue Length 95th (ft)	#338	264			#244	297	203	#312		#530	369	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	278	575			210	755	263	524		546	1145	
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	0.77	0.75			0.74	0.55	0.57	0.88		0.71	0.66	

Intersection Summary

Area Type: CBD

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 6:, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay (s/veh): 54.1 Intersection LOS: D

Intersection Capacity Utilization 71.3% ICU Level of Service C

Analysis Period (min) 15























95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	215	76	35	105	371	135	380	37	426	325	283
Future Volume (vph)	292	215	76	35	105	371	135	380	37	426	325	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.971				0.850		0.987			0.938	
Flt Protected	0.950	0.987			0.988		0.950			0.950	0.994	
Satd. Flow (prot)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2737	0
Flt Permitted	0.950	0.987			0.988		0.950			0.950	0.994	
Satd. Flow (perm)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2737	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26				101		9			147	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	8%	8%	8%	6%	6%	6%
Shared Lane Traffic (%)	34%									18%		
Lane Group Flow (vph)	214	433	0	0	156	412	150	463	0	388	760	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	24.5	24.5		22.5	22.5	25.5	22.5	22.5		25.5	25.5	
Total Split (%)	25.8%	25.8%		23.7%	23.7%	26.8%	23.7%	23.7%		26.8%	26.8%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	18.3	18.3			13.7	45.5	17.7	17.7		27.3	27.3	
Actuated g/C Ratio	0.19	0.19			0.14	0.48	0.19	0.19		0.29	0.29	
v/c Ratio	0.84	0.80			0.72	0.61	0.53	0.82		0.96	0.85	
Control Delay (s/veh)	64.9	46.8			56.8	19.0	42.3	50.0		76.2	39.0	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	64.9	46.8			56.8	19.0	42.3	50.0		76.2	39.0	
LOS	E	D			E	B	D	D		E	D	
Approach Delay (s/veh)		52.9			29.4			48.2			51.6	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	131	124			91	148	80	135		~318	~231	
Queue Length 95th (ft)	#260	185			151	244	146	#216		#519	#361	

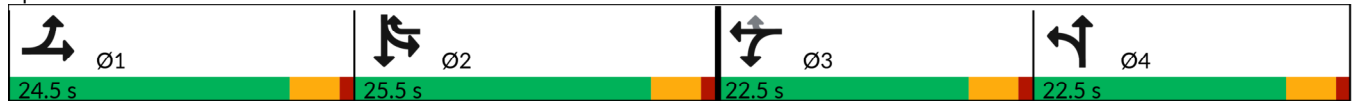
Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	281	588			285	674	295	590		401	891	
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	0.76	0.74			0.55	0.61	0.51	0.78		0.97	0.85	

Intersection Summary	
Area Type:	CBD
Cycle Length:	95
Actuated Cycle Length:	95
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.97
Intersection Signal Delay (s/veh):	47.0
Intersection LOS:	D
Intersection Capacity Utilization:	71.3%
ICU Level of Service:	C
Analysis Period (min):	15
~ 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.	

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗		↖	↗		↖	↗	↖
Traffic Volume (vph)	0	0	0	46	0	98	0	440	55	89	430	1
Future Volume (vph)	0	0	0	46	0	98	0	440	55	89	430	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	210		0	100		0
Storage Lanes	0		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.850			0.983				0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	1900	0	1736	1553	0	1759	1729	0	1752	1845	1568
Flt Permitted				0.714						0.285		
Satd. Flow (perm)	0	1900	0	1304	1553	0	1759	1729	0	526	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					541			9				128
Link Speed (mph)		25			25			30				30
Link Distance (ft)		362			838			563				783
Travel Time (s)		9.9			22.9			12.8				17.8
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	8%	8%	8%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	54	115	0	0	583	0	105	506	1
Turn Type				pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	6.0		4.0	6.0	6.0
Minimum Split (s)	8.0	24.5		8.0	24.0		8.0	14.5		8.0	14.5	14.5
Total Split (s)	14.0	16.5		14.0	16.0		14.0	34.5		16.0	34.5	34.5
Total Split (%)	17.3%	20.4%		17.3%	19.8%		17.3%	42.6%		19.8%	42.6%	42.6%
Yellow Time (s)	3.0	3.5		3.0	3.0		3.0	3.5		3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5		4.0	4.0		4.0	4.5		4.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effect Green (s)				7.2	7.2			34.6		43.6	44.1	44.1
Actuated g/C Ratio				0.13	0.13			0.61		0.77	0.78	0.78
v/c Ratio				0.24	0.17			0.54		0.18	0.35	0.00
Control Delay (s/veh)				25.8	0.5			12.3		3.1	3.7	0.0
Queue Delay				0.0	0.0			0.0		0.0	0.0	0.0
Total Delay (s/veh)				25.8	0.5			12.3		3.1	3.7	0.0
LOS				C	A			B		A	A	A
Approach Delay (s/veh)					8.7			12.4			3.6	
Approach LOS					A			B			A	
Queue Length 50th (ft)				17	0			128		7	47	0
Queue Length 95th (ft)				43	0			235		18	87	0

Lanes, Volumes, Timings

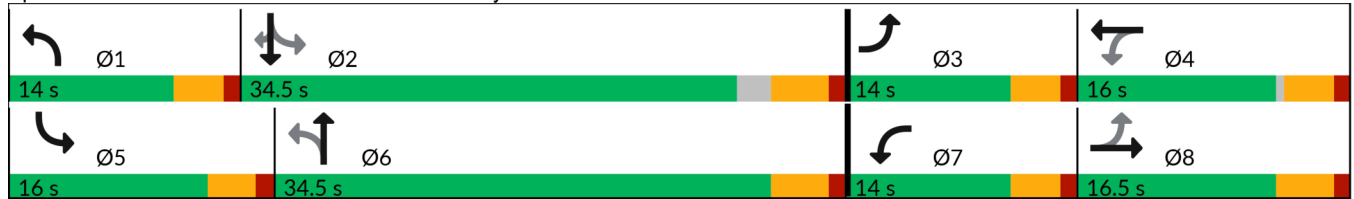
5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	282			758			483			703		
Turn Bay Length (ft)				100						100		
Base Capacity (vph)				308			765			1061		
Starvation Cap Reductn				0			0			0		
Spillback Cap Reductn				0			0			0		
Storage Cap Reductn				0			0			0		
Reduced v/c Ratio				0.18			0.15			0.55		

Intersection Summary	
Area Type:	Other
Cycle Length:	81
Actuated Cycle Length:	56.6
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay (s/veh):	8.0
Intersection LOS:	A
Intersection Capacity Utilization:	47.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: 54th Avenue E & Driveway/23rd Street E



Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	225	130	112	354	5	147	1	87	1	1	0
Future Volume (vph)	3	225	130	112	354	5	147	1	87	1	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.945			0.998			0.950				
Flt Protected	0.950			0.950				0.970			0.976	
Satd. Flow (prot)	1656	1647	0	1641	1724	0	0	1700	0	0	1854	0
Flt Permitted	0.390			0.394				0.809			0.883	
Satd. Flow (perm)	680	1647	0	681	1724	0	0	1418	0	0	1678	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		89			2			55				
Link Speed (mph)		30			30			25				25
Link Distance (ft)		563			491			578				252
Travel Time (s)		12.8			11.2			15.8				6.9
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	9%	9%	9%	10%	10%	10%	3%	3%	3%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	494	0	156	499	0	0	326	0	0	2	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4				8
Permitted Phases	6			2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.5	30.5		22.5	22.5		32.0	32.0		32.0	32.0	
Total Split (s)	34.5	34.5		34.5	34.5		19.0	19.0		19.0	19.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effect Green (s)	18.8	18.8		18.8	18.8			12.5			12.5	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.31			0.31	
v/c Ratio	0.01	0.60		0.49	0.61			0.68			0.00	
Control Delay (s/veh)	5.6	9.9		13.6	11.8			21.7			13.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay (s/veh)	5.6	9.9		13.6	11.8			21.7			13.0	
LOS	A	A		B	B			C			B	
Approach Delay (s/veh)		9.9			12.3			21.8			13.0	
Approach LOS		A			B			C			B	
Queue Length 50th (ft)	0	61		23	80			50			0	
Queue Length 95th (ft)	3	85		44	105			110			3	

Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

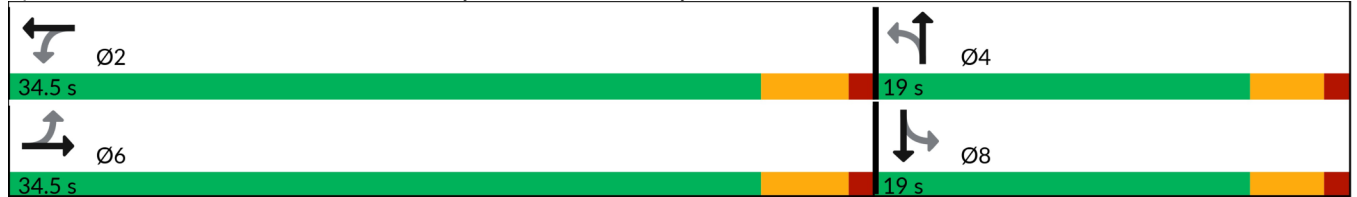
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		483			411			498			172	
Turn Bay Length (ft)	200			125								
Base Capacity (vph)	518	1276		519	1314			594			663	
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	0.01	0.39		0.30	0.38			0.55			0.00	

Intersection Summary

Area Type:	Other
Cycle Length:	53.5
Actuated Cycle Length:	40.3
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay (s/veh):	13.6
Intersection LOS:	B
Intersection Capacity Utilization	55.3%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 6: 54th Avenue E & Valley Avenue E & Driveway



Lanes, Volumes, Timings

7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	0	0	0	0	58
Future Volume (vph)	17	0	0	0	0	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	290			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.850	
Flt Protected	0.950					
Satd. Flow (prot)	1641	0	1545	2935	2692	0
Flt Permitted	0.950					
Satd. Flow (perm)	1641	0	1545	2935	2692	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1091	
Link Speed (mph)	30			30	30	
Link Distance (ft)	592			513	541	
Travel Time (s)	13.5			11.7	12.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	23%	23%	14%	14%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	0	60	0
Turn Type	Prot		Prot		NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	5.0		6.0	10.0	10.0	
Minimum Split (s)	40.0		10.5	23.7	33.7	
Total Split (s)	40.0		20.0	66.0	66.0	
Total Split (%)	31.7%		15.9%	52.4%	52.4%	
Yellow Time (s)	3.5		3.5	4.7	4.7	
All-Red Time (s)	1.0		1.0	1.5	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	6.2	6.2	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	Max		None	Max	None	
Act Effct Green (s)	35.5				59.8	
Actuated g/C Ratio	0.33				0.56	
v/c Ratio	0.03				0.03	
Control Delay (s/veh)	24.0				0.0	
Queue Delay	0.0				0.0	
Total Delay (s/veh)	24.0				0.0	
LOS	C				A	
Approach Delay (s/veh)	24.1					
Approach LOS	C					
Queue Length 50th (ft)	8				0	
Queue Length 95th (ft)	25				0	

Lanes, Volumes, Timings

7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

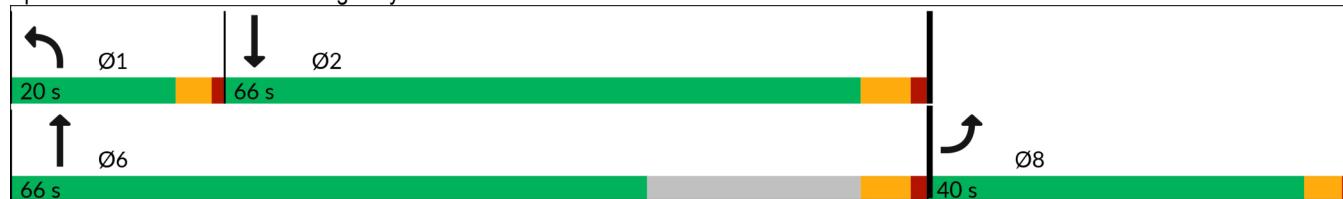


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	512			433	461	
Turn Bay Length (ft)						
Base Capacity (vph)	549				1994	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.03				0.03	

Intersection Summary

























Area Type:	Other
Cycle Length:	126
Actuated Cycle Length:	106
Natural Cycle:	85
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.03
Intersection Signal Delay (s/veh):	5.6
Intersection LOS:	A
Intersection Capacity Utilization	21.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 7: Pacific Highway E & 70th Avenue E



Lanes, Volumes, Timings
8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	369	86	107	460	286	92	727	79	128	397	72
Future Volume (vph)	95	369	86	107	460	286	92	727	79	128	397	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	400		400	250		0	225		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.985			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	1759	1495	1656	1743	1482	1467	2891	0	2870	2891	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1671	1759	1495	1656	1743	1482	1467	2891	0	2870	2891	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			84		10			18	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1295			1073			2009			522	
Travel Time (s)		25.2			20.9			39.1			10.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	8%	8%	9%	9%	9%	23%	23%	23%	22%	22%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	380	89	110	474	295	95	830	0	132	483	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2						
Detector Phase	1	6	6	5	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	14.5	22.5	14.5	14.5	24.5		14.5	24.5	
Total Split (s)	14.5	44.5	44.5	14.5	44.5	19.5	19.5	44.4		19.5	44.5	
Total Split (%)	11.8%	36.2%	36.2%	11.8%	36.2%	15.9%	15.9%	36.1%		15.9%	36.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	None	None	None		None	None	
Act Effct Green (s)	9.7	40.1	40.1	10.0	40.4	56.1	12.4	37.3		11.2	36.2	
Actuated g/C Ratio	0.08	0.34	0.34	0.09	0.35	0.48	0.11	0.32		0.10	0.31	
v/c Ratio	0.71	0.62	0.15	0.78	0.78	0.39	0.61	0.89		0.47	0.53	
Control Delay (s/veh)	80.4	38.7	6.1	88.2	46.1	15.5	67.6	50.3		56.4	34.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	80.4	38.7	6.1	88.2	46.1	15.5	67.6	50.3		56.4	34.5	
LOS	F	D	A	F	D	B	E	D		E	C	
Approach Delay (s/veh)		40.8			41.2			52.1			39.3	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	75	247	0	85	331	101	70	307		50	153	
Queue Length 95th (ft)	#163	371	35	#191	#523	170	130	#435		82	211	

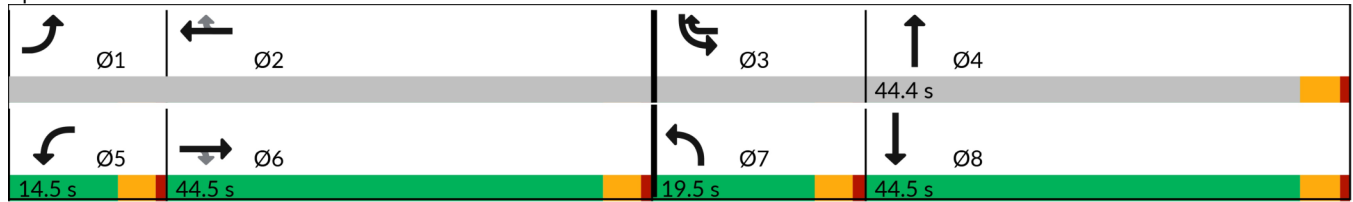
Lanes, Volumes, Timings
 8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1215			993			1929			442		
Turn Bay Length (ft)	250		200	400		400	250			225		
Base Capacity (vph)	143	604	575	142	603	802	189	1000		369	1005	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.69	0.63	0.15	0.77	0.79	0.37	0.50	0.83		0.36	0.48	

























Intersection Summary	
Area Type:	Other
Cycle Length:	123
Actuated Cycle Length:	116.7
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay (s/veh):	44.1
Intersection LOS:	D
Intersection Capacity Utilization:	72.1%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: 70th Avenue E & 20th Street E



Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	76	41	67	21	60	83	794	64	71	441	18
Future Volume (vph)	39	76	41	67	21	60	83	794	64	71	441	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	200		0	225		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.989			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	1624	1380	1492	1570	1335	1480	2926	0	1530	3041	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1543	1624	1380	1492	1570	1335	1480	2926	0	1530	3041	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53			67		9			4	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1057			880			2032			2009	
Travel Time (s)		20.6			17.1			39.6			39.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	17%	17%	17%	21%	21%	21%	22%	22%	22%	18%	18%	18%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	84	46	74	23	67	92	953	0	79	510	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4	4 5	3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.5	24.5		10.5	24.5		10.5	22.5		10.5	22.5	
Total Split (s)	20.0	24.5		20.0	24.5		20.0	60.0		20.0	60.0	
Total Split (%)	16.1%	19.7%		16.1%	19.7%		16.1%	48.2%		16.1%	48.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	8.6	10.9	24.0	10.6	15.0	27.4	11.5	63.1		10.7	62.4	
Actuated g/C Ratio	0.08	0.11	0.23	0.10	0.14	0.26	0.11	0.61		0.10	0.60	
v/c Ratio	0.33	0.49	0.12	0.48	0.10	0.16	0.56	0.53		0.50	0.27	
Control Delay (s/veh)	56.2	57.2	7.8	58.4	43.4	8.0	60.4	19.2		58.5	15.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	56.2	57.2	7.8	58.4	43.4	8.0	60.4	19.2		58.5	15.6	
LOS	E	E	A	E	D	A	E	B		E	B	
Approach Delay (s/veh)		43.8			35.8			22.9			21.4	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	28	56	0	49	14	0	61	227		52	101	
Queue Length 95th (ft)	70	112	24	103	41	33	124	381		109	174	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	977			800			1952			1929		
Turn Bay Length (ft)	150		150	150		150	200			225		
Base Capacity (vph)	237	322	431	229	319	473	227	1786		235	1835	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.18	0.26	0.11	0.32	0.07	0.14	0.41	0.53		0.34	0.28	

























Intersection Summary	
Area Type:	Other
Cycle Length:	124.5
Actuated Cycle Length:	103.5
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.56
Intersection Signal Delay (s/veh):	25.3
Intersection LOS:	C
Intersection Capacity Utilization	50.6%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 9: 70th Avenue E & 26th Street E



Lanes, Volumes, Timings
10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	264	102	29	247	411	160	490	42	224	171	95
Future Volume (vph)	53	264	102	29	247	411	160	490	42	224	171	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	200		0	200		130	350		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.946	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1776	1509	1492	1570	1335	1641	3282	1468	2870	2799	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1687	1776	1509	1492	1570	1335	1641	3282	1468	2870	2799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			428			164			80
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		831			1056			750			2032	
Travel Time (s)		18.9			24.0			14.6			39.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	7%	7%	21%	21%	21%	10%	10%	10%	22%	22%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	275	106	30	257	428	167	510	44	233	277	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0	8.0	6.0	8.0	8.0	6.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	31.0	31.0	10.5	31.0	31.0	10.5	31.0	31.0	13.0	31.0	
Total Split (s)	30.0	40.0	40.0	20.0	40.0	40.0	20.0	30.0	30.0	40.0	40.0	
Total Split (%)	21.4%	28.6%	28.6%	14.3%	28.6%	28.6%	14.3%	21.4%	21.4%	28.6%	28.6%	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	11.4	69.4	69.4	8.8	64.4	64.4	15.5	29.1	29.1	17.6	31.7	
Actuated g/C Ratio	0.08	0.50	0.50	0.06	0.46	0.46	0.11	0.21	0.21	0.13	0.23	
v/c Ratio	0.40	0.31	0.13	0.32	0.35	0.50	0.92	0.74	0.10	0.64	0.39	
Control Delay (s/veh)	68.8	25.9	3.3	70.8	30.0	5.1	110.3	58.8	0.4	66.3	32.4	
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)	68.8	25.9	3.3	70.8	30.0	5.1	110.3	58.8	0.4	66.3	32.4	
LOS	E	C	A	E	C	A	F	E	A	E	C	
Approach Delay (s/veh)		25.8			16.8			67.2			48.0	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	48	156	0	27	154	0	153	231	0	105	80	
Queue Length 95th (ft)	92	272	29	60	275	85	#297	280	0	145	111	

Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		751			976			670			1952	
Turn Bay Length (ft)	150		250	200			200		130	350		
Base Capacity (vph)	301	880	811	165	721	844	181	695	440	717	953	
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.31	0.13	0.18	0.36	0.51	0.92	0.73	0.10	0.32	0.29	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 30 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

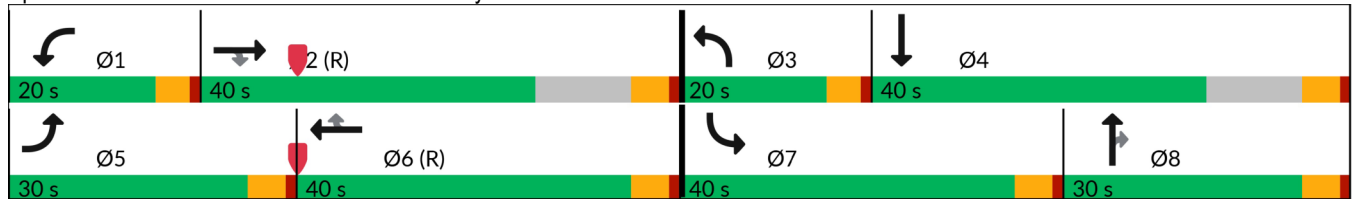
Intersection Signal Delay (s/veh): 40.4 Intersection LOS: D

Intersection Capacity Utilization 56.5% ICU Level of Service B

Analysis Period (min) 15





















95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 10: 70th Avenue E & Valley Avenue E



Lanes, Volumes, Timings
11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	384	23	5	558	142	42	75	29	98	52	18
Future Volume (vph)	21	384	23	5	558	142	42	75	29	98	52	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.970			0.958			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1492	2960	0	1530	2968	0	1703	1717	0	1641	1660	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1492	2960	0	1530	2968	0	1703	1717	0	1641	1660	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			29			14			13	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		671			1259			2534			494	
Travel Time (s)		15.3			28.6			69.1			13.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	21%	21%	21%	18%	18%	18%	6%	6%	6%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	433	0	5	745	0	45	111	0	104	74	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.4	43.8		6.5	41.0		10.7	10.7		11.3	11.3	
Actuated g/C Ratio	0.09	0.53		0.08	0.50		0.13	0.13		0.14	0.14	
v/c Ratio	0.16	0.27		0.04	0.50		0.20	0.47		0.46	0.31	
Control Delay (s/veh)	40.8	12.9		40.8	17.4		35.7	36.8		41.0	32.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.8	12.9		40.8	17.4		35.7	36.8		41.0	32.1	
LOS	D	B		D	B		D	D		D	C	
Approach Delay (s/veh)		14.3			17.6			36.5			37.3	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	10	53		2	101		19	42		45	26	
Queue Length 95th (ft)	38	135		15	255		58	110		113	76	

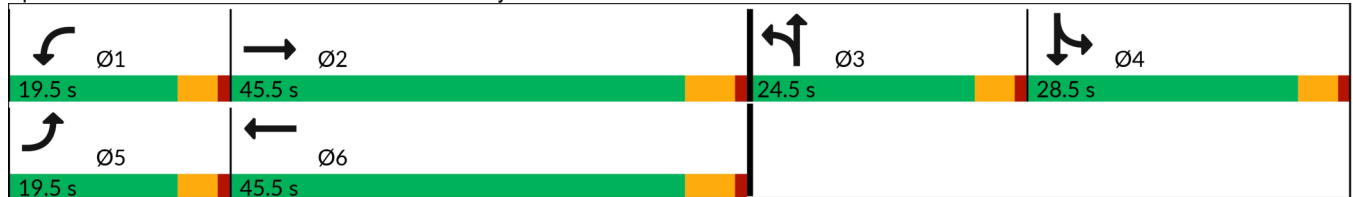
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	275	1575		282	1544		419	433		484	499	
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	0.08	0.27		0.02	0.48		0.11	0.26		0.21	0.15	





















Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	82.4
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.50
Intersection Signal Delay (s/veh):	20.8
Intersection LOS:	C
Intersection Capacity Utilization	40.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 11: Freeman Road E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	411	18	7	434	106	20	35	26	61	26	8
Future Volume (vph)	15	411	18	7	434	106	20	35	26	61	26	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.971			0.935				0.964
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1492	2966	0	1530	2971	0	1703	1676	0	1641	1665	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1492	2966	0	1530	2971	0	1703	1676	0	1641	1665	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			27			28				9
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	21%	21%	21%	18%	18%	18%	6%	6%	6%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	456	0	7	575	0	21	65	0	65	37	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effect Green (s)	7.0	45.6		6.5	45.5		7.9	7.9		8.8	8.8	
Actuated g/C Ratio	0.10	0.63		0.09	0.63		0.11	0.11		0.12	0.12	
v/c Ratio	0.11	0.24		0.05	0.30		0.11	0.31		0.32	0.17	
Control Delay (s/veh)	35.4	10.0		35.2	10.3		33.4	25.5		35.9	27.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	35.4	10.0		35.2	10.3		33.4	25.5		35.9	27.4	
LOS	D	B		D	B		C	C		D	C	
Approach Delay (s/veh)		10.9			10.7			27.5				32.8
Approach LOS		B			B			C				C
Queue Length 50th (ft)	7	47		3	60		8	15		26	11	
Queue Length 95th (ft)	28	122		17	156		33	57		72	42	

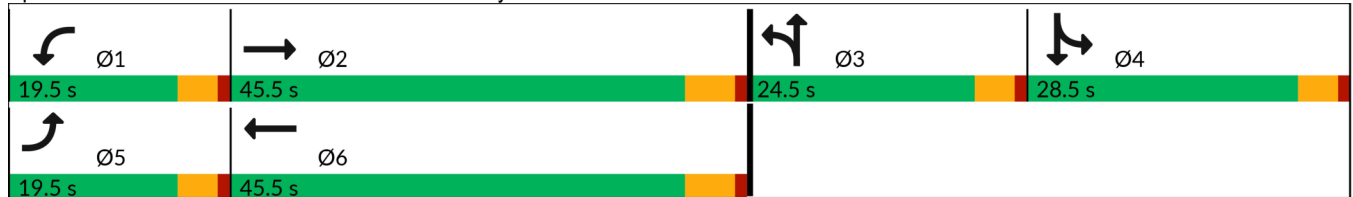
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	313	1866		321	1877		476	489		551	565	
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	0.05	0.24		0.02	0.31		0.04	0.13		0.12	0.07	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	72.6
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.33
Intersection Signal Delay (s/veh):	13.8
Intersection LOS:	B
Intersection Capacity Utilization:	33.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: Freeman Road E & Valley Avenue E



SimTraffic Simulation Summary
 2025 FUTURE WITH DEVELOPMENT CONDITIONS

06/25/2024

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	19463	19500	19686	19559	19526	19544
Vehs Exited	19441	19414	19576	19480	19424	19462
Starting Vehs	596	538	509	544	567	545
Ending Vehs	618	624	619	623	669	623
Travel Distance (mi)	8148	8192	8215	8216	8263	8207
Travel Time (hr)	1420.9	1499.2	1442.3	1549.7	1561.7	1494.8
Total Delay (hr)	1135.6	1212.1	1154.8	1262.4	1272.8	1207.5
Total Stops	18487	18371	18689	18804	18969	18661
Fuel Used (gal)	543.7	561.0	550.9	573.6	577.2	561.3

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information

Start Time	7:00
End Time	7:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	4899	4989	4856	4822	4869	4885
Vehs Exited	4896	4914	4778	4771	4831	4840
Starting Vehs	596	538	509	544	567	545
Ending Vehs	599	613	587	595	605	601
Travel Distance (mi)	2040	2071	2026	2011	2041	2038
Travel Time (hr)	204.4	208.8	205.2	205.2	198.8	204.5
Total Delay (hr)	133.0	136.1	134.4	134.6	127.3	133.1
Total Stops	4602	4683	4654	4452	4693	4613
Fuel Used (gal)	103.1	104.6	102.2	102.1	101.7	102.7

SimTraffic Simulation Summary
 2025 FUTURE WITH DEVELOPMENT CONDITIONS

06/25/2024

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	4945	4882	4922	4880	4876	4897
Vehs Exited	4941	4880	4839	4810	4841	4861
Starting Vehs	599	613	587	595	605	601
Ending Vehs	603	615	670	665	640	642
Travel Distance (mi)	2070	2049	2033	2042	2064	2052
Travel Time (hr)	304.1	314.0	299.3	318.7	328.3	312.9
Total Delay (hr)	231.4	242.1	228.1	247.5	256.3	241.1
Total Stops	4818	4641	4550	4666	4749	4685
Fuel Used (gal)	125.8	127.0	123.7	128.0	130.3	127.0

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	4824	4832	5009	4988	4818	4894
Vehs Exited	4759	4809	5011	4968	4829	4872
Starting Vehs	603	615	670	665	640	642
Ending Vehs	668	638	668	685	629	656
Travel Distance (mi)	2003	2042	2091	2098	2046	2056
Travel Time (hr)	403.4	422.8	410.1	458.1	461.1	431.1
Total Delay (hr)	333.6	351.4	337.0	384.6	389.4	359.2
Total Stops	4525	4479	4839	4927	4686	4692
Fuel Used (gal)	144.8	150.4	150.3	160.2	159.3	153.0

Interval #4 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	4795	4797	4899	4869	4963	4868
Vehs Exited	4845	4811	4948	4931	4923	4893
Starting Vehs	668	638	668	685	629	656
Ending Vehs	618	624	619	623	669	623
Travel Distance (mi)	2036	2030	2065	2066	2112	2062
Travel Time (hr)	509.0	553.7	527.7	567.8	573.6	546.3
Total Delay (hr)	437.6	482.6	455.3	495.6	499.8	474.2
Total Stops	4542	4568	4646	4759	4841	4680
Fuel Used (gal)	170.0	179.0	174.7	183.2	185.9	178.6

Queuing and Blocking Report
 2025 FUTURE WITH DEVELOPMENT CONDITIONS

06/25/2024

Intersection: 11: Freeman Road E & Valley Avenue E

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	87	164	119	18	178	195	75	188	148	122
Average Queue (ft)	13	60	18	1	92	73	21	67	51	46
95th Queue (ft)	49	124	65	9	168	158	59	138	110	96
Link Distance (ft)		603	603		1195	1195		2428		418
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	150			230			50		250	
Storage Blk Time (%)		0					1	22		
Queuing Penalty (veh)		0					1	9		

HCM 6th TWSC
 12: Freeman Road E & 48th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	4	6	119	71	8
Future Vol, veh/h	3	4	6	119	71	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	5	5	8	8
Mvmt Flow	4	5	7	145	87	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	251	92	97	0	0
Stage 1	92	-	-	-	-
Stage 2	159	-	-	-	-
Critical Hdwy	6.4	6.2	4.15	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.245	-	-
Pot Cap-1 Maneuver	742	971	1478	-	-
Stage 1	937	-	-	-	-
Stage 2	875	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	738	971	1478	-	-
Mov Cap-2 Maneuver	738	-	-	-	-
Stage 1	932	-	-	-	-
Stage 2	875	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.3	0.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1478	-	855	-	-
HCM Lane V/C Ratio	0.005	-	0.01	-	-
HCM Control Delay (s/veh)	7.4	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0	-	-

HCM 6th TWSC
 13: Freeman Road E & 50th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	5	3	139	64	1
Future Vol, veh/h	8	5	3	139	64	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	8	8	6	6	10	10
Mvmt Flow	9	6	3	158	73	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	238	74	74	0	0
Stage 1	74	-	-	-	-
Stage 2	164	-	-	-	-
Critical Hdwy	6.48	6.28	4.16	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.254	-	-
Pot Cap-1 Maneuver	737	971	1500	-	-
Stage 1	934	-	-	-	-
Stage 2	851	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	736	971	1500	-	-
Mov Cap-2 Maneuver	736	-	-	-	-
Stage 1	932	-	-	-	-
Stage 2	851	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.5	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1500	-	812	-	-
HCM Lane V/C Ratio	0.002	-	0.018	-	-
HCM Control Delay (s/veh)	7.4	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC

14: Freeman Road E & 52nd Street E/19th Avenue NW 2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	14	0	4	0	145	18	6	63	2
Future Vol, veh/h	0	0	1	14	0	4	0	145	18	6	63	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	59	59	59	5	5	5	9	9	9
Mvmt Flow	0	0	1	17	0	5	0	173	21	7	75	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	276	284	76	275	275	184	77	0	0	194	0	0
Stage 1	90	90	-	184	184	-	-	-	-	-	-	-
Stage 2	186	194	-	91	91	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.69	7.09	6.79	4.15	-	-	4.19	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.69	6.09	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.69	6.09	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	4.031	4.531	3.831	2.245	-	-	2.281	-	-
Pot Cap-1 Maneuver	680	628	991	577	547	731	1503	-	-	1338	-	-
Stage 1	922	824	-	702	652	-	-	-	-	-	-	-
Stage 2	820	744	-	793	721	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	673	625	991	574	544	731	1503	-	-	1338	-	-
Mov Cap-2 Maneuver	673	625	-	574	544	-	-	-	-	-	-	-
Stage 1	922	820	-	702	652	-	-	-	-	-	-	-
Stage 2	815	744	-	788	717	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	8.6	11.2	0	0.7
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1503	-	-	991	603	1338	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.036	0.005	-	-
HCM Control Delay (s/veh)	0	-	-	8.6	11.2	7.7	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.1	0	-	-

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	1.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	16	221	440	129	54	13
Future Vol, veh/h	16	221	440	129	54	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	18	248	494	145	61	15

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	639	0	-	0	851 567
Stage 1	-	-	-	-	567 -
Stage 2	-	-	-	-	284 -
Critical Hdwy	4.26	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.344	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	881	-	-	-	320 508
Stage 1	-	-	-	-	552 -
Stage 2	-	-	-	-	746 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	881	-	-	-	312 508
Mov Cap-2 Maneuver	-	-	-	-	312 -
Stage 1	-	-	-	-	539 -
Stage 2	-	-	-	-	746 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.6	0	18.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	881	-	-	-	337
HCM Lane V/C Ratio	0.02	-	-	-	0.223
HCM Control Delay (s/veh)	9.2	0	-	-	18.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q (veh)	0.1	-	-	-	0.8

HCM 6th AWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	16	221	440	129	54	13
Future Vol, veh/h	16	221	440	129	54	13
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	18	248	494	145	61	15
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	11.3	22.9	10.6
HCM LOS	B	C	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	7%	0%	100%	0%
Vol Thru, %	93%	77%	0%	0%
Vol Right, %	0%	23%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	237	569	54	13
LT Vol	16	0	54	0
Through Vol	221	440	0	0
RT Vol	0	129	0	13
Lane Flow Rate	266	639	61	15
Geometry Grp	2	2	5	5
Degree of Util (X)	0.379	0.798	0.123	0.025
Departure Headway (Hd)	5.118	4.491	7.285	6.063
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	698	806	495	594
Service Time	3.187	2.54	4.985	3.763
HCM Lane V/C Ratio	0.381	0.793	0.123	0.025
HCM Control Delay, s/veh	11.3	22.9	11	8.9
HCM Lane LOS	B	C	B	A
HCM 95th-tile Q	1.8	8.4	0.4	0.1

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	25	148	296	89	28	10
Future Vol, veh/h	25	148	296	89	28	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	28	166	333	100	31	11













Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	433	0	-	0	605 383
Stage 1	-	-	-	-	383 -
Stage 2	-	-	-	-	222 -
Critical Hdwy	4.26	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.344	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1056	-	-	-	448 647
Stage 1	-	-	-	-	672 -
Stage 2	-	-	-	-	796 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1056	-	-	-	435 647
Mov Cap-2 Maneuver	-	-	-	-	435 -
Stage 1	-	-	-	-	653 -
Stage 2	-	-	-	-	796 -

Approach	EB	WB	SB
HCM Control Delay, s/v	1.2	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1056	-	-	-	476
HCM Lane V/C Ratio	0.027	-	-	-	0.09
HCM Control Delay (s/veh)	8.5	0	-	-	13.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.3

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1237	1006	834	741	532	387
Future Volume (vph)	1237	1006	834	741	532	387
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	2		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.88	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3183	2584	3282	1468	3019	3112
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3183	2584	3282	1468	3019	3112
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		90		491		
Link Speed (mph)	35		35			35
Link Distance (ft)	522		278			1175
Travel Time (s)	10.2		5.4			22.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	10%	10%	10%	10%	16%	16%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1302	1059	878	780	560	407
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	10.0	6.0	10.0
Minimum Split (s)	36.6	10.6	38.9	38.9	10.6	36.9
Total Split (s)	36.6	54.6	64.9	64.9	54.6	64.9
Total Split (%)	23.4%	35.0%	41.6%	41.6%	35.0%	41.6%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9	4.9	4.6	4.9
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	32.1	70.0	60.2	60.2	33.3	98.1
Actuated g/C Ratio	0.23	0.50	0.43	0.43	0.24	0.70
v/c Ratio	1.78	0.79	0.62	0.85	0.77	0.18
Control Delay (s/veh)	389.3	30.9	34.2	23.8	57.5	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	389.3	30.9	34.2	23.8	57.5	7.2
LOS	F	C	C	C	E	A
Approach Delay (s/veh)	228.6		29.4			36.4
Approach LOS	F		C			D
Queue Length 50th (ft)	~902	407	318	269	246	61
Queue Length 95th (ft)	#1158	505	452	#642	311	79

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

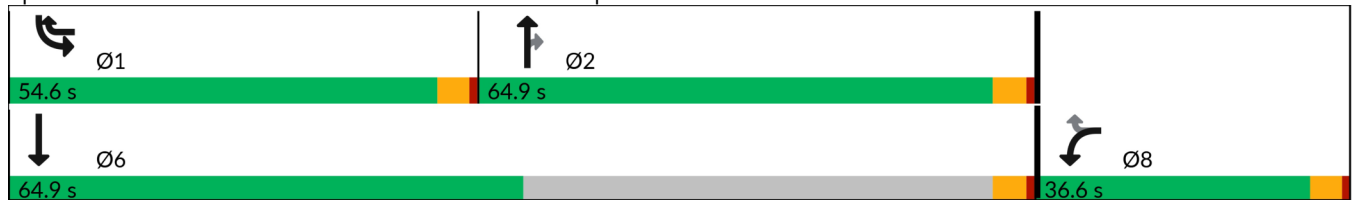
2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	442		198			1095
Turn Bay Length (ft)					250	
Base Capacity (vph)	730	1640	1413	911	1083	2560
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	1.78	0.65	0.62	0.86	0.52	0.16

Intersection Summary	
Area Type:	Other
Cycle Length:	156.1
Actuated Cycle Length:	139.7
Natural Cycle:	120
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.78
Intersection Signal Delay (s/veh):	125.1
Intersection LOS:	F
Intersection Capacity Utilization	85.3%
ICU Level of Service	E
Analysis Period (min)	15
~ 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.	

Splits and Phases: 16: N Meridian Avenue & SR-167 Ramps



HCM 6th TWSC
 17: N Meridian Avenue & N Levee Road

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↔			↕↔	
Traffic Vol, veh/h	0	0	93	0	0	180	0	1289	179	0	1181	409
Future Vol, veh/h	0	0	93	0	0	180	0	1289	179	0	1181	409
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	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, %	6	6	6	10	10	10	9	9	9	9	9	9
Mvmt Flow	0	0	98	0	0	189	0	1357	188	0	1243	431

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	837	-	-	679	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.02	-	-	7.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.36	-	-	3.4	-	-
Pot Cap-1 Maneuver	0	0	302	0	0	376	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	302	-	-	376	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	22.5		23.9		0		0	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	302	376	-	-
HCM Lane V/C Ratio	-	0.324	0.504	-	-
HCM Control Delay (s/veh)	-	22.5	23.9	-	-
HCM Lane LOS	-	C	C	-	-
HCM 95th %tile Q (veh)	-	1.4	2.7	-	-

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	915	0	323	10	470	560	0	0	0	0	280	769
Future Volume (vph)	915	0	323	10	470	560	0	0	0	0	280	769
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3242	0	1495	1736	3471	1553	0	0	0	0	3282	1468
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3242	0	1495	1736	3471	1553	0	0	0	0	3282	1468
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				90		444						610
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	8%	8%	4%	4%	4%	0%	0%	0%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	973	0	344	11	500	596	0	0	0	0	298	818
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2						4	
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2					4	4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	31.0		31.0	31.0	31.0	31.0					22.0	22.0
Total Split (%)	36.9%		36.9%	36.9%	36.9%	36.9%					26.2%	26.2%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	25.9		25.9	30.0	30.0	30.0					17.2	17.2
Actuated g/C Ratio	0.29		0.29	0.34	0.34	0.34					0.20	0.20
v/c Ratio	1.02		0.78	0.01	0.42	0.72					0.46	1.05
Control Delay (s/veh)	66.8		43.0	0.0	23.7	12.3					34.1	58.3
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	66.8		43.0	0.0	23.7	12.3					34.1	58.3
LOS	E		D	A	C	B					C	E
Approach Delay (s/veh)		60.6			17.4						51.9	
Approach LOS		E			B						D	
Queue Length 50th (ft)	~288		174	0	111	61					77	~202
Queue Length 95th (ft)	#418		#310	0	155	196					117	#429

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	953		439	650	1181	821					640	777
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	1.02		0.78	0.02	0.42	0.73					0.47	1.05

Intersection Summary













Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	88.1
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.05
Intersection Signal Delay (s/veh):	44.4
Intersection LOS:	D
Intersection Capacity Utilization:	68.9%
ICU Level of Service:	C
Analysis Period (min):	15
~ 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.	

Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↖↗	
Traffic Volume (vph)	0	155	42	41	155	0	0	0	0	142	466	28
Future Volume (vph)	0	155	42	41	155	0	0	0	0	142	466	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	125		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt			0.850									0.993
Flt Protected				0.950								0.989
Satd. Flow (prot)	0	1776	1509	1703	1792	0	0	0	0	0	3409	0
Flt Permitted				0.421								0.989
Satd. Flow (perm)	0	1776	1509	755	1792	0	0	0	0	0	3409	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91									16
Link Speed (mph)		25			25			25				25
Link Distance (ft)		393			385			1349				2133
Travel Time (s)		10.7			10.5			36.8				58.2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	7%	7%	6%	6%	6%	0%	0%	0%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	48	47	178	0	0	0	0	0	731	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		8		7	4						2	
Permitted Phases			8	4						2		
Detector Phase		8	8	7	4					2	2	
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					10.0	10.0	
Minimum Split (s)		21.0	21.0	9.0	21.0					23.0	23.0	
Total Split (s)		9.0	9.0	7.0	13.0					44.0	44.0	
Total Split (%)		15.0%	15.0%	11.7%	21.7%					73.3%	73.3%	
Yellow Time (s)		3.0	3.0	3.0	3.0					3.0	3.0	
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0							0.0
Total Lost Time (s)		4.0	4.0	4.0	4.0							4.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		None	None	None	None					Max	Max	
Act Effct Green (s)		5.5	5.5	9.7	9.7							42.5
Actuated g/C Ratio		0.09	0.09	0.16	0.16							0.70
v/c Ratio		1.09	0.21	0.27	0.61							0.30
Control Delay (s/veh)		132.7	4.8	24.3	32.2							3.9
Queue Delay		0.0	0.0	0.0	0.0							0.0
Total Delay (s/veh)		132.7	4.8	24.3	32.2							3.9
LOS		F	A	C	C							A
Approach Delay (s/veh)		105.6			30.6							4.0
Approach LOS		F			C							A
Queue Length 50th (ft)		~81	0	14	58							46
Queue Length 95th (ft)		#178	9	37	106							64

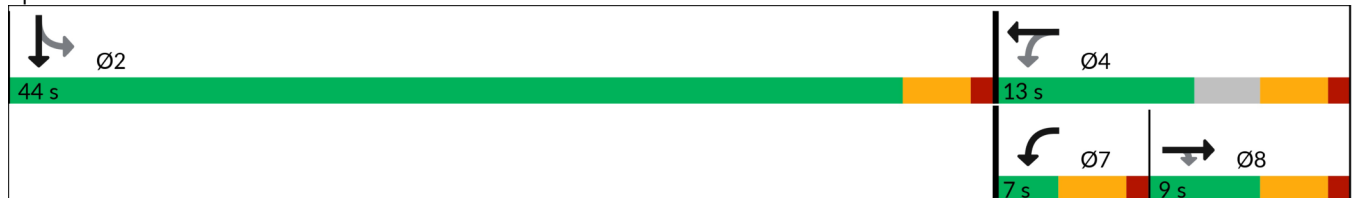
Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		313			305			1269			2053	
Turn Bay Length (ft)			50	125								
Base Capacity (vph)		162	220	169	357						2409	
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		1.10	0.22	0.28	0.50						0.30	

Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60.3
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.10
Intersection Signal Delay (s/veh):	28.5
Intersection LOS:	C
Intersection Capacity Utilization:	49.8%
ICU Level of Service:	A
Analysis Period (min)	15
~ 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.	



















Splits and Phases: 19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue



Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	232	0	0	125	164	65	853	0	0	0	0
Future Volume (vph)	50	232	0	0	125	164	65	853	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	0		125	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850						
Flt Protected	0.950							0.996				
Satd. Flow (prot)	1719	1810	0	0	1792	1524	0	3457	0	0	0	0
Flt Permitted	0.465							0.996				
Satd. Flow (perm)	841	1810	0	0	1792	1524	0	3457	0	0	0	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		385			615			394				343
Travel Time (s)		10.5			16.8			10.7				9.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	6%	6%	6%	4%	4%	4%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	244	0	0	132	173	0	966	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	3	8			4			2				
Permitted Phases	8					4	2					
Detector Phase	3	8			4	4	2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	10.0	10.0				
Minimum Split (s)	9.5	28.0			28.0	28.0	26.0	26.0				
Total Split (s)	10.0	45.0			29.0	29.0	53.0	53.0				
Total Split (%)	10.2%	45.9%			29.6%	29.6%	54.1%	54.1%				
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0				
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	None			None	None	Max	Max				
Act Effct Green (s)	18.0	18.0			12.6	12.6		49.6				
Actuated g/C Ratio	0.24	0.24			0.17	0.17		0.66				
v/c Ratio	0.20	0.56			0.44	0.68		0.42				
Control Delay (s/veh)	22.7	29.7			33.9	44.5		8.3				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay (s/veh)	22.7	29.7			33.9	44.5		8.3				
LOS	C	C			C	D		A				
Approach Delay (s/veh)		28.5			40.0			8.4				
Approach LOS		C			D			A				
Queue Length 50th (ft)	19	100			60	82		115				
Queue Length 95th (ft)	45	164			111	147		198				

Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

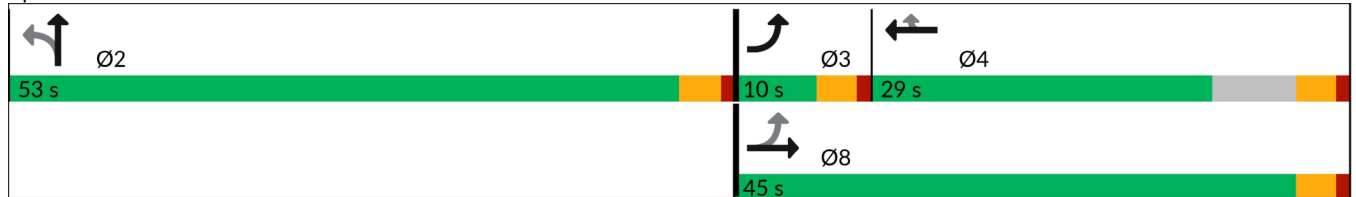


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		305			535			314			263	
Turn Bay Length (ft)	50					125						
Base Capacity (vph)	270	991			742	631		2263				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.20	0.25			0.18	0.27		0.43				

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	75.7
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay (s/veh):	18.3
Intersection LOS:	B
Intersection Capacity Utilization:	49.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 20: 2nd Street NE & E Stewart Avenue/E Main Avenue



HCM 6th TWSC
21: Freeman Road E & Site Access

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	4	0	127	16	13	63
Future Vol, veh/h	4	0	127	16	13	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	0	138	17	14	68

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	243	147	0	0	155
Stage 1	147	-	-	-	-
Stage 2	96	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	745	900	-	-	1425
Stage 1	880	-	-	-	-
Stage 2	928	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	738	900	-	-	1425
Mov Cap-2 Maneuver	738	-	-	-	-
Stage 1	880	-	-	-	-
Stage 2	919	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.9	0	1.3
HCM LOS	A		

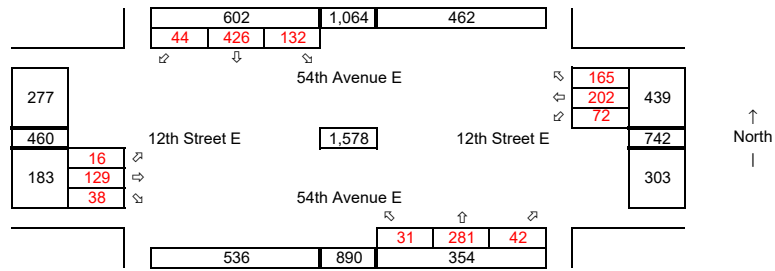
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	738	1425
HCM Lane V/C Ratio	-	-	0.006	0.01
HCM Control Delay (s/veh)	-	-	9.9	7.6
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q (veh)	-	-	0	0

Freeman Logistics
154 - High-Cube Storage Warehouse

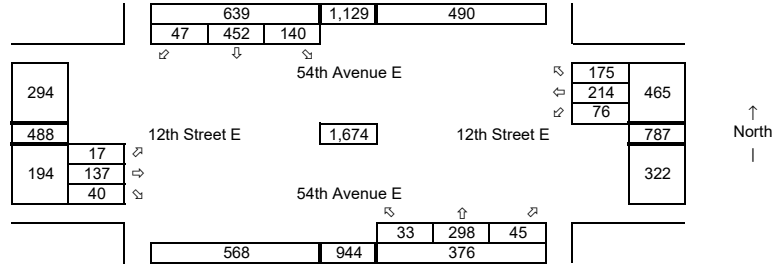
1 54th Ave E @ 12th St E

PM Peak-Hour

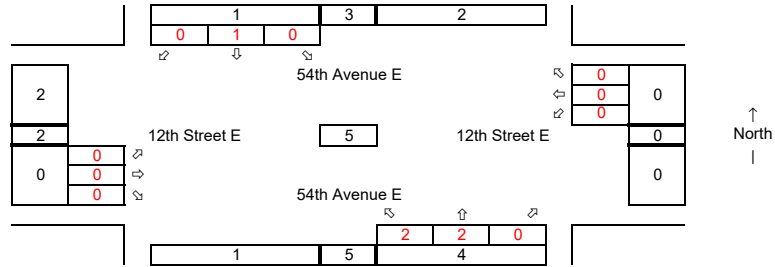
Synchro ID: 1
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



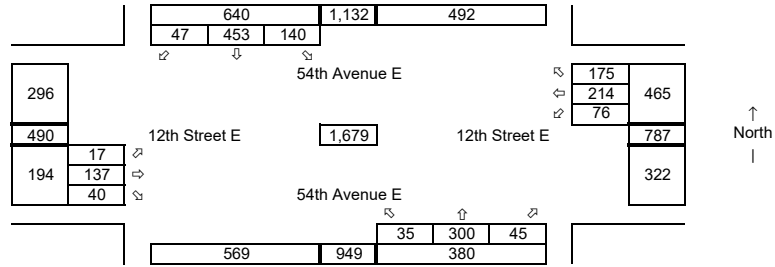
Future without Project
 Average Weekday
 PM Peak Hour
 Year: **2025**
 Growth Rate = **3.0%**
 Years of Growth = **2**
 Total Growth = **1.0609**



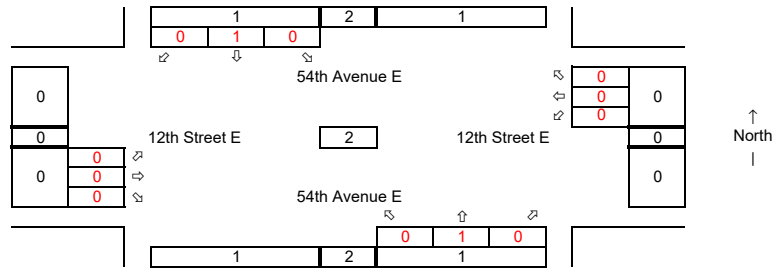
Total Development Trips
 Average Weekday
 PM Peak Hour



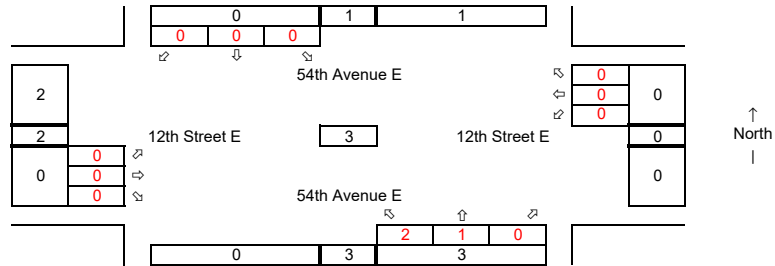
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



Freeman Logistics
154 - High-Cube Storage Warehouse

2 54th Ave E @ SR-99

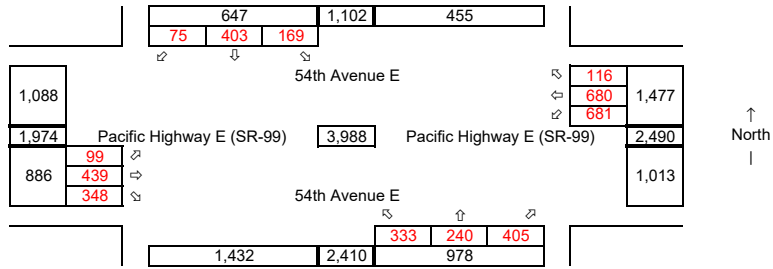
PM Peak-Hour

Synchro ID: 2
Existing
 Average Weekday
 PM Peak Hour

 Year: **6/15/2023**

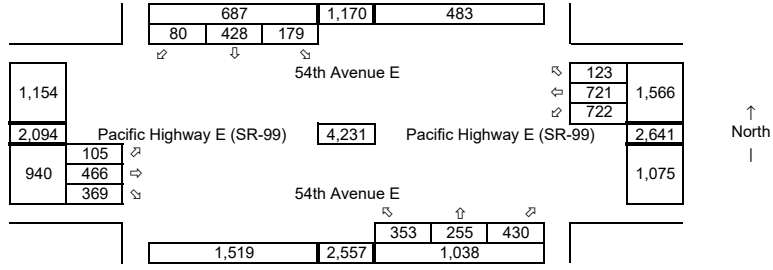
 Data Source: **IDAX**

 Two (2) Eastbound U-turns added
 to Eastbound left-turns

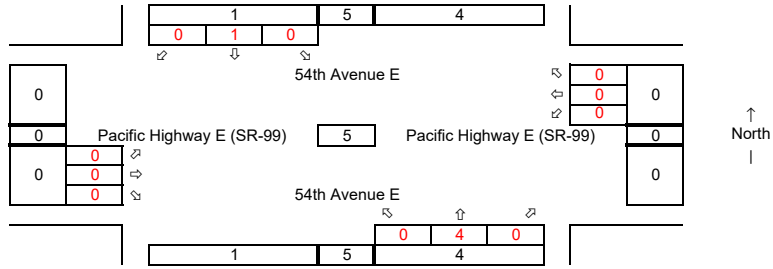


Future without Project
 Average Weekday
 PM Peak Hour

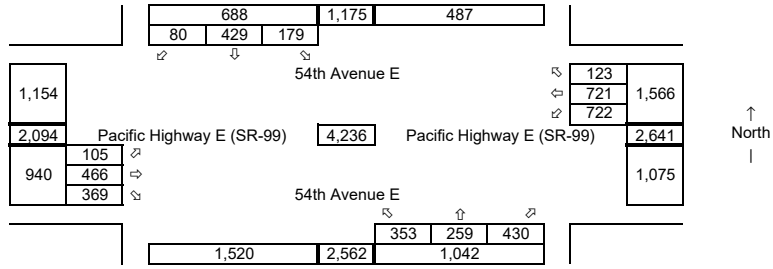
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



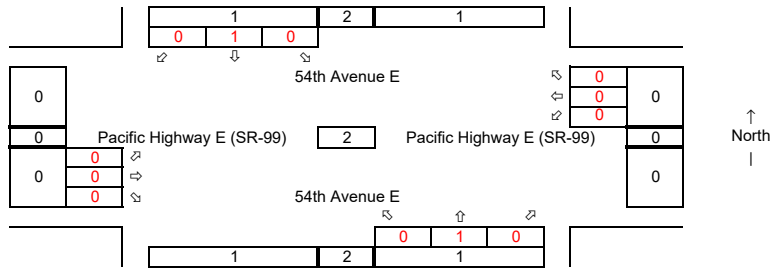
Total Development Trips
 Average Weekday
 PM Peak Hour



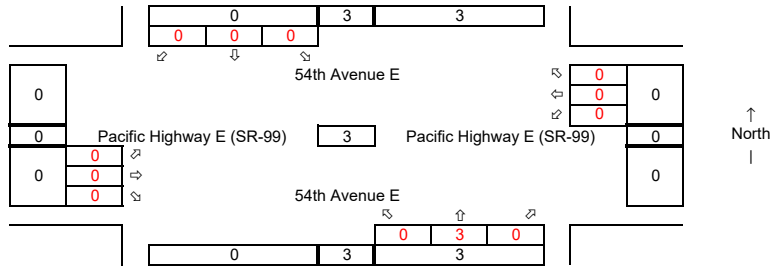
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



Freeman Logistics
154 - High-Cube Storage Warehouse

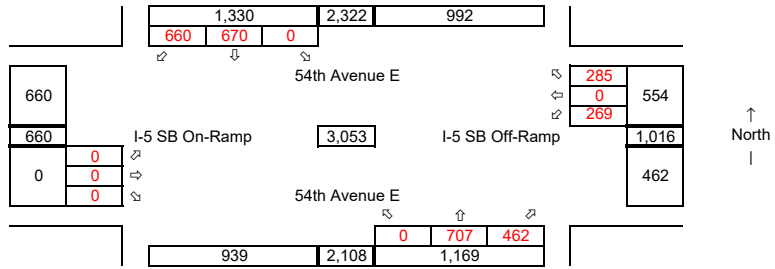
3 54th Ave E @ I-5 Ramps

PM Peak-Hour

Synchro ID: 3
Existing
 Average Weekday
 PM Peak Hour

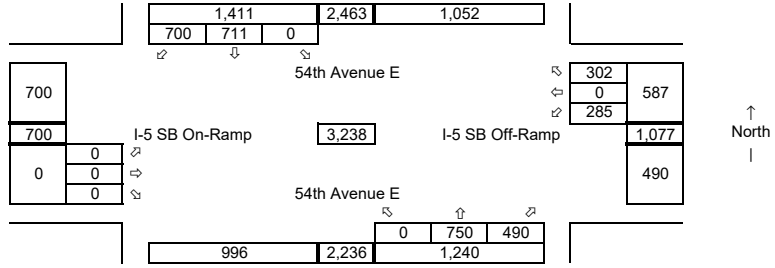
 Year: **6/15/2023**
 Data Source: **IDAX**

 One (1) NB U-turn added to NBT.
 One (1) NBL added to NBR.
 One (1) WBT added to WBL

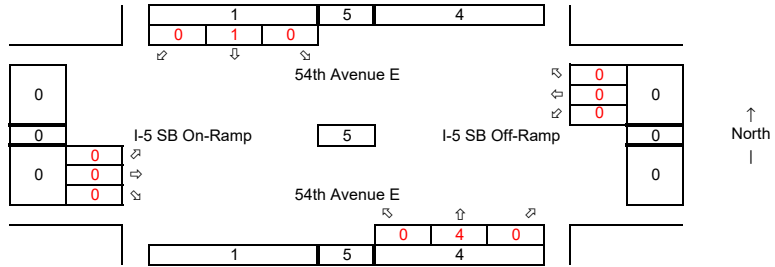


Future without Project
 Average Weekday
 PM Peak Hour

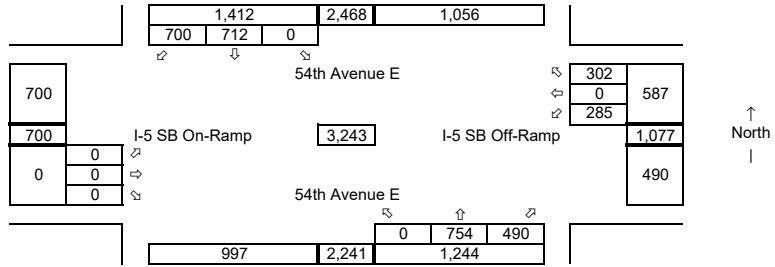
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



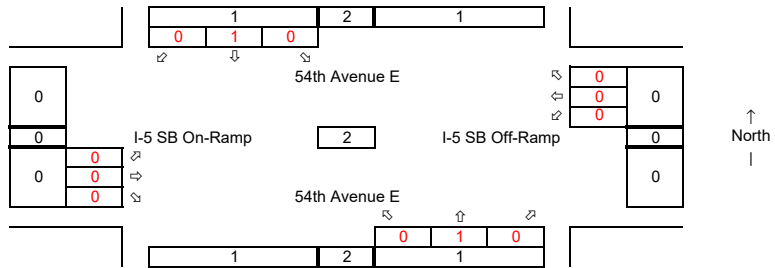
Total Development Trips
 Average Weekday
 PM Peak Hour



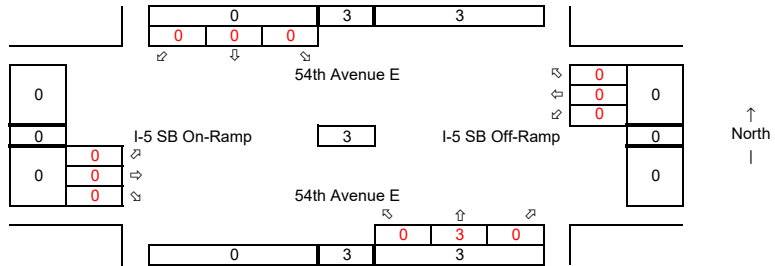
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

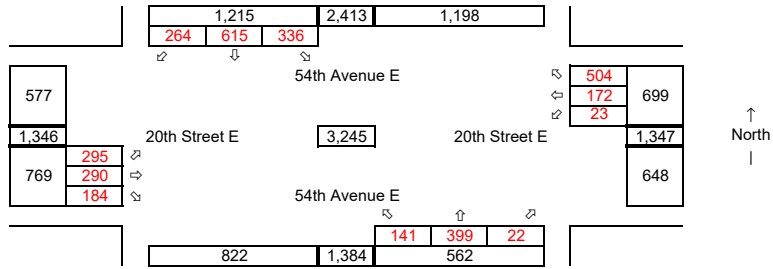


Freeman Logistics
154 - High-Cube Storage Warehouse

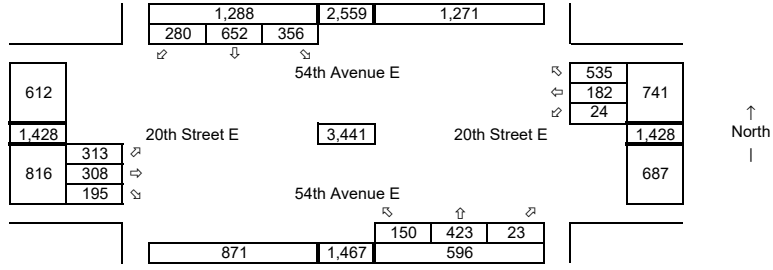
4 54th Ave E @ 20th St

PM Peak-Hour

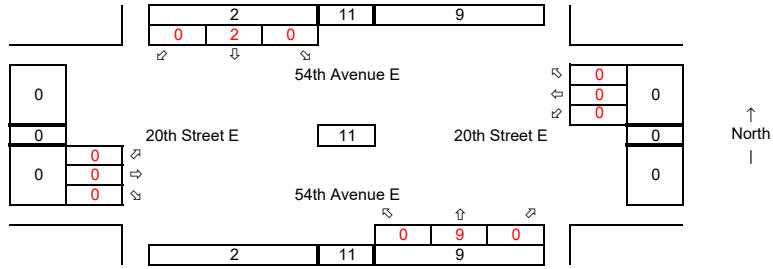
Synchro ID: 4
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/15/2023**
 Data Source: **IDAX**



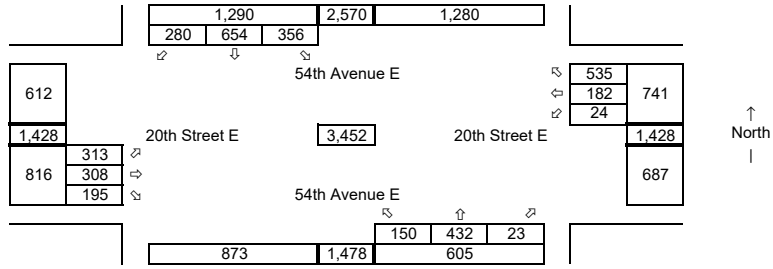
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



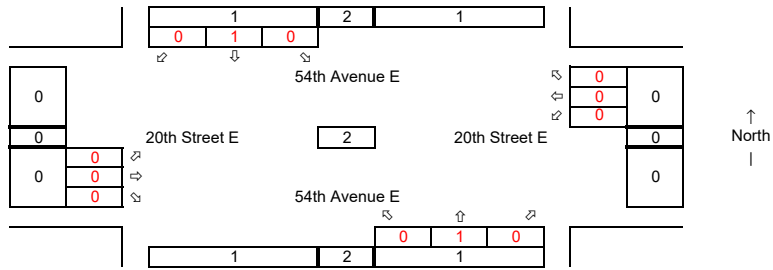
Total Development Trips
 Average Weekday
 PM Peak Hour



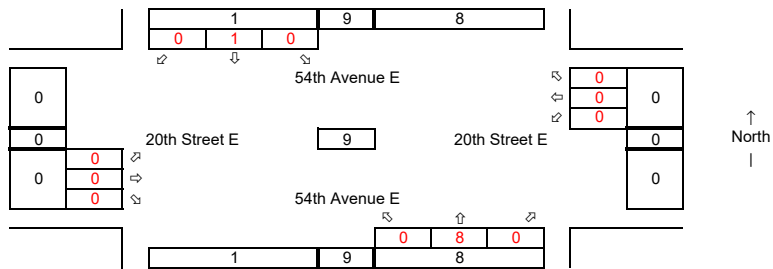
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

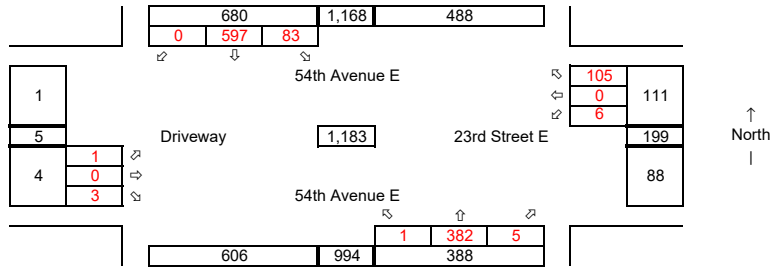


Freeman Logistics
154 - High-Cube Storage Warehouse

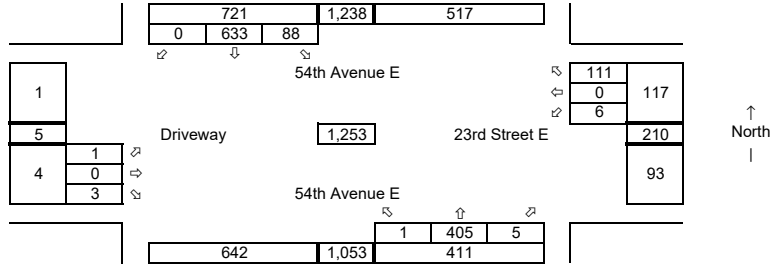
5 54th Ave E @ 23rd St E

PM Peak-Hour

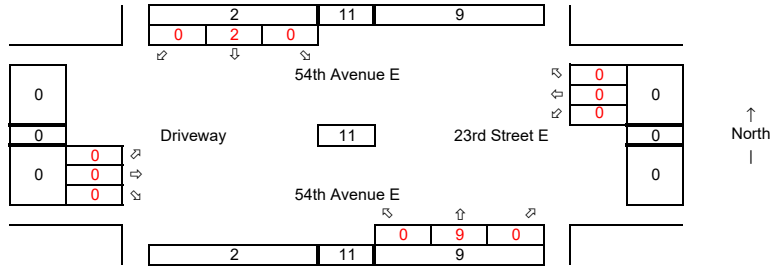
Synchro ID: 5
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



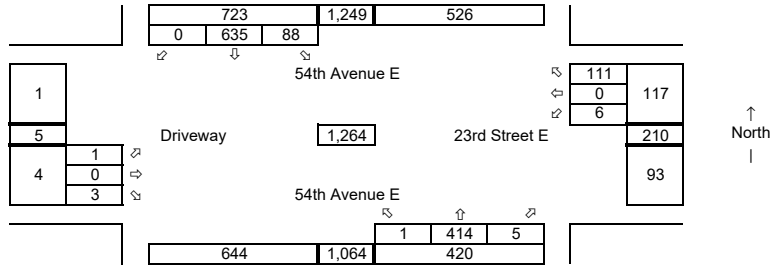
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



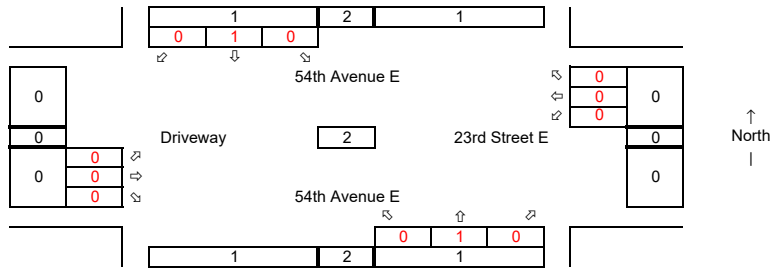
Total Development Trips
 Average Weekday
 PM Peak Hour



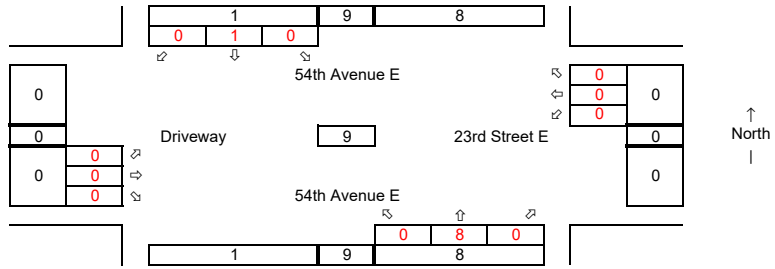
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



Freeman Logistics
154 - High-Cube Storage Warehouse

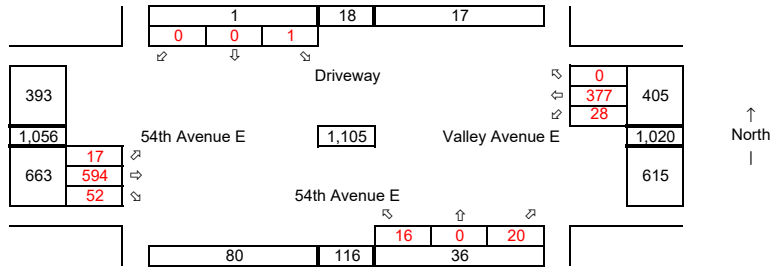
6 54th Ave E @ Valley Ave E

PM Peak-Hour

Synchro ID: 6
Existing
 Average Weekday
 PM Peak Hour

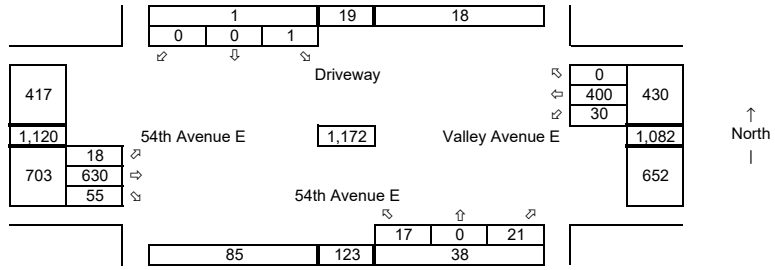
Year: **6/15/2023**

Data Source: **IDAX**

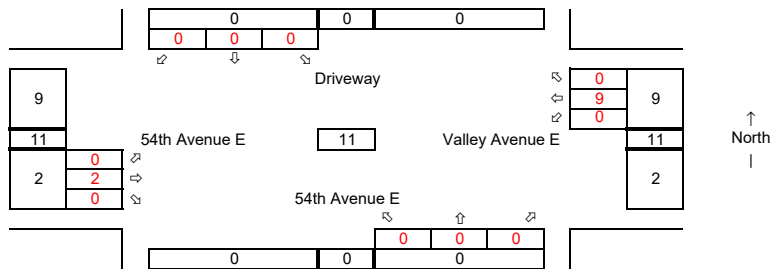


Future without Project
 Average Weekday
 PM Peak Hour

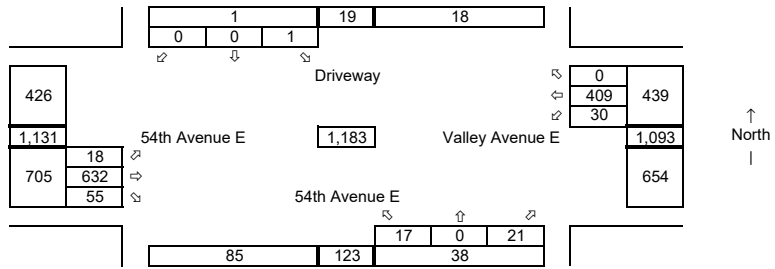
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



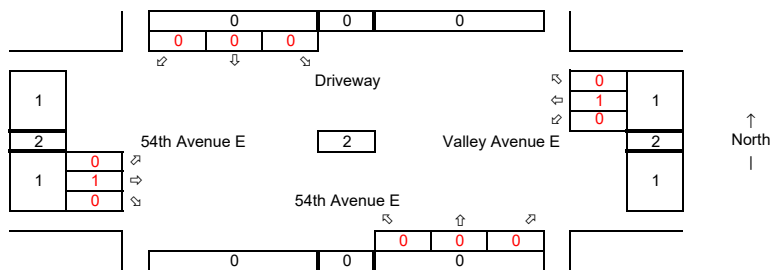
Total Development Trips
 Average Weekday
 PM Peak Hour



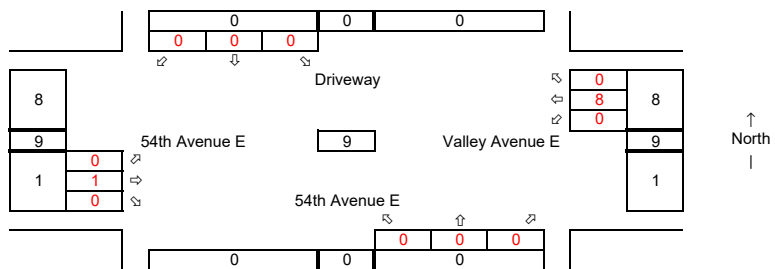
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



Freeman Logistics
154 - High-Cube Storage Warehouse

7 70th Ave E @ SR-99

PM Peak-Hour

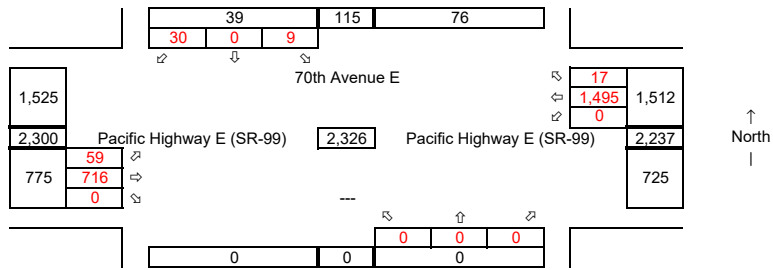
Synchro ID: 7

Existing
 Average Weekday
 PM Peak Hour

Year: 6/15/2023

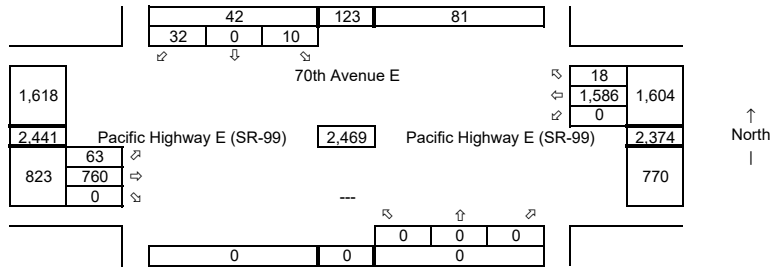
Data Source: IDAX

One (1) Eastbound U-turn
 added to Eastbound left-turns

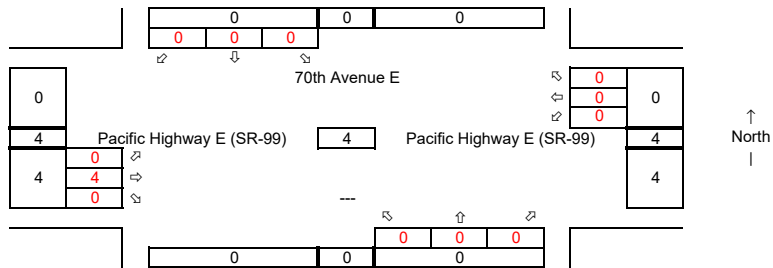


Future without Project
 Average Weekday
 PM Peak Hour

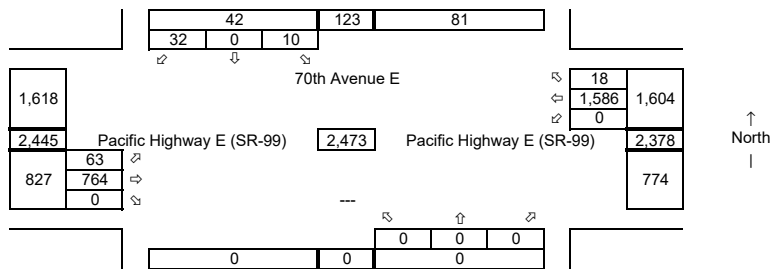
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



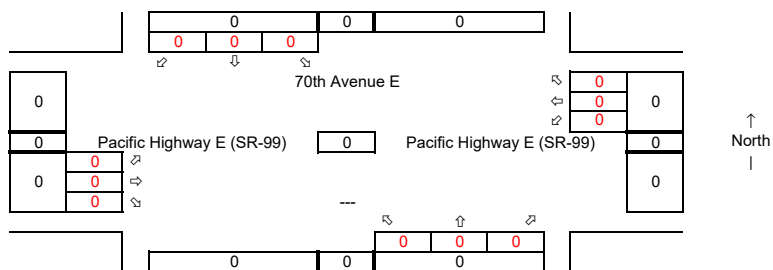
Total Development Trips
 Average Weekday
 PM Peak Hour



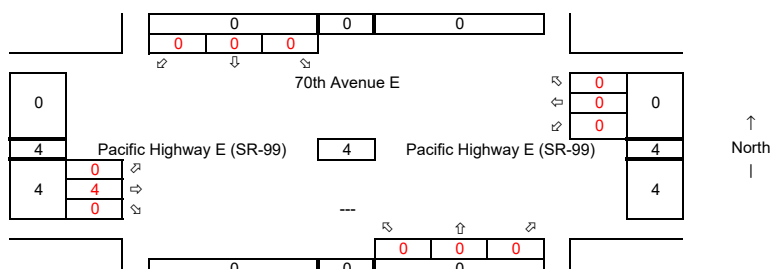
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

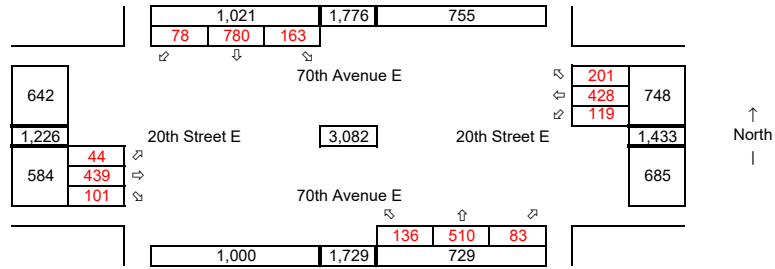


Freeman Logistics
154 - High-Cube Storage Warehouse

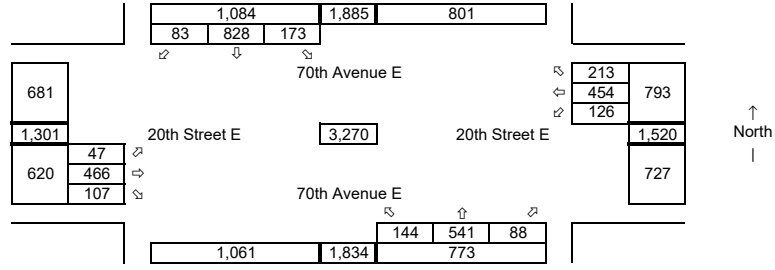
8 70th Ave E @ 20th St E

PM Peak-Hour

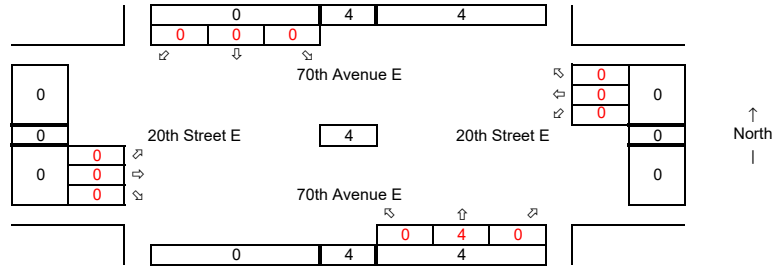
Synchro ID: 8
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



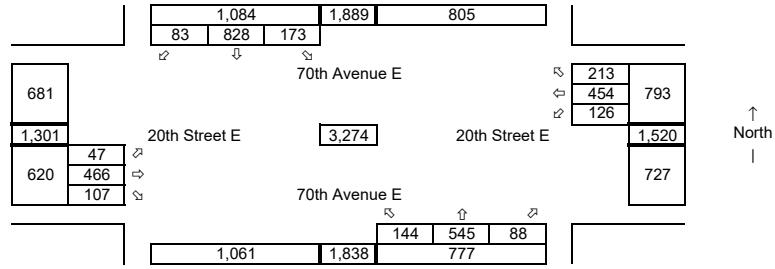
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



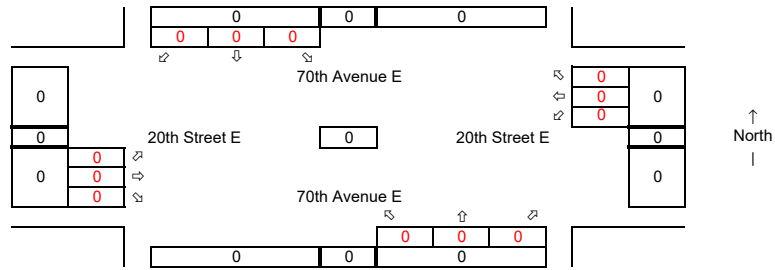
Total Development Trips
 Average Weekday
 PM Peak Hour



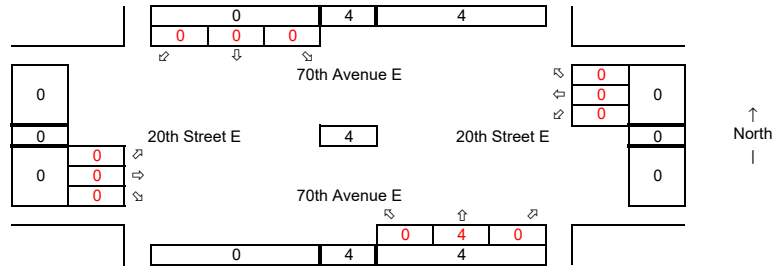
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



Freeman Logistics
154 - High-Cube Storage Warehouse

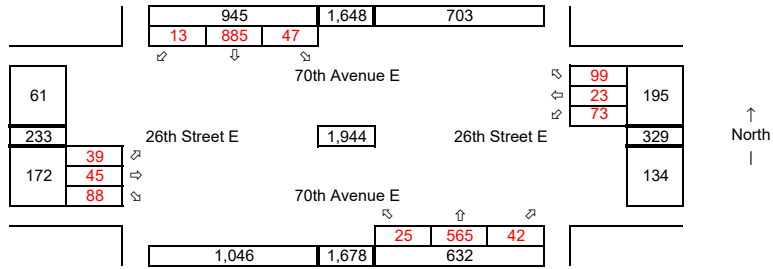
9 70th Ave E @ 26th St E

PM Peak-Hour

Synchro ID: 9
Existing
 Average Weekday
 PM Peak Hour

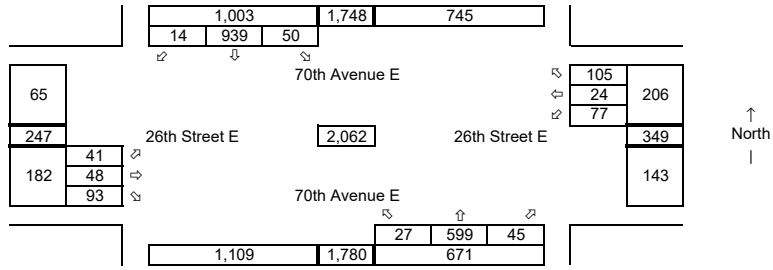
Year: **6/8/2023**

Data Source: **IDAX**

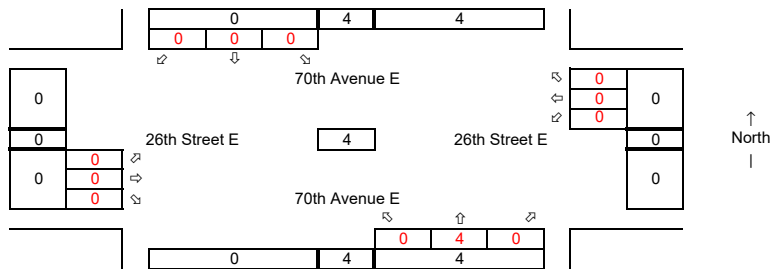


Future without Project
 Average Weekday
 PM Peak Hour

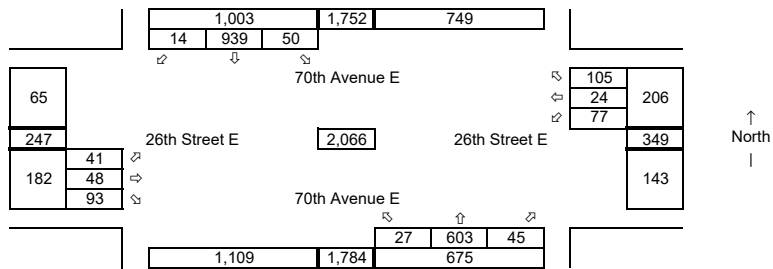
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



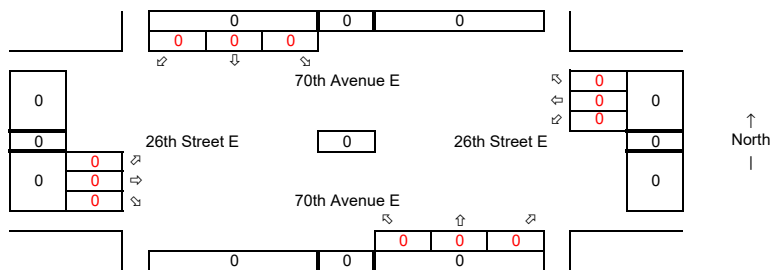
Total Development Trips
 Average Weekday
 PM Peak Hour



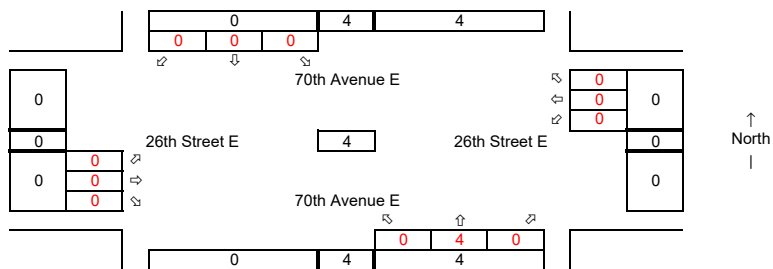
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

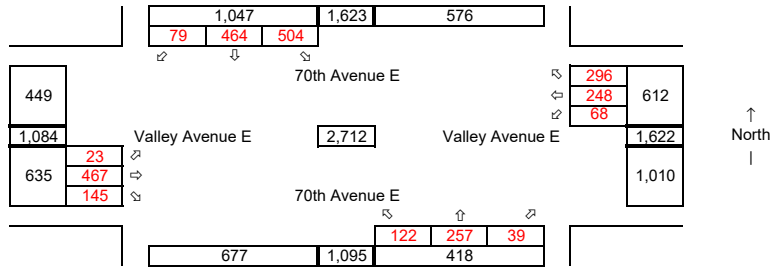


Freeman Logistics
154 - High-Cube Storage Warehouse

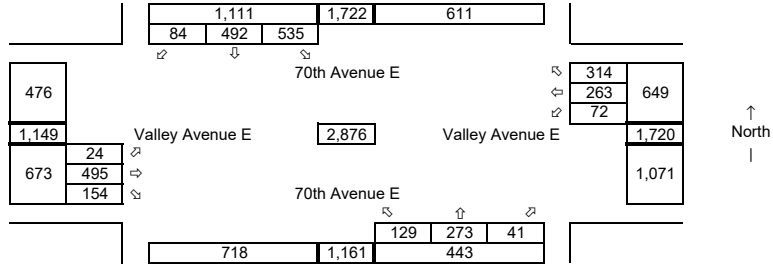
10 70th Ave E @ Valley Ave E

PM Peak-Hour

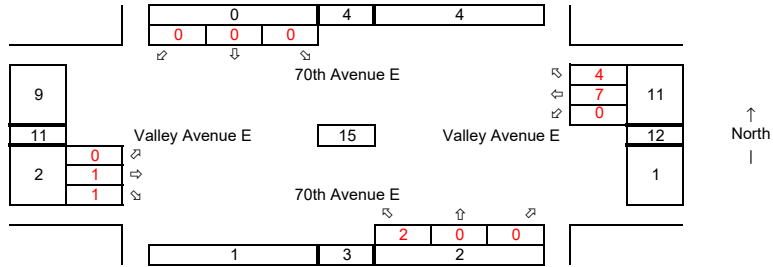
Synchro ID: 10
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



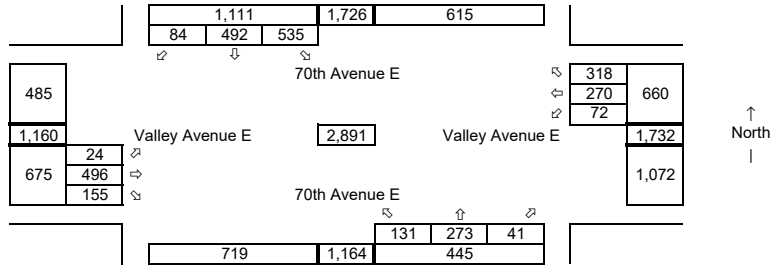
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



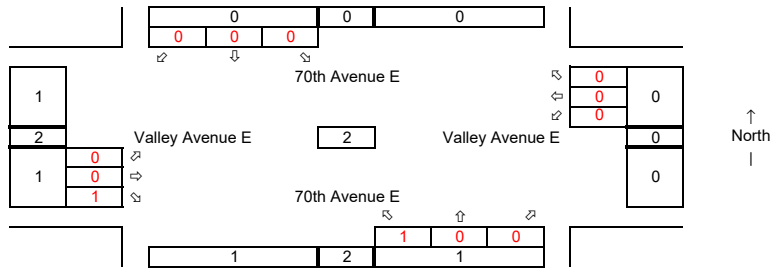
Total Development Trips
 Average Weekday
 PM Peak Hour



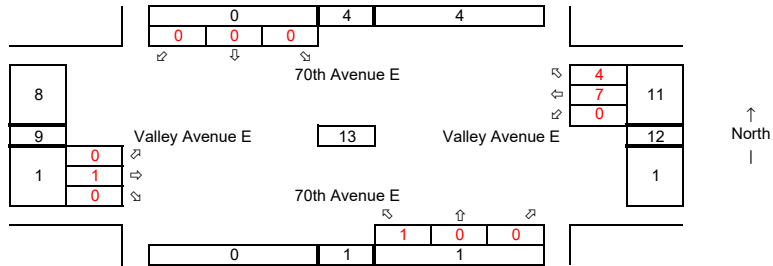
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

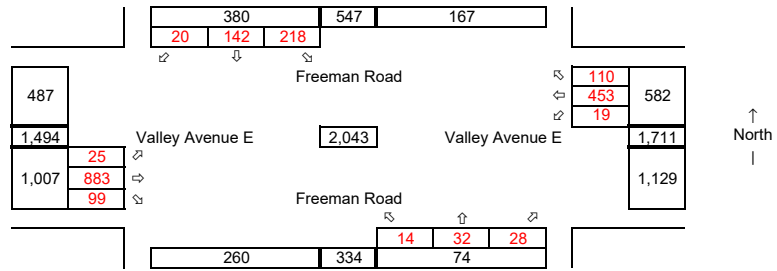


Freeman Logistics
154 - High-Cube Storage Warehouse

11 Freeman Rd @ Valley Ave E

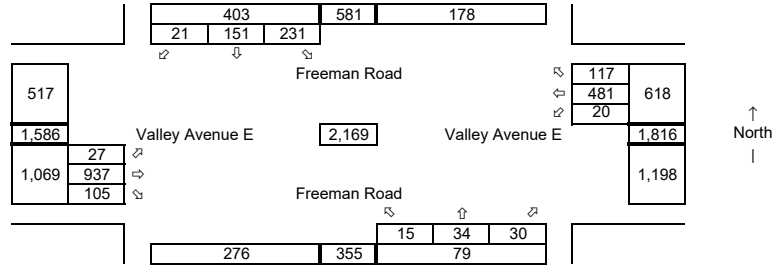
PM Peak-Hour

Synchro ID: 11
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/14/2023**
 Data Source: **IDAX**

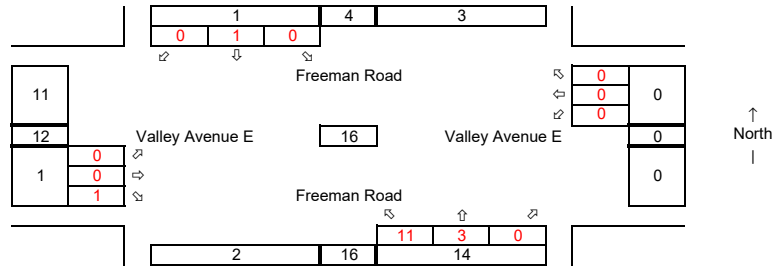


Future without Project
 Average Weekday
 PM Peak Hour

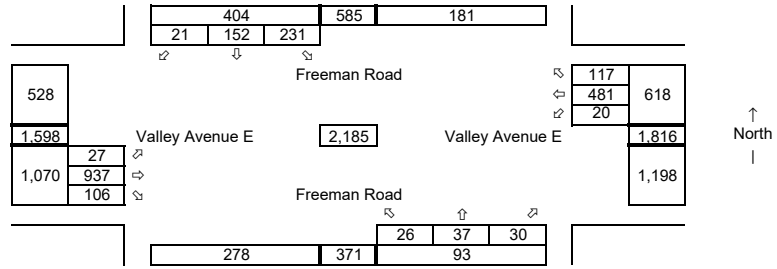
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



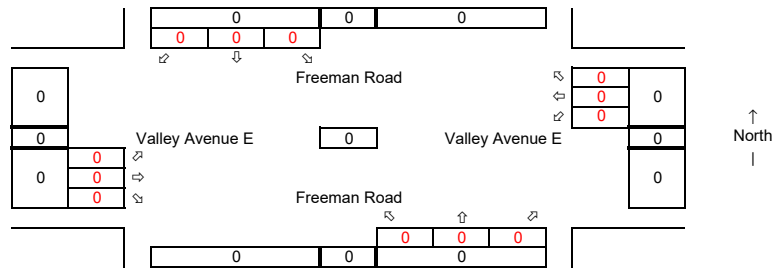
Total Development Trips
 Average Weekday
 PM Peak Hour



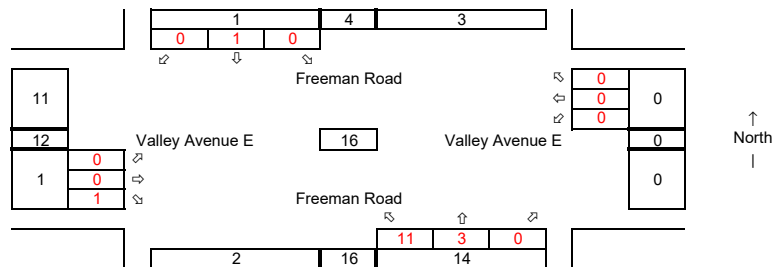
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



LUC - 154
Short-Term Storage Warehouse

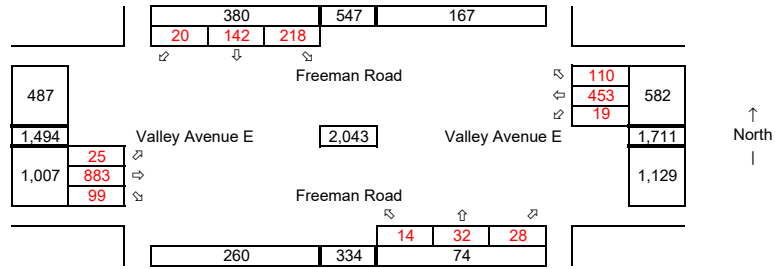
11 Freeman Rd E @ Valley Ave E

PM Peak-Hour

Synchro ID: 11
 With SR-167 Extension **Existing**
 Average Weekday
 PM Peak Hour

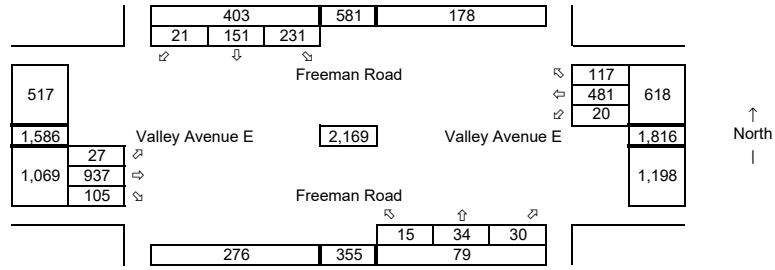
Year: **6/14/2023**

Data Source: **IDAX**

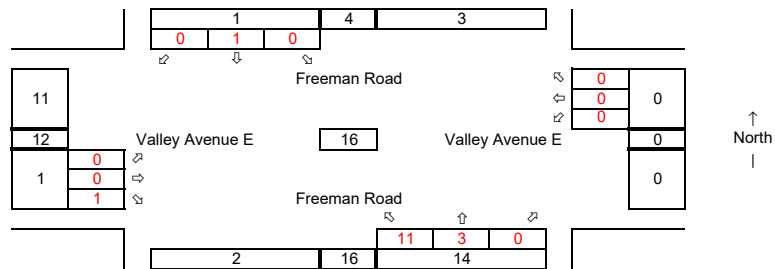


Future without Project
 Average Weekday
 PM Peak Hour

Year: **2025**
 Growth Rate = **3.0%**
 Years of Growth = **2**
 Total Growth = **1.0609**

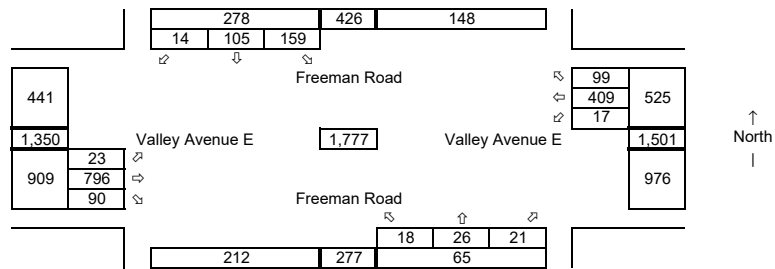


Total Development Trips
 Average Weekday
 PM Peak Hour

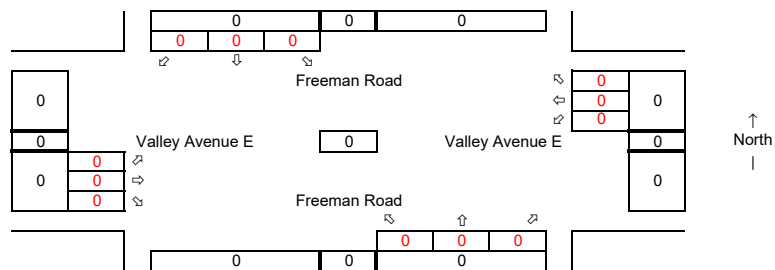


Future with Project
 Average Weekday
 PM Peak Hour

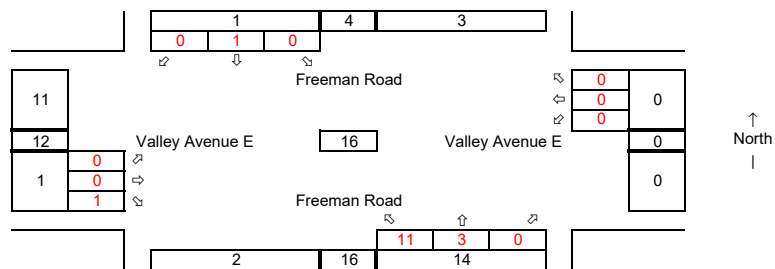
N/S Diversion % **31%**
 E/W Diversion % **15%**



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



Freeman Logistics
154 - High-Cube Storage Warehouse

12 Freeman Rd E @ 48th St E

PM Peak-Hour

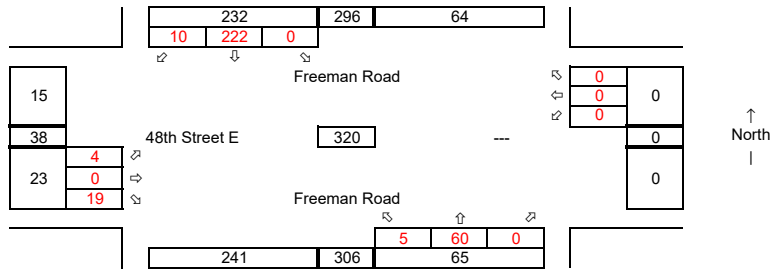
Synchro ID: 12

Existing

Average Weekday
 PM Peak Hour

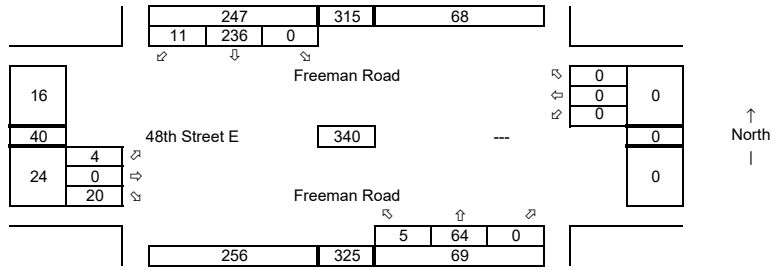
Year: 6/8/2023

Data Source: IDAX

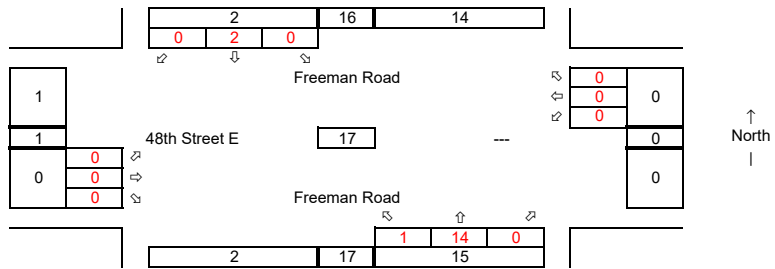


Future without Project
 Average Weekday
 PM Peak Hour

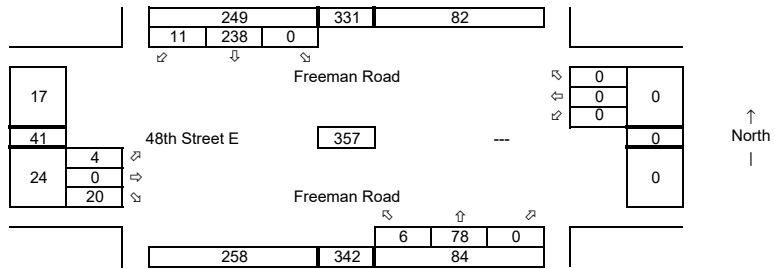
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



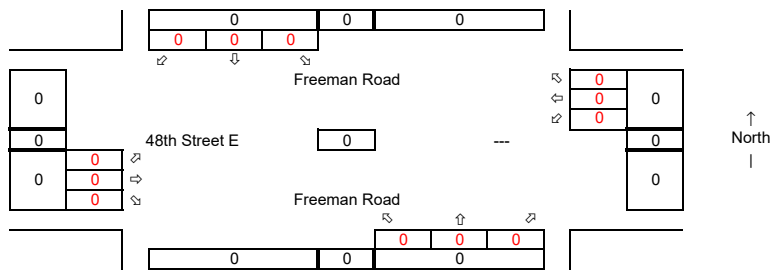
Total Development Trips
 Average Weekday
 PM Peak Hour



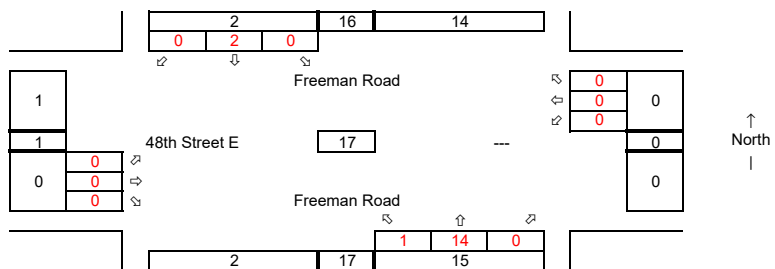
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

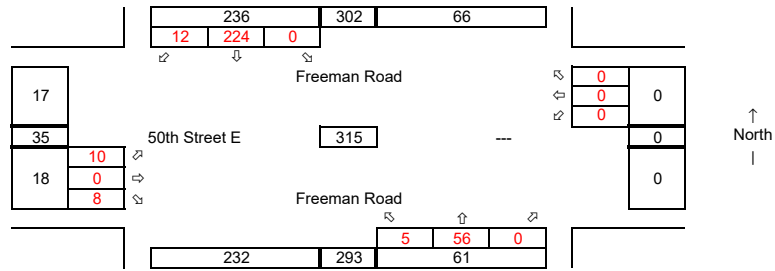


Freeman Logistics
154 - High-Cube Storage Warehouse

13 Freeman Rd @ 50th St E

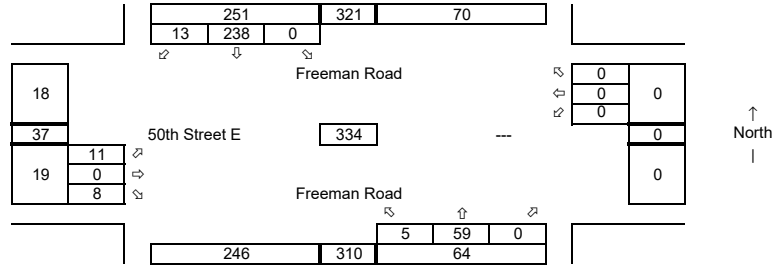
PM Peak-Hour

Synchro ID: 13
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**

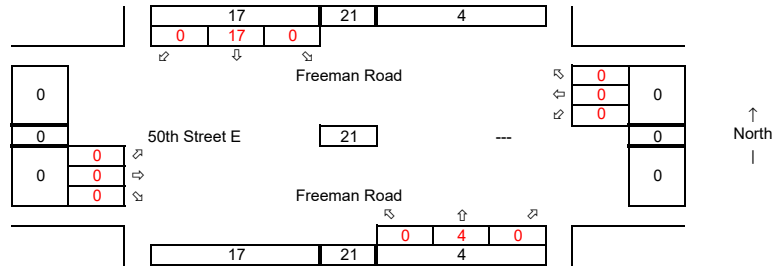


Future without Project
 Average Weekday
 PM Peak Hour

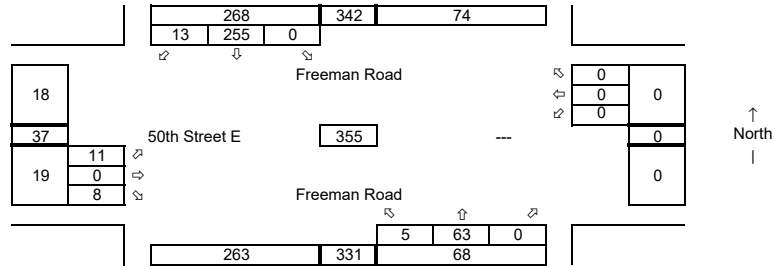
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



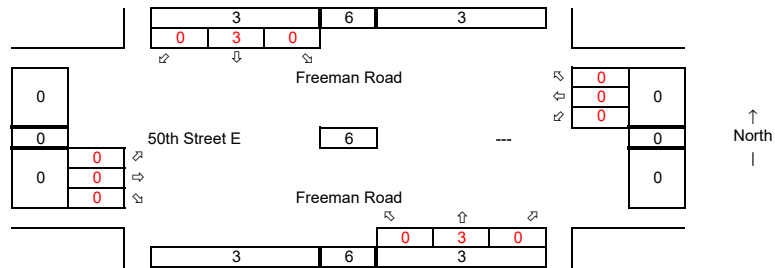
Total Development Trips
 Average Weekday
 PM Peak Hour



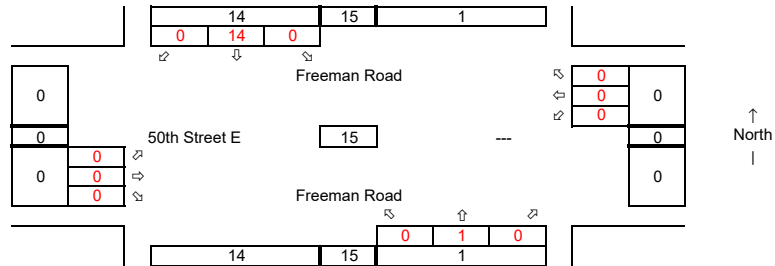
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

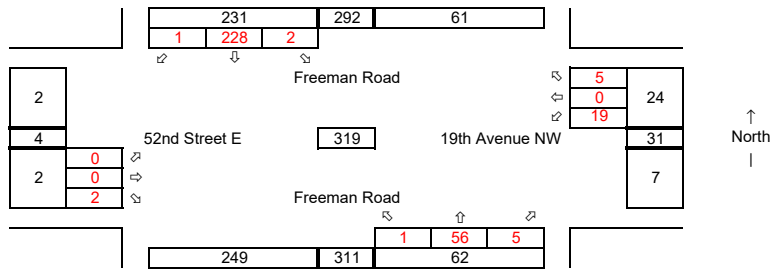


Freeman Logistics
154 - High-Cube Storage Warehouse

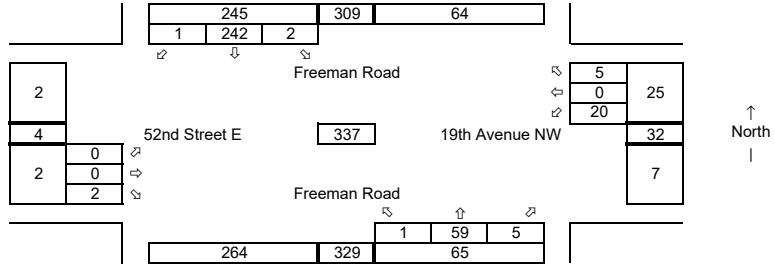
14 Freeman Rd @ 52nd St E

PM Peak-Hour

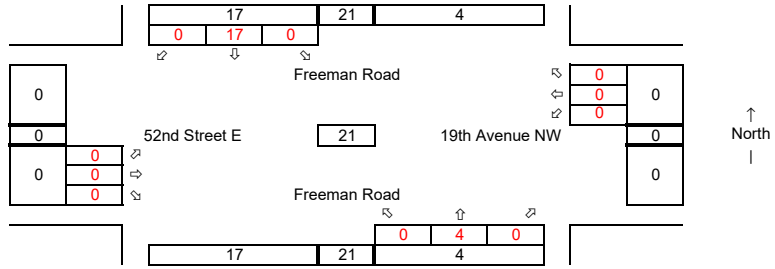
Synchro ID: 14
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



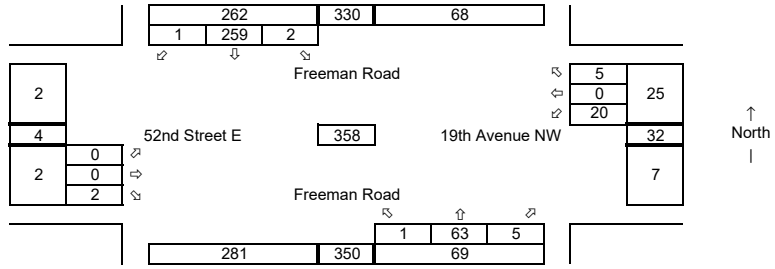
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



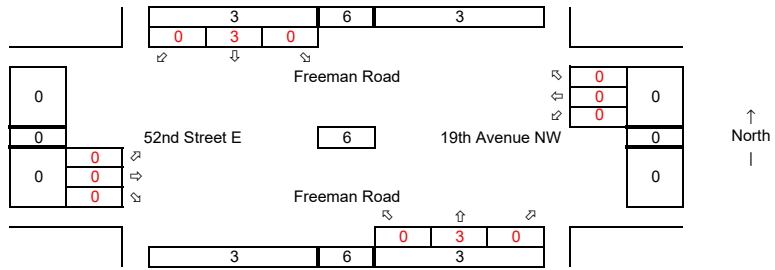
Total Development Trips
 Average Weekday
 PM Peak Hour



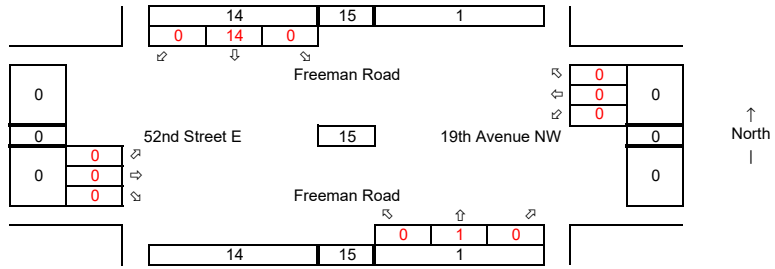
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



Freeman Logistics
154 - High-Cube Storage Warehouse

15 Freeman Rd @ N Levee Rd E

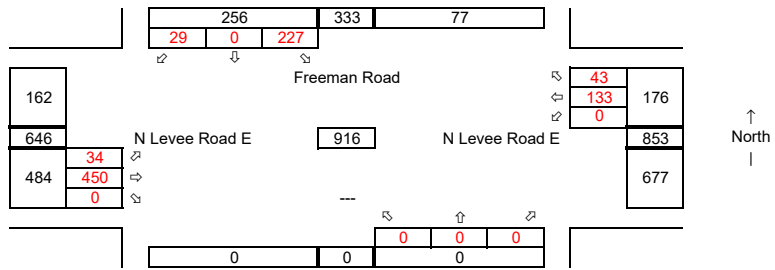
PM Peak-Hour

Synchro ID: 15

Existing
 Average Weekday
 PM Peak Hour

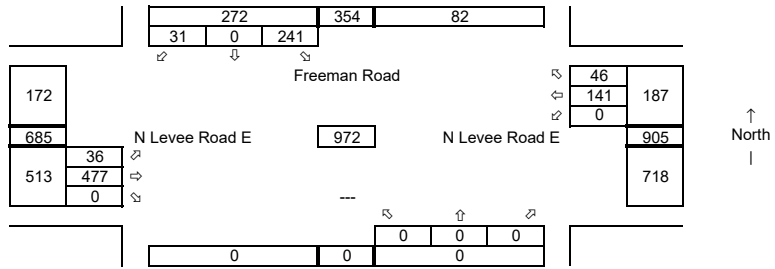
Year: **6/15/2023**

Data Source: **IDAX**

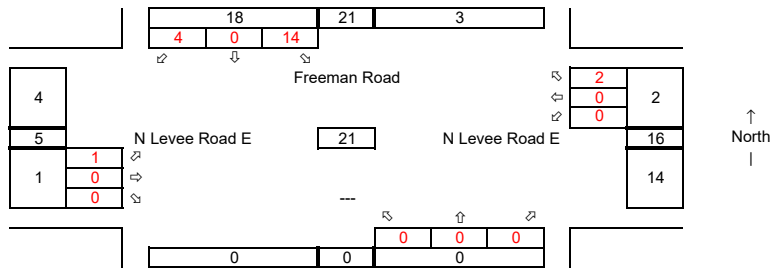


Future without Project
 Average Weekday
 PM Peak Hour

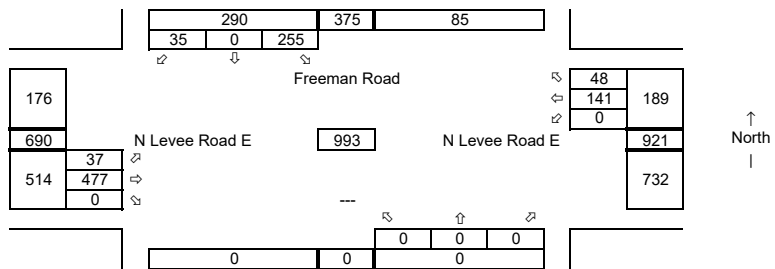
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



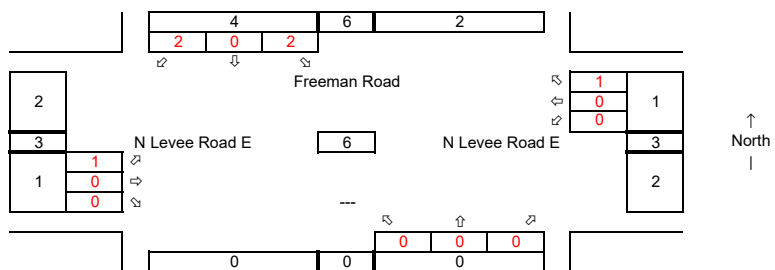
Total Development Trips
 Average Weekday
 PM Peak Hour



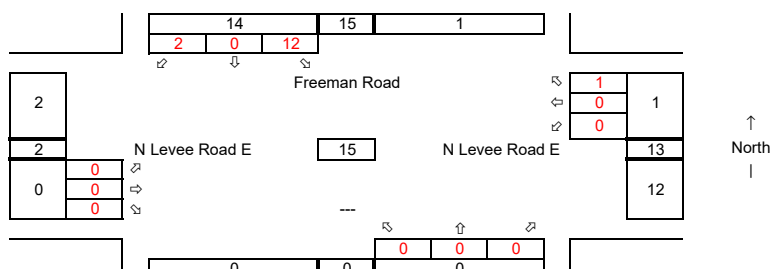
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



LUC - 154
Short-Term Storage Warehouse

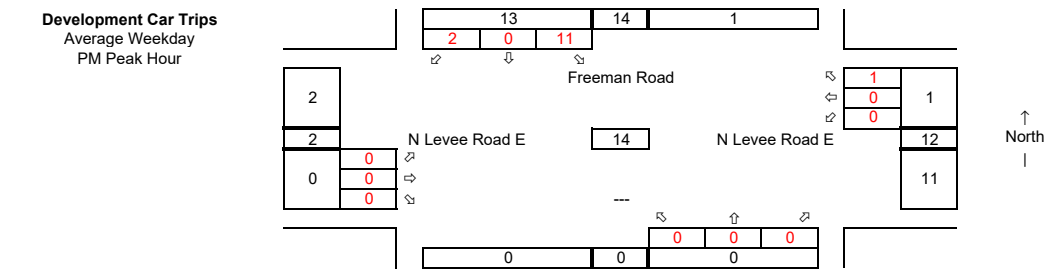
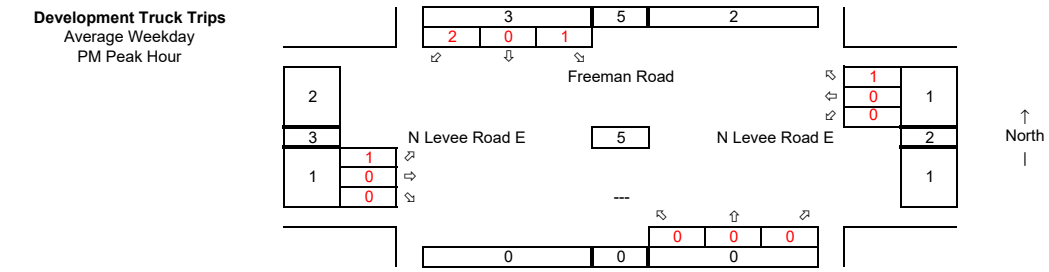
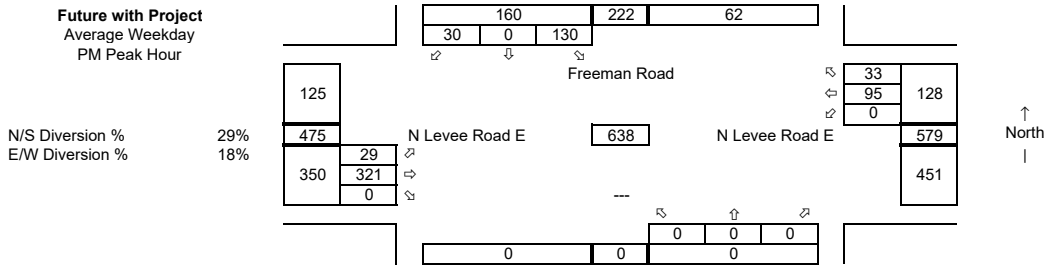
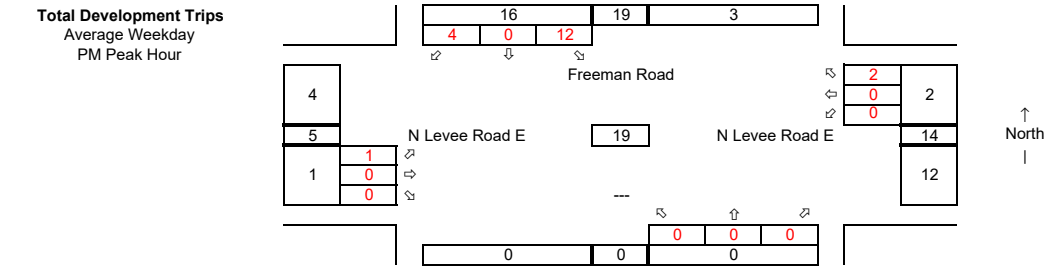
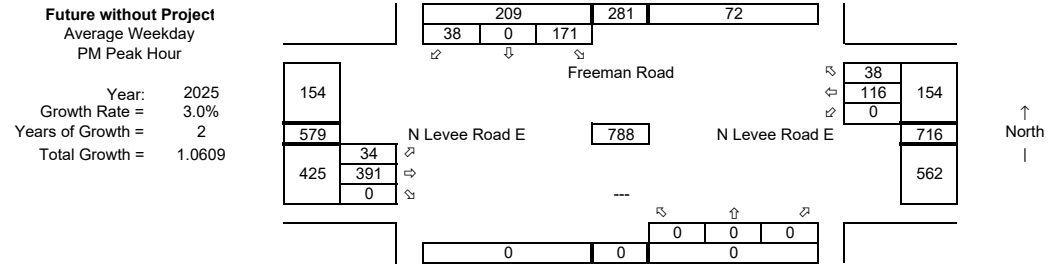
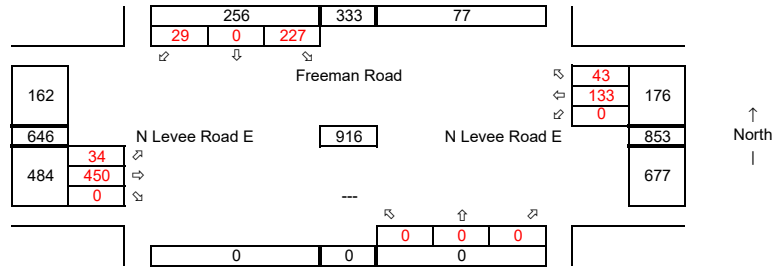
15 Freeman Rd E @ N Levee Rd

PM Peak-Hour

Synchro ID: 15
 With SR-167 Extension **Existing**
 Average Weekday
 PM Peak Hour

Year: **6/15/2023**

Data Source: **IDAX**



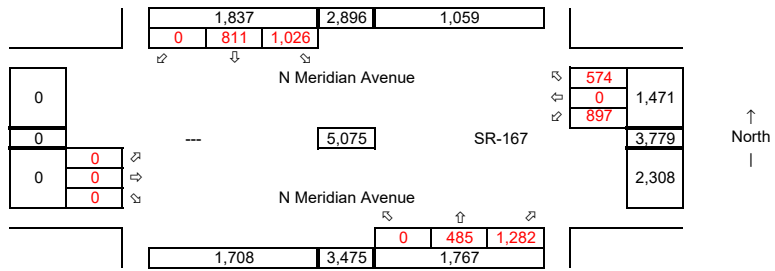
Freeman Logistics
154 - High-Cube Storage Warehouse

16 N Meridian Ave @ SR-167

PM Peak-Hour

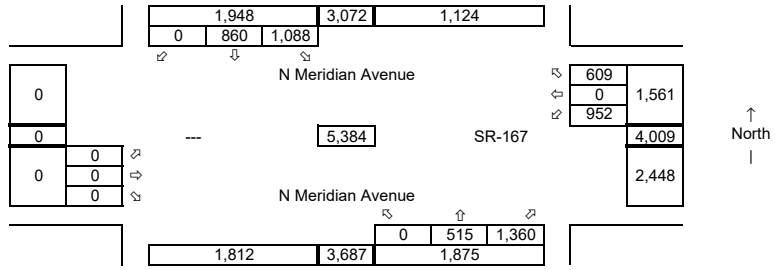
Synchro ID: 16
Existing
 Average Weekday
 PM Peak Hour

 Year: **6/14/2023**
 Data Source: **IDAX**

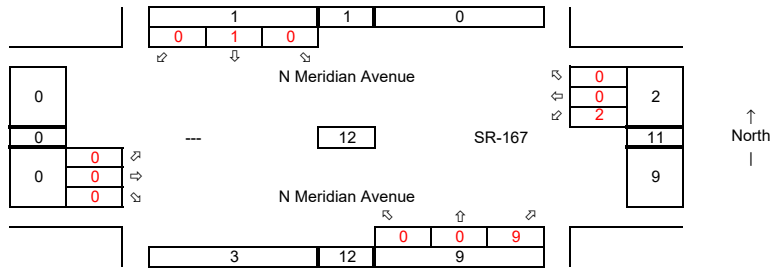


Future without Project
 Average Weekday
 PM Peak Hour

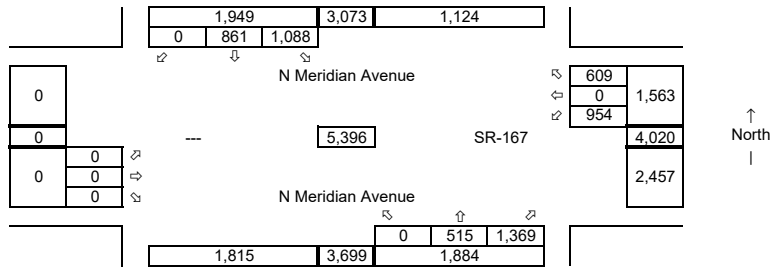
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



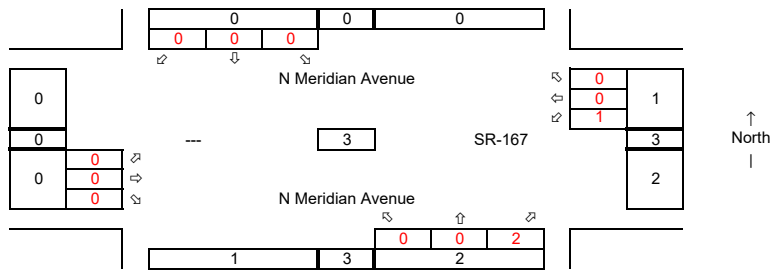
Total Development Trips
 Average Weekday
 PM Peak Hour



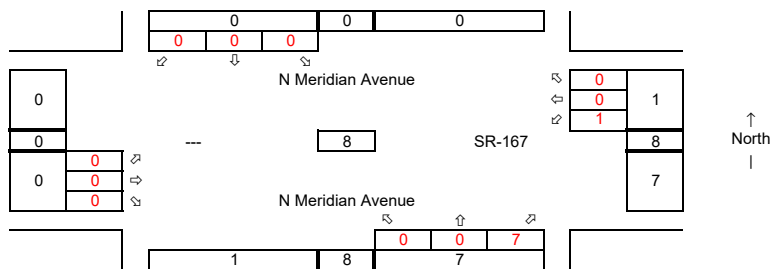
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



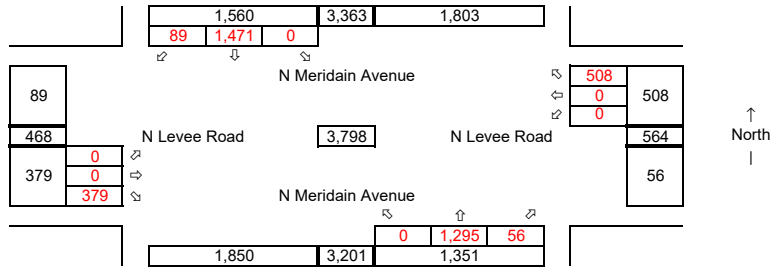
Freeman Logistics
154 - High-Cube Storage Warehouse

17 N Meridian Ave @ N Levee Rd

PM Peak-Hour

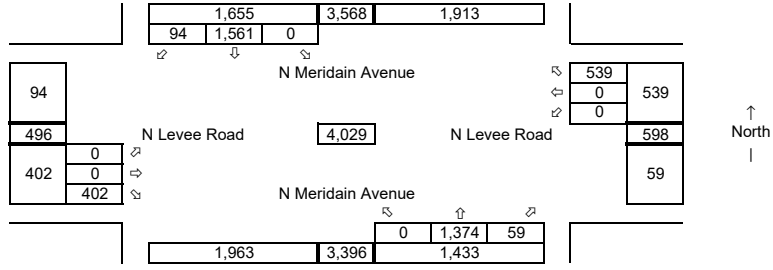
Synchro ID: 17
Existing
 Average Weekday
 PM Peak Hour

 Year: **6/14/2023**
 Data Source: **IDAX**

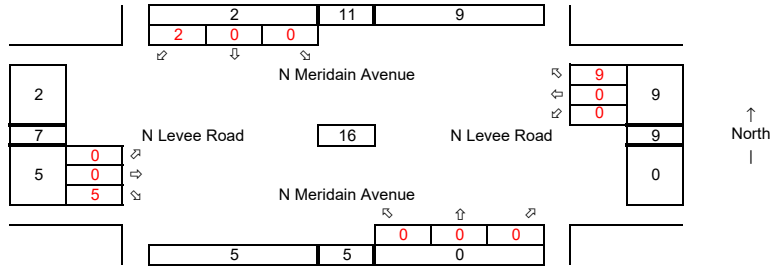


Future without Project
 Average Weekday
 PM Peak Hour

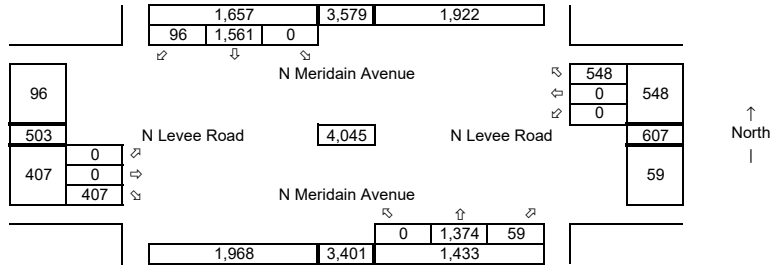
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



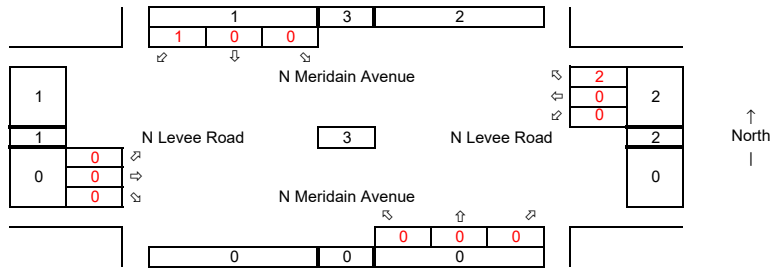
Total Development Trips
 Average Weekday
 PM Peak Hour



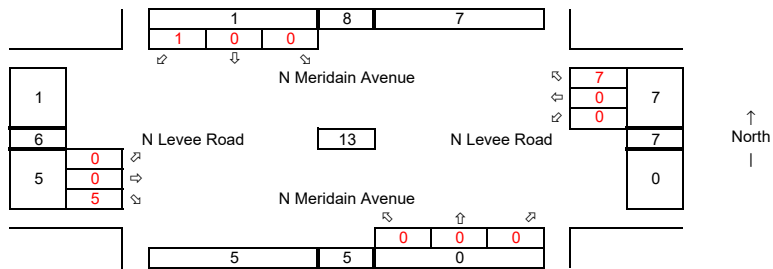
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



Freeman Logistics
154 - High-Cube Storage Warehouse

19 Meridian Ave @ W Stewart Ave

PM Peak-Hour

Synchro ID: 19

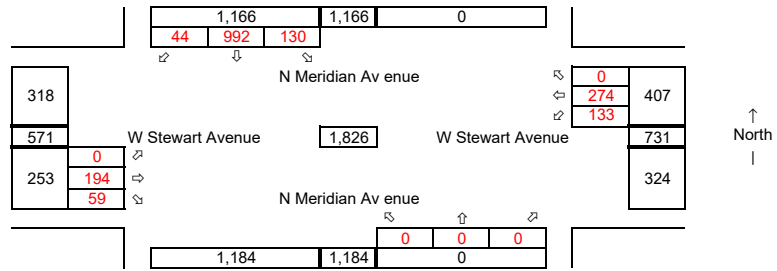
Existing

Average Weekday
 PM Peak Hour

Year: **6/14/2023**

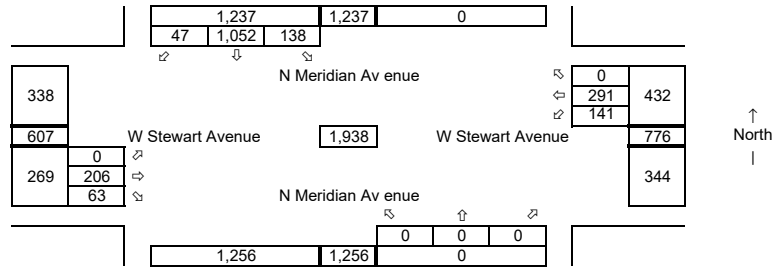
Data Source: **IDAX**

One (1) Westbound U-turn
 added to Westbound left-turns

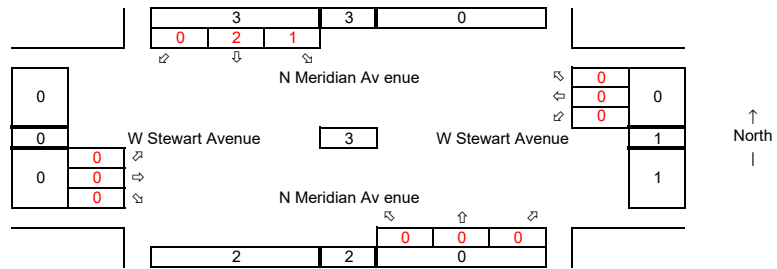


Future without Project
 Average Weekday
 PM Peak Hour

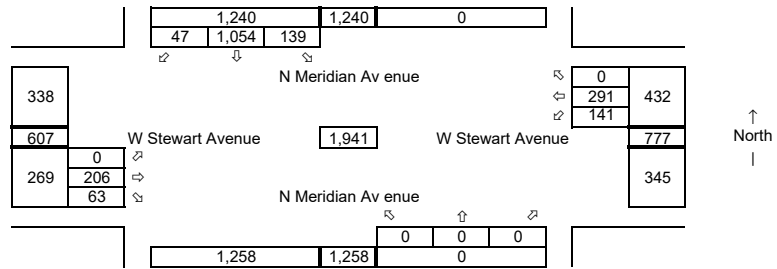
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



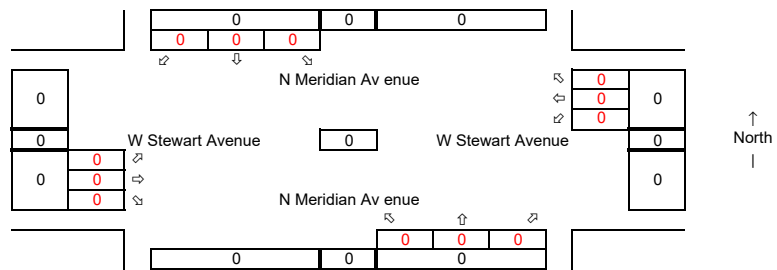
Total Development Trips
 Average Weekday
 PM Peak Hour



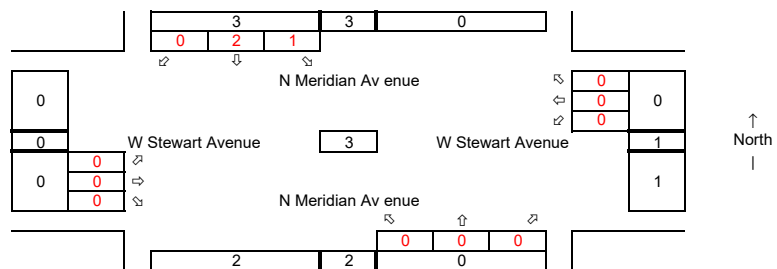
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



Freeman Logistics
154 - High-Cube Storage Warehouse

20 2nd St NE @ w Stewart Ave

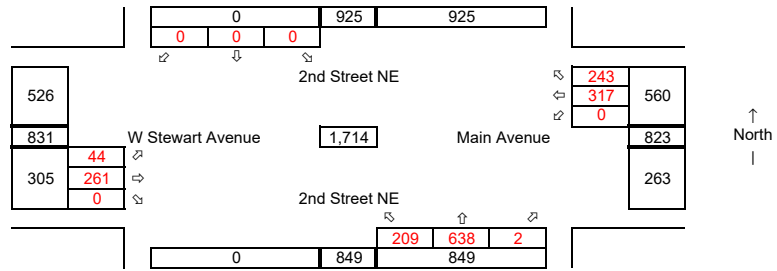
PM Peak-Hour

Synchro ID: 20

Existing
 Average Weekday
 PM Peak Hour

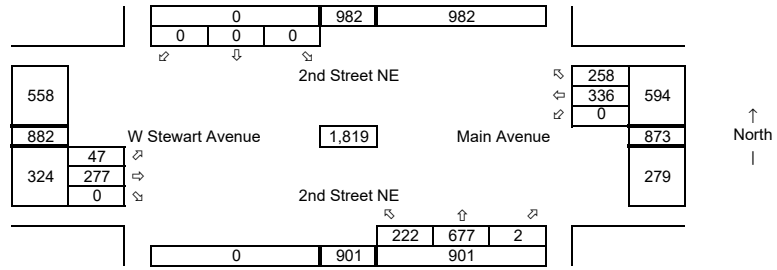
Year: **6/15/2023**

Data Source: **IDAX**

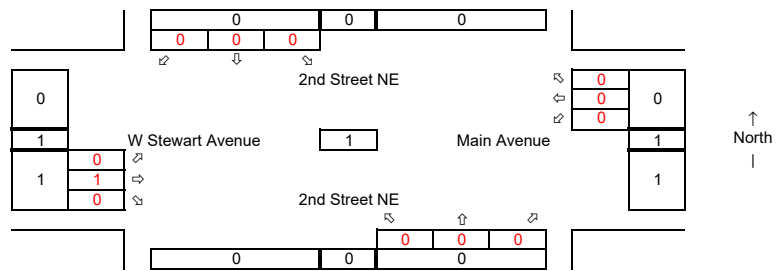


Future without Project
 Average Weekday
 PM Peak Hour

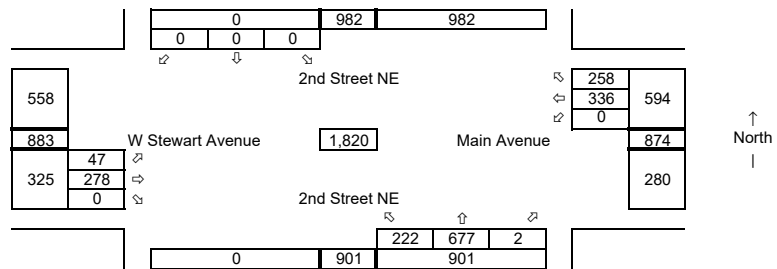
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



Total Development Trips
 Average Weekday
 PM Peak Hour



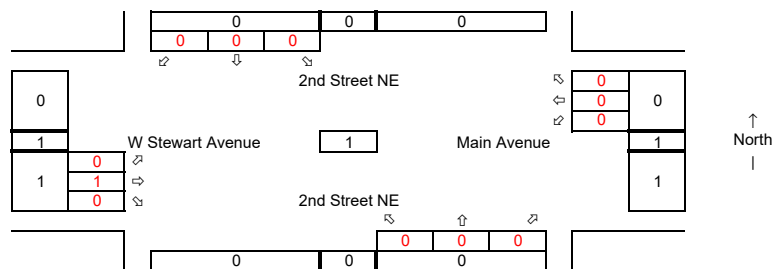
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

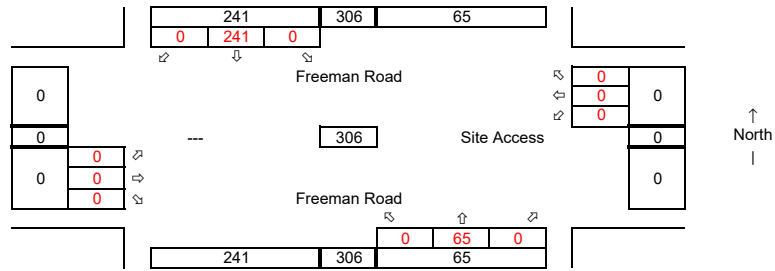


Freeman Logistics
154 - High-Cube Storage Warehouse

21 Freeman Rd @ Site Access

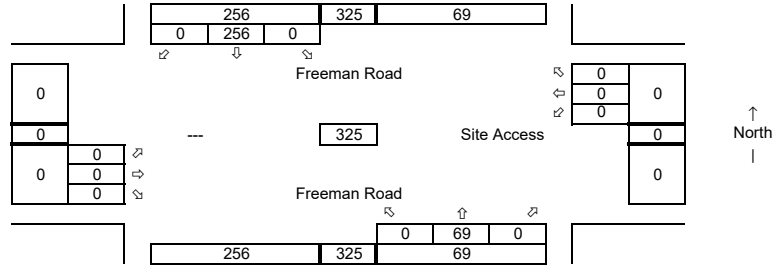
PM Peak-Hour

Synchro ID: 21
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**
 NB/SB volumes extrapolated
 from Freeman at 48th Street E

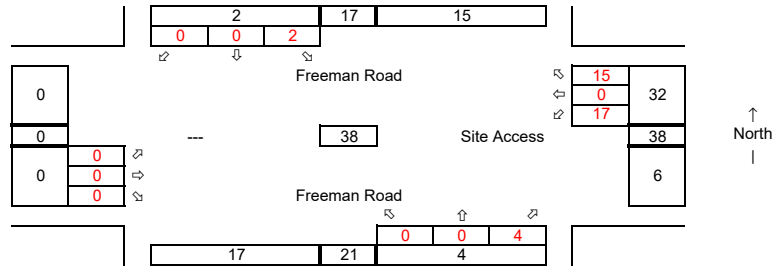


Future without Project
 Average Weekday
 PM Peak Hour

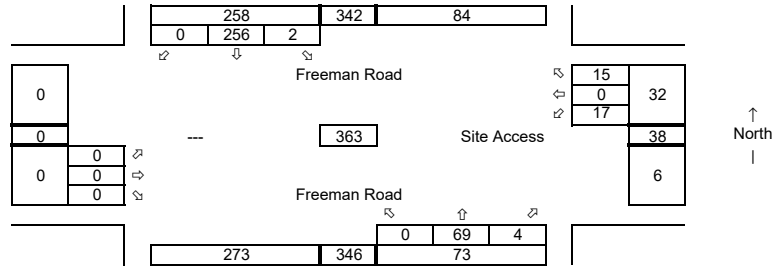
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



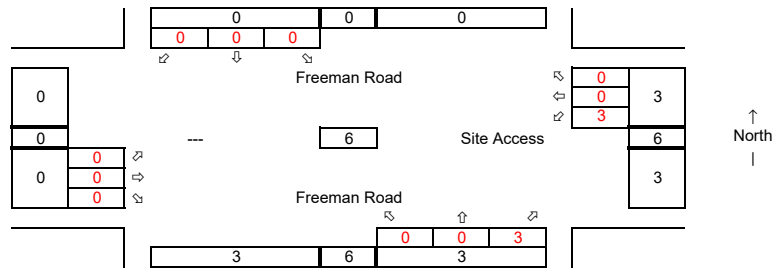
Total Development Trips
 Average Weekday
 PM Peak Hour



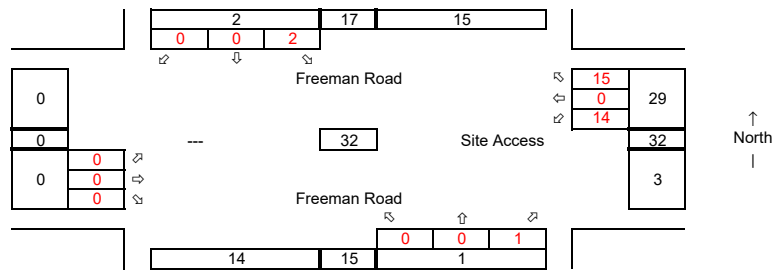
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour

























Development Car Trips
 Average Weekday
 PM Peak Hour



Lanes, Volumes, Timings
1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	137	40	76	214	175	35	300	45	140	453	47
Future Volume (vph)	17	137	40	76	214	175	35	300	45	140	453	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.966			0.933			0.981			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1765	0	1736	1705	0	1456	2856	0	1504	2966	0
Flt Permitted	0.361			0.640			0.426			0.535		
Satd. Flow (perm)	660	1765	0	1169	1705	0	653	2856	0	847	2966	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			46			24			16	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		727			778			1175			536	
Travel Time (s)		19.8			15.2			22.9			10.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	24%	24%	24%	20%	20%	20%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	186	0	80	409	0	37	363	0	147	526	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		10.0	19.0		10.0	17.0	
Total Split (s)	25.0	25.0		25.0	25.0		19.0	40.0		19.0	40.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		22.6%	47.6%		22.6%	47.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effct Green (s)	18.7	18.7		18.7	18.7		22.5	13.1		20.9	19.0	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.44	0.25		0.41	0.37	
v/c Ratio	0.07	0.28		0.18	0.63		0.09	0.48		0.32	0.47	
Control Delay (s/veh)	14.7	14.0		15.1	19.2		7.9	19.2		10.1	14.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	14.7	14.0		15.1	19.2		7.9	19.2		10.1	14.9	
LOS	B	B		B	B		A	B		B	B	
Approach Delay (s/veh)		14.1			18.6			18.2			13.9	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	4	37		17	91		6	51		26	54	
Queue Length 95th (ft)	18	93		51	#216		18	90		52	121	

Lanes, Volumes, Timings
 1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		647			698			1095			456	
Turn Bay Length (ft)	100			200			100			100		
Base Capacity (vph)	277	751		491	742		566	2012		616	2087	
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	0.06	0.25		0.16	0.55		0.07	0.18		0.24	0.25	























Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	51.5
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay (s/veh):	16.2
Intersection LOS:	B
Intersection Capacity Utilization:	61.0%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 1: 54th Avenue E & 12th Street E



Lanes, Volumes, Timings
2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	466	369	722	721	123	353	259	430	179	429	80
Future Volume (vph)	105	466	369	722	721	123	353	259	430	179	429	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.978			0.906				0.976
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1626	3252	1455	3242	3269	0	3127	2920	0	1517	2961	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1626	3252	1455	3242	3269	0	3127	2920	0	1517	2961	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			65		12			278				13
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1085			1070			320				1175
Travel Time (s)		21.1			20.8			6.2				22.9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	11%	11%	11%	8%	8%	8%	12%	12%	12%	19%	19%	19%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	496	393	768	898	0	376	733	0	190	541	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.0	40.0	47.0	22.0	44.0		47.0	47.0		41.0	41.0	
Total Split (%)	12.0%	26.7%	31.3%	14.7%	29.3%		31.3%	31.3%		27.3%	27.3%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	12.9	35.3	80.7	17.5	39.9		45.4	45.4		33.2	33.2	
Actuated g/C Ratio	0.09	0.24	0.54	0.12	0.27		0.30	0.30		0.22	0.22	
v/c Ratio	0.80	0.64	0.48	2.03	1.02		0.39	0.68		0.56	0.81	
Control Delay (s/veh)	104.1	56.3	11.9	504.5	88.7		45.2	35.2		58.4	64.2	
Queue Delay	0.0	0.0	0.1	4.0	0.0		1.5	5.3		0.0	0.0	
Total Delay (s/veh)	104.1	56.3	12.0	508.6	88.7		46.8	40.5		58.4	64.3	
LOS	F	E	B	F	F		D	D		E	E	
Approach Delay (s/veh)		44.3			282.3			42.7			62.8	
Approach LOS		D			F			D			E	
Queue Length 50th (ft)	109	232	117	~605	~492		160	240		164	256	
Queue Length 95th (ft)	#211	296	177	#735	#630		218	316		247	324	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

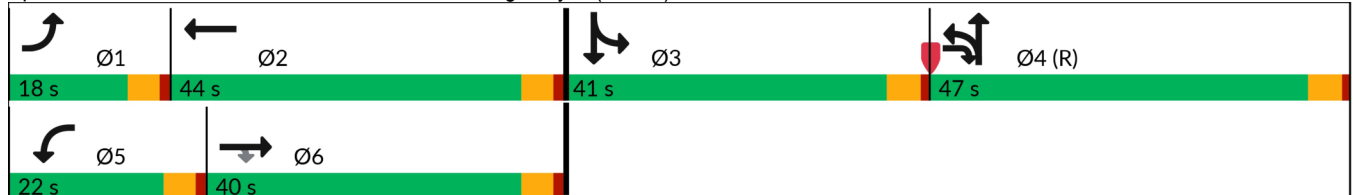
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	146	765	812	378	878		945	1077		367	726	
Starvation Cap Reductn	0	0	0	0	0		387	278		0	0	
Spillback Cap Reductn	0	0	65	113	0		0	0		0	1	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.77	0.65	0.53	2.90	1.02		0.67	0.92		0.52	0.75	

Intersection Summary























Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 138 (92%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.03
 Intersection Signal Delay (s/veh): 134.9 Intersection LOS: F
 Intersection Capacity Utilization 79.9% ICU Level of Service D
 Analysis Period (min) 15
 ~ 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.

Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings
 2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	466	369	722	721	123	353	259	430	179	429	80
Future Volume (vph)	105	466	369	722	721	123	353	259	430	179	429	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.978			0.906				0.976
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1626	3252	1455	3242	3269	0	3127	2920	0	1517	2961	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1626	3252	1455	3242	3269	0	3127	2920	0	1517	2961	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			81		14			264				14
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1085			1070			320				1175
Travel Time (s)		21.1			20.8			6.2				22.9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	11%	11%	11%	8%	8%	8%	12%	12%	12%	19%	19%	19%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	496	393	768	898	0	376	733	0	190	541	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.7	38.7	36.6	31.0	51.0		36.6	36.6		38.7	38.7	
Total Split (%)	12.9%	26.7%	25.2%	21.4%	35.2%		25.2%	25.2%		26.7%	26.7%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	13.1	34.0	68.2	26.5	47.4		34.2	34.2		31.7	31.7	
Actuated g/C Ratio	0.09	0.23	0.47	0.18	0.33		0.24	0.24		0.22	0.22	
v/c Ratio	0.76	0.65	0.54	1.29	0.83		0.51	0.82		0.57	0.82	
Control Delay (s/veh)	94.6	54.7	13.9	191.7	52.6		51.6	42.2		57.6	63.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		1.7	11.4		0.0	0.0	
Total Delay (s/veh)	94.6	54.7	13.9	191.7	52.6		53.3	53.6		57.6	63.5	
LOS	F	D	B	F	D		D	D		E	E	
Approach Delay (s/veh)		43.2			116.8			53.5			62.0	
Approach LOS		D			F			D			E	
Queue Length 50th (ft)	104	224	106	~476	412		163	237		158	247	
Queue Length 95th (ft)	#195	288	161	#605	502		218	#331		243	318	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

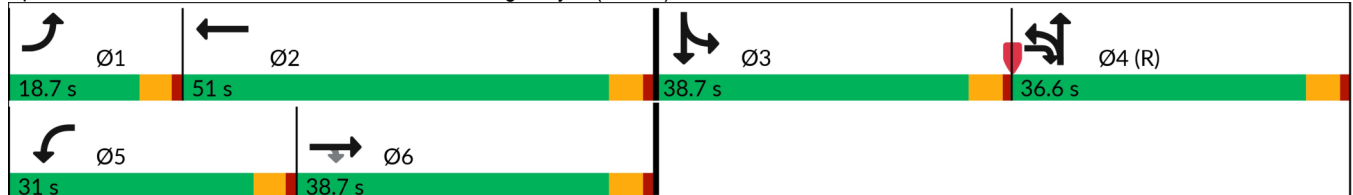
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	159	762	727	592	1077		737	890		355	705	
Starvation Cap Reductn	0	0	0	0	0		209	143		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.70	0.65	0.54	1.30	0.83		0.71	0.98		0.54	0.77	

Intersection Summary

Area Type: Other
 Cycle Length: 145
 Actuated Cycle Length: 145
 Offset: 0 (0%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.30
 Intersection Signal Delay (s/veh): 76.0 Intersection LOS: E
 Intersection Capacity Utilization 79.9% ICU Level of Service D
 Analysis Period (min) 15
 ~ 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.



















Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	285	0	302	0	754	490	0	712	700
Future Volume (vph)	0	0	0	285	0	302	0	754	490	0	712	700
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	1		1	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850		0.987	0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1626	0	1455	0	3438	1538	0	1681	1447
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1626	0	1455	0	3438	1538	0	1681	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						224			430		7	663
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1083			1080			827			320	
Travel Time (s)		24.6			24.5			18.8			7.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	11%	11%	11%	5%	5%	5%	6%	6%	6%
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	0	0	300	0	318	0	794	516	0	823	663
Turn Type				Prot		custom		NA	Perm		NA	custom
Protected Phases				3		34		6			2	24
Permitted Phases						4			6			Free
Detector Phase				3		34		6	6		2	24
Switch Phase												
Minimum Initial (s)				5.0				10.0	10.0		10.0	
Minimum Split (s)				9.5				14.7	14.7		14.5	
Total Split (s)				35.0				103.0	103.0		103.0	
Total Split (%)				23.3%				68.7%	68.7%		68.7%	
Yellow Time (s)				3.5				3.7	3.7		3.5	
All-Red Time (s)				1.0				1.0	1.0		1.0	
Lost Time Adjust (s)				0.0				0.0	0.0		0.0	
Total Lost Time (s)				4.5				4.7	4.7		4.5	
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Recall Mode				None				C-Max	C-Max		C-Max	
Act Effct Green (s)				29.6		39.3		101.5	101.5		101.7	150.0
Actuated g/C Ratio				0.20		0.26		0.68	0.68		0.68	1.00
v/c Ratio				0.93		0.58		0.34	0.43		0.72	0.45
Control Delay (s/veh)				95.4		18.4		10.8	3.0		19.3	4.6
Queue Delay				0.0		0.1		0.0	0.0		50.9	0.0
Total Delay (s/veh)				95.4		18.5		10.9	3.0		70.3	4.6
LOS				F		B		B	A		E	A
Approach Delay (s/veh)					55.9			7.8			41.0	
Approach LOS					E			A			D	
Queue Length 50th (ft)				290		75		162	27		560	203
Queue Length 95th (ft)				#468		178		204	74		m482	m115

Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	12.0
Total Split (%)	8%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

Lanes, Volumes, Timings

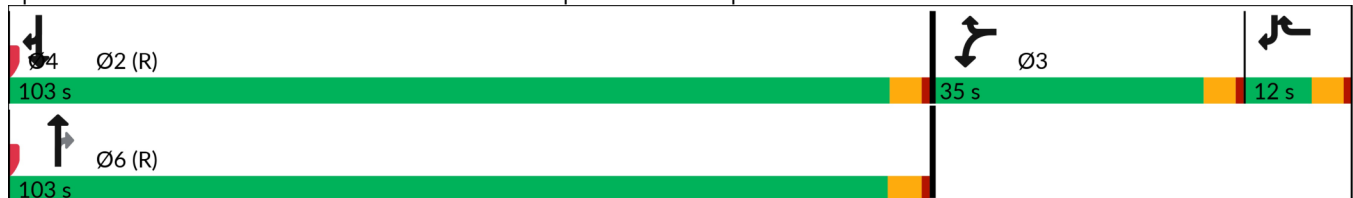
3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1003			1000			747			240	
Turn Bay Length (ft)									100			
Base Capacity (vph)				330		564		2325	1179		1141	1447
Starvation Cap Reductn				0		0		0	0		429	0
Spillback Cap Reductn				0		23		370	0		0	0
Storage Cap Reductn				0		0		0	0		0	0
Reduced v/c Ratio				0.91		0.59		0.41	0.44		1.16	0.46

Intersection Summary	
Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	60 (40%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay (s/veh):	31.0
Intersection LOS:	C
Intersection Capacity Utilization	74.5%
ICU Level of Service	D
Analysis Period (min)	15
#	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.

Splits and Phases: 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp



Lanes, Volumes, Timings























3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	308	195	24	182	535	150	432	23	356	654	280
Future Volume (vph)	313	308	195	24	182	535	150	432	23	356	654	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.946				0.850		0.993			0.957	
Flt Protected	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (prot)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2831	0
Flt Permitted	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (perm)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59				108		3			42	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)	12%									10%		
Lane Group Flow (vph)	281	551	0	0	210	546	153	464	0	327	989	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	38.0	38.0		26.0	26.0	60.0	26.0	26.0		60.0	60.0	
Total Split (%)	25.3%	25.3%		17.3%	17.3%	40.0%	17.3%	17.3%		40.0%	40.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	32.1	32.1			20.8	81.7	22.8	22.8		56.4	56.4	
Actuated g/C Ratio	0.21	0.21			0.14	0.54	0.15	0.15		0.38	0.38	
v/c Ratio	0.94	0.86			0.92	0.67	0.63	0.96		0.61	0.90	
Control Delay (s/veh)	96.9	64.9			107.1	24.2	73.1	94.8		44.5	55.2	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	96.9	64.9			107.1	24.2	73.1	94.8		44.5	55.2	
LOS	F	E			F	C	E	F		D	E	
Approach Delay (s/veh)		75.7			47.3			89.5			52.6	
Approach LOS		E			D			F			D	
Queue Length 50th (ft)	296	257			205	305	144	~250		287	490	
Queue Length 95th (ft)	#486	#336			#359	447	226	#370		412	#632	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	311	664			234	809	241	482		529	1090	
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	0.90	0.83			0.90	0.67	0.63	0.96		0.62	0.91	























Intersection Summary	
Area Type:	CBD
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.96
Intersection Signal Delay (s/veh):	63.4
Intersection LOS:	E
Intersection Capacity Utilization:	86.6%
ICU Level of Service:	E
Analysis Period (min):	15
~ 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.	

Splits and Phases: 4: 54th Avenue E & 20th Street E















Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	308	195	24	182	535	150	432	23	356	654	280
Future Volume (vph)	313	308	195	24	182	535	150	432	23	356	654	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.946				0.850		0.993			0.957	
Flt Protected	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (prot)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2831	0
Flt Permitted	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (perm)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		72				88		4			51	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)	12%									10%		
Lane Group Flow (vph)	281	551	0	0	210	546	153	464	0	327	989	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	29.0	29.0		22.6	22.6	45.9	22.5	22.5		45.9	45.9	
Total Split (%)	24.2%	24.2%		18.8%	18.8%	38.3%	18.8%	18.8%		38.3%	38.3%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	25.0	25.0			17.3	63.2	18.3	18.3		41.4	41.4	
Actuated g/C Ratio	0.21	0.21			0.14	0.53	0.15	0.15		0.35	0.35	
v/c Ratio	0.96	0.87			0.89	0.70	0.62	0.95		0.67	0.97	
Control Delay (s/veh)	93.7	55.5			87.4	23.2	60.5	81.3		41.7	60.9	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	93.7	55.5			87.4	23.2	60.5	81.3		41.7	60.9	
LOS	F	E			F	C	E	F		D	E	
Approach Delay (s/veh)		68.5			41.1			76.2			56.2	
Approach LOS		E			D			E			E	
Queue Length 50th (ft)	240	202			161	255	113	188		236	397	
Queue Length 95th (ft)	#437	#306			#296	394	187	#299		356	#553	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	290	633			246	777	243	486		485	1010	
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	0.97	0.87			0.85	0.70	0.63	0.95		0.67	0.98	

Intersection Summary	
Area Type:	CBD
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.98
Intersection Signal Delay (s/veh):	59.4
Intersection LOS:	E
Intersection Capacity Utilization:	86.6%
ICU Level of Service:	E
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗		↖	↗		↖	↗	↖
Traffic Volume (vph)	1	0	3	6	0	111	1	414	5	88	635	0
Future Volume (vph)	1	0	3	6	0	111	1	414	5	88	635	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	210		0	100		0
Storage Lanes	0		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.899			0.850			0.998				
Flt Protected		0.988		0.950			0.950			0.950		
Satd. Flow (prot)	0	1350	0	1805	1615	0	1752	1841	0	1752	1845	1845
Flt Permitted		0.878		0.672			0.364			0.397		
Satd. Flow (perm)	0	1200	0	1277	1615	0	671	1841	0	732	1845	1845
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74			576			1				
Link Speed (mph)		25			25			30				30
Link Distance (ft)		362			838			575				783
Travel Time (s)		9.9			22.9			13.1				17.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	25%	25%	25%	0%	0%	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	6	117	0	1	441	0	93	668	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	6.0		4.0	6.0	6.0
Minimum Split (s)	8.0	24.5		8.0	24.0		8.0	14.5		8.0	14.5	14.5
Total Split (s)	14.0	16.5		14.0	16.0		14.0	34.5		16.0	34.5	34.5
Total Split (%)	17.3%	20.4%		17.3%	19.8%		17.3%	42.6%		19.8%	42.6%	42.6%
Yellow Time (s)	3.0	3.5		3.0	3.0		3.0	3.5		3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5		4.0	4.0		4.0	4.5		4.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effct Green (s)		5.6		7.7	7.7		39.4	35.2		43.6	42.7	
Actuated g/C Ratio		0.10		0.13	0.13		0.69	0.61		0.76	0.74	
v/c Ratio		0.02		0.02	0.16		0.00	0.39		0.13	0.48	
Control Delay (s/veh)		0.2		21.3	0.4		4.0	10.5		3.4	8.0	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		0.2		21.3	0.4		4.0	10.5		3.4	8.0	
LOS		A		C	A		A	B		A	A	
Approach Delay (s/veh)		0.3			1.5			10.6			7.5	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		0		2	0		0	80		5	62	
Queue Length 95th (ft)		0		10	0		2	209		27	340	

Lanes, Volumes, Timings

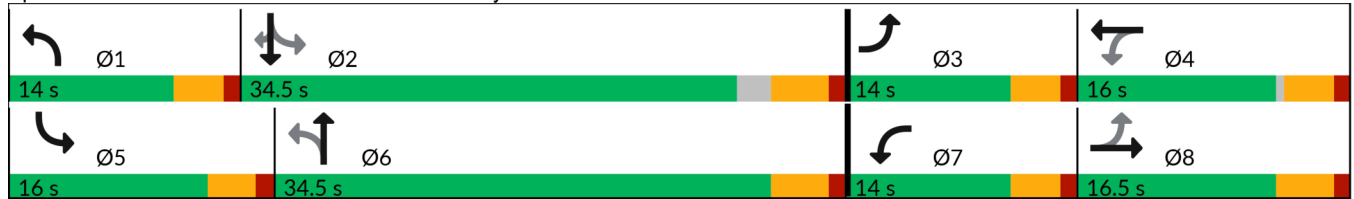
5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR									
Internal Link Dist (ft)	282			758			495			703											
Turn Bay Length (ft)				100			210			100											
Base Capacity (vph)	311			341			816			686			1129			774			1371		
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	0.01			0.02			0.14			0.00			0.39			0.12			0.49		

Intersection Summary	
Area Type:	Other
Cycle Length:	81
Actuated Cycle Length:	57.4
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay (s/veh):	7.9
Intersection LOS:	A
Intersection Capacity Utilization:	54.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: 54th Avenue E & Driveway/23rd Street E



Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	632	55	30	409	0	17	0	21	1	0	0
Future Volume (vph)	18	632	55	30	409	0	17	0	21	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988						0.924				
Flt Protected	0.950			0.950				0.979			0.950	
Satd. Flow (prot)	1752	1823	0	1787	1881	0	0	1719	0	0	1805	0
Flt Permitted	0.505			0.325								
Satd. Flow (perm)	932	1823	0	611	1881	0	0	1756	0	0	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13						31				
Link Speed (mph)		30			30			25				25
Link Distance (ft)		575			491			578				252
Travel Time (s)		13.1			11.2			15.8				6.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	747	0	33	445	0	0	41	0	0	1	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4				8
Permitted Phases	6			2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.5	30.5		22.5	22.5		32.0	32.0		32.0	32.0	
Total Split (s)	34.5	34.5		34.5	34.5		19.0	19.0		19.0	19.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)	23.4	23.4		23.4	23.4			7.3				7.3
Actuated g/C Ratio	0.86	0.86		0.86	0.86			0.27				0.27
v/c Ratio	0.02	0.47		0.06	0.27			0.08				0.00
Control Delay (s/veh)	2.5	4.1		2.8	2.7			9.0				15.0
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay (s/veh)	2.5	4.1		2.8	2.7			9.0				15.0
LOS	A	A		A	A			A				B
Approach Delay (s/veh)		4.1			2.7			9.1				15.0
Approach LOS		A			A			A				B
Queue Length 50th (ft)	0	0		0	0			1				0
Queue Length 95th (ft)	6	162		9	74			21				3

Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS

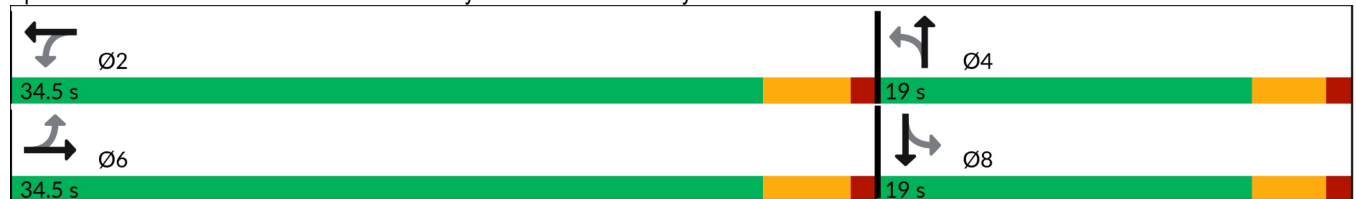


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		495			411			498			172	
Turn Bay Length (ft)	200			125								
Base Capacity (vph)	817	1599		535	1648			1213			1302	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.02	0.47		0.06	0.27			0.03			0.00	

Intersection Summary

Area Type:	Other
Cycle Length:	53.5
Actuated Cycle Length:	27.3
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay (s/veh):	3.8
Intersection LOS:	A
Intersection Capacity Utilization:	47.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 6: 54th Avenue E & Valley Avenue E & Driveway



Lanes, Volumes, Timings

7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	63	0	0	0	0	32
Future Volume (vph)	63	0	0	0	0	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	290			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.850	
Flt Protected	0.950					
Satd. Flow (prot)	1641	0	1776	3374	2950	0
Flt Permitted	0.950					
Satd. Flow (perm)	1641	0	1776	3374	2950	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1091	
Link Speed (mph)	30			30	30	
Link Distance (ft)	623			659	553	
Travel Time (s)	14.2			15.0	12.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	7%	7%	4%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	0	0	0	33	0
Turn Type	Prot		Prot		NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	5.0		6.0	10.0	10.0	
Minimum Split (s)	22.5		10.5	23.7	33.7	
Total Split (s)	35.0		15.0	60.0	60.0	
Total Split (%)	31.8%		13.6%	54.5%	54.5%	
Yellow Time (s)	3.5		3.5	4.7	4.7	
All-Red Time (s)	1.0		1.0	1.5	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	6.2	6.2	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	Max		None	Max	None	
Act Effct Green (s)	30.5				53.8	
Actuated g/C Ratio	0.32				0.57	
v/c Ratio	0.12				0.01	
Control Delay (s/veh)	23.7				0.0	
Queue Delay	0.0				0.0	
Total Delay (s/veh)	23.7				0.0	
LOS	C				A	
Approach Delay (s/veh)	23.7					
Approach LOS	C					
Queue Length 50th (ft)	28				0	
Queue Length 95th (ft)	59				0	

Lanes, Volumes, Timings

7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

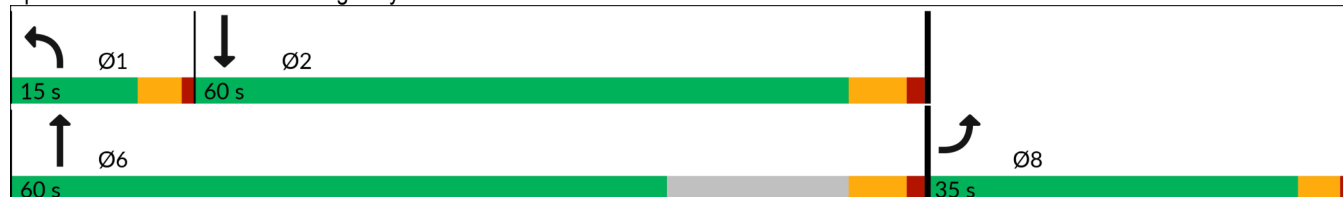


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	543			579	473	
Turn Bay Length (ft)						
Base Capacity (vph)	526				2143	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.13				0.02	

Intersection Summary

























Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	95
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.13
Intersection Signal Delay (s/veh):	15.8
Intersection LOS:	B
Intersection Capacity Utilization	21.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 7: Pacific Highway E & 70th Avenue E



Lanes, Volumes, Timings
8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	466	107	126	454	213	144	545	88	173	828	83
Future Volume (vph)	47	466	107	126	454	213	144	545	88	173	828	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	400		400	250		0	225		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.979			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1736	1827	1553	1612	3156	0	3019	3068	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	1845	1568	1736	1827	1553	1612	3156	0	3019	3068	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			191		16			9	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1295			1073			2009			522	
Travel Time (s)		25.2			20.9			39.1			10.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	12%	12%	12%	16%	16%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	480	110	130	468	220	148	653	0	178	940	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2						
Detector Phase	1	6	6	5	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	14.5	22.5	14.5	14.5	24.5		14.5	24.5	
Total Split (s)	14.5	44.5	44.5	14.5	44.5	19.5	19.5	44.5		19.5	44.5	
Total Split (%)	11.8%	36.2%	36.2%	11.8%	36.2%	15.9%	15.9%	36.2%		15.9%	36.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	None	None	None		None	None	
Act Effect Green (s)	8.6	40.0	40.0	10.0	43.6	60.7	14.2	40.8		12.6	39.2	
Actuated g/C Ratio	0.07	0.33	0.33	0.08	0.36	0.50	0.12	0.34		0.10	0.32	
v/c Ratio	0.38	0.78	0.18	0.90	0.71	0.25	0.78	0.60		0.57	0.94	
Control Delay (s/veh)	63.4	48.1	8.9	110.5	42.5	4.4	80.5	35.9		59.2	57.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	63.4	48.1	8.9	110.5	42.5	4.4	80.5	35.9		59.2	57.9	
LOS	E	D	A	F	D	A	F	D		E	E	
Approach Delay (s/veh)		42.5			43.1			44.2			58.1	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	37	347	9	104	333	12	116	220		70	377	
Queue Length 95th (ft)	78	#495	51	#227	#473	55	#218	291		106	#512	

Lanes, Volumes, Timings
 8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1215			993			1929			442	
Turn Bay Length (ft)	250		200	400		400	250			225		
Base Capacity (vph)	144	608	579	143	657	899	199	1081		373	1017	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.33	0.79	0.19	0.91	0.71	0.24	0.74	0.60		0.48	0.92	

























Intersection Summary	
Area Type:	Other
Cycle Length:	123
Actuated Cycle Length:	121.4
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay (s/veh):	48.2
Intersection LOS:	D
Intersection Capacity Utilization:	80.0%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: 70th Avenue E & 20th Street E

	Ø1		Ø2		Ø3		Ø4
14.5 s		44.5 s		19.5 s		44.5 s	
	Ø5		Ø6		Ø7		Ø8
14.5 s		44.5 s		19.5 s		44.5 s	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	48	93	77	24	105	27	603	45	50	939	14
Future Volume (vph)	41	48	93	77	24	105	27	603	45	50	939	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	200		0	225		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.990			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	1597	1357	1656	1743	1482	1597	3163	0	1543	3079	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1517	1597	1357	1656	1743	1482	1597	3163	0	1543	3079	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			112		8			2	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1057			880			2032			2009	
Travel Time (s)		20.6			17.1			39.6			39.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	19%	19%	19%	9%	9%	9%	13%	13%	13%	17%	17%	17%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	51	99	82	26	112	29	689	0	53	1014	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4	4 5	3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.5	24.5		10.5	24.5		10.5	22.5		10.5	22.5	
Total Split (s)	20.0	24.5		20.0	24.5		20.0	60.0		20.0	60.0	
Total Split (%)	16.1%	19.7%		16.1%	19.7%		16.1%	48.2%		16.1%	48.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	8.5	8.8	20.8	10.4	12.9	26.5	7.5	57.3		9.0	61.2	
Actuated g/C Ratio	0.08	0.09	0.21	0.10	0.13	0.26	0.07	0.57		0.09	0.61	
v/c Ratio	0.34	0.36	0.27	0.48	0.11	0.23	0.24	0.38		0.38	0.54	
Control Delay (s/veh)	53.4	53.4	9.2	54.0	43.1	7.1	52.0	14.6		53.8	15.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	53.4	53.4	9.2	54.0	43.1	7.1	52.0	14.6		53.8	15.9	
LOS	D	D	A	D	D	A	D	B		D	B	
Approach Delay (s/veh)		30.9			28.9			16.1			17.8	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	27	32	0	51	16	0	18	126		33	211	
Queue Length 95th (ft)	68	75	43	106	44	42	51	217		77	346	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	977			800			1952			1929		
Turn Bay Length (ft)	150		150	150		150	200			225		
Base Capacity (vph)	234	318	458	256	348	560	246	1797		238	1865	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.19	0.16	0.22	0.32	0.07	0.20	0.12	0.38		0.22	0.54	

























Intersection Summary	
Area Type:	Other
Cycle Length:	124.5
Actuated Cycle Length:	101.1
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay (s/veh):	19.5
Intersection LOS:	B
Intersection Capacity Utilization	53.6%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 9: 70th Avenue E & 26th Street E

Ø1 20 s	Ø2 60 s	Ø3 20 s	Ø4 24.5 s
Ø5 20 s	Ø6 60 s	Ø7 20 s	Ø8 24.5 s

Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	496	155	72	270	318	131	273	41	535	492	84
Future Volume (vph)	24	496	155	72	270	318	131	273	41	535	492	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	200		0	200		130	350		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1810	1538	1626	1712	1455	1687	3374	1509	3072	3097	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	1810	1538	1626	1712	1455	1687	3374	1509	3072	3097	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			130			331			164			15
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		831			1056			750			2032	
Travel Time (s)		18.9			24.0			14.6			39.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	11%	11%	11%	7%	7%	7%	14%	14%	14%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	517	161	75	281	331	136	284	43	557	601	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0	8.0	6.0	8.0	8.0	6.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	31.0	31.0	10.5	31.0	31.0	10.5	31.0	31.0	13.0	31.0	
Total Split (s)	30.0	40.0	40.0	20.0	40.0	40.0	20.0	30.0	30.0	40.0	40.0	
Total Split (%)	21.4%	28.6%	28.6%	14.3%	28.6%	28.6%	14.3%	21.4%	21.4%	28.6%	28.6%	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	9.1	59.2	59.2	12.3	66.9	66.9	14.6	18.2	18.2	30.8	34.9	
Actuated g/C Ratio	0.07	0.42	0.42	0.09	0.48	0.48	0.10	0.13	0.13	0.22	0.25	
v/c Ratio	0.22	0.67	0.22	0.52	0.34	0.38	0.77	0.64	0.12	0.82	0.76	
Control Delay (s/veh)	66.2	40.4	8.8	73.6	27.8	4.3	89.0	64.7	0.7	62.6	53.9	
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)	66.2	40.4	8.8	73.6	27.8	4.3	89.0	64.7	0.7	62.6	53.9	
LOS	E	D	A	E	C	A	F	E	A	E	D	
Approach Delay (s/veh)		34.1			21.5			65.9			58.1	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	22	377	17	66	168	0	122	131	0	250	264	
Queue Length 95th (ft)	53	#648	74	117	283	67	#220	174	0	308	307	

Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		751			976			670			1952	
Turn Bay Length (ft)	150		250	200			200		130	350		
Base Capacity (vph)	306	765	725	183	818	868	186	602	404	768	1005	
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.68	0.22	0.41	0.34	0.38	0.73	0.47	0.11	0.73	0.60	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 30 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

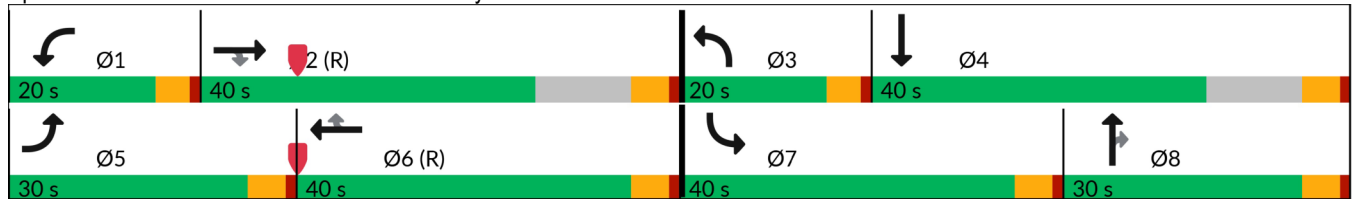
Intersection Signal Delay (s/veh): 45.4 Intersection LOS: D

Intersection Capacity Utilization 70.5% ICU Level of Service C

Analysis Period (min) 15





















95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 10: 70th Avenue E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	937	106	20	481	117	26	37	30	231	152	21
Future Volume (vph)	27	937	106	20	481	117	26	37	30	231	152	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.971			0.933				0.982
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3262	0	1612	3130	0	1671	1641	0	1736	1794	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1656	3262	0	1612	3130	0	1671	1641	0	1736	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			27			30				5
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	9%	9%	9%	12%	12%	12%	8%	8%	8%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	1172	0	22	671	0	29	76	0	260	195	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.8	41.6		7.5	38.9		8.8	8.8		18.5	18.5	
Actuated g/C Ratio	0.09	0.49		0.09	0.46		0.10	0.10		0.22	0.22	
v/c Ratio	0.19	0.73		0.15	0.46		0.16	0.38		0.69	0.49	
Control Delay (s/veh)	44.6	25.1		44.7	20.5		42.1	33.2		43.2	35.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	44.6	25.1		44.7	20.5		42.1	33.2		43.2	35.3	
LOS	D	C		D	C		D	C		D	D	
Approach Delay (s/veh)		25.6			21.3			35.7			39.9	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	15	241		11	144		14	22		121	84	
Queue Length 95th (ft)	48	#526		39	234		45	72		245	180	

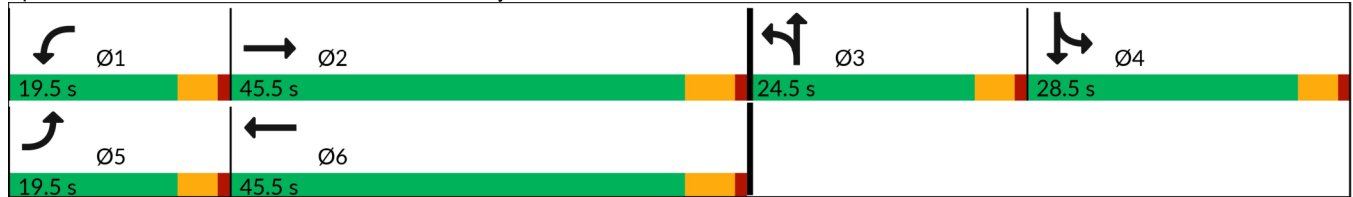
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	302	1593		294	1537		406	422		506	527	
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	0.10	0.74		0.07	0.44		0.07	0.18		0.51	0.37	





















Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	85.4
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay (s/veh):	27.5
Intersection LOS:	C
Intersection Capacity Utilization:	59.2%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 11: Freeman Road E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	796	90	17	409	99	18	26	21	159	105	14
Future Volume (vph)	23	796	90	17	409	99	18	26	21	159	105	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985			0.971			0.932				0.982
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3262	0	1612	3130	0	1671	1640	0	1736	1794	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1656	3262	0	1612	3130	0	1671	1640	0	1736	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11			27			24				5
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	9%	9%	9%	12%	12%	12%	8%	8%	8%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	995	0	19	571	0	20	53	0	179	134	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.5	41.9		7.2	41.7		7.8	7.8		14.3	14.3	
Actuated g/C Ratio	0.09	0.52		0.09	0.52		0.10	0.10		0.18	0.18	
v/c Ratio	0.16	0.58		0.13	0.34		0.12	0.29		0.58	0.41	
Control Delay (s/veh)	41.5	18.5		41.7	14.9		40.1	29.2		40.2	34.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	41.5	18.5		41.7	14.9		40.1	29.2		40.2	34.3	
LOS	D	B		D	B		D	C		D	C	
Approach Delay (s/veh)		19.1			15.8			32.2			37.8	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)	11	151		8	70		9	13		77	54	
Queue Length 95th (ft)	42	360		34	182		35	53		166	125	

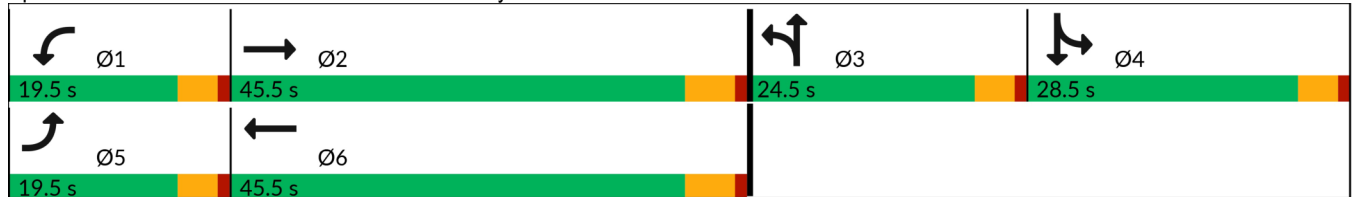
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	318	1703		310	1642		428	438		535	556	
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	0.08	0.58		0.06	0.35		0.05	0.12		0.33	0.24	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	80.5
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay (s/veh):	21.6
Intersection LOS:	C
Intersection Capacity Utilization:	48.7%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: Freeman Road E & Valley Avenue E



HCM 6th TWSC
 12: Freeman Road E & 48th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	4	20	6	78	238	11
Future Vol, veh/h	4	20	6	78	238	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	8	4	4
Mvmt Flow	5	24	7	92	280	13

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	393	287	293	0	0
Stage 1	287	-	-	-	-
Stage 2	106	-	-	-	-
Critical Hdwy	6.4	6.2	4.18	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.272	-	-
Pot Cap-1 Maneuver	615	757	1235	-	-
Stage 1	766	-	-	-	-
Stage 2	923	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	611	757	1235	-	-
Mov Cap-2 Maneuver	611	-	-	-	-
Stage 1	761	-	-	-	-
Stage 2	923	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.1	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1235	-	728	-	-
HCM Lane V/C Ratio	0.006	-	0.039	-	-
HCM Control Delay (s/veh)	7.9	0	10.1	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC
 13: Freeman Road E & 50th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	8	5	63	255	13
Future Vol, veh/h	11	8	5	63	255	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	6	6	7	7	4	4
Mvmt Flow	13	9	6	74	300	15

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	394	308	315	0	-	0
Stage 1	308	-	-	-	-	-
Stage 2	86	-	-	-	-	-
Critical Hdwy	6.46	6.26	4.17	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	2.263	-	-	-
Pot Cap-1 Maneuver	603	723	1217	-	-	-
Stage 1	736	-	-	-	-	-
Stage 2	927	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	600	723	1217	-	-	-
Mov Cap-2 Maneuver	600	-	-	-	-	-
Stage 1	732	-	-	-	-	-
Stage 2	927	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.8	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1217	-	646	-	-
HCM Lane V/C Ratio	0.005	-	0.035	-	-
HCM Control Delay (s/veh)	8	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC

14: Freeman Road E & 52nd Street E/19th Avenue NW 2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	2	20	0	5	1	63	5	2	259	1
Future Vol, veh/h	0	0	2	20	0	5	1	63	5	2	259	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	17	17	17	10	10	10	4	4	4
Mvmt Flow	0	0	2	24	0	6	1	76	6	2	312	1

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	401	401	313	399	398	79	313	0	0	82	0	0
Stage 1	317	317	-	81	81	-	-	-	-	-	-	-
Stage 2	84	84	-	318	317	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.27	6.67	6.37	4.2	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.653	4.153	3.453	2.29	-	-	2.236	-	-
Pot Cap-1 Maneuver	563	541	732	535	517	941	1203	-	-	1503	-	-
Stage 1	698	658	-	891	799	-	-	-	-	-	-	-
Stage 2	929	829	-	663	628	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	558	539	732	532	515	941	1203	-	-	1503	-	-
Mov Cap-2 Maneuver	558	539	-	532	515	-	-	-	-	-	-	-
Stage 1	697	657	-	890	798	-	-	-	-	-	-	-
Stage 2	922	828	-	659	627	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.9	11.5	0.1	0.1
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1203	-	-	732	583	1503	-	-
HCM Lane V/C Ratio	0.001	-	-	0.003	0.052	0.002	-	-
HCM Control Delay (s/veh)	8	0	-	9.9	11.5	7.4	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.2	0	-	-

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	11.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	37	477	141	48	255	35
Future Vol, veh/h	37	477	141	48	255	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	39	497	147	50	266	36

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	197	0	-	0	747 172
Stage 1	-	-	-	-	172 -
Stage 2	-	-	-	-	575 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1370	-	-	-	381 872
Stage 1	-	-	-	-	858 -
Stage 2	-	-	-	-	563 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1370	-	-	-	366 872
Mov Cap-2 Maneuver	-	-	-	-	366 -
Stage 1	-	-	-	-	825 -
Stage 2	-	-	-	-	563 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.6	0	38.5
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1370	-	-	-	394
HCM Lane V/C Ratio	0.028	-	-	-	0.767
HCM Control Delay (s/veh)	7.7	0	-	-	38.5
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q (veh)	0.1	-	-	-	6.4

HCM 6th AWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection	
Intersection Delay, s/veh	20.1
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	37	477	141	48	255	35
Future Vol, veh/h	37	477	141	48	255	35
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	39	497	147	50	266	36
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	25.6	11.5	16
HCM LOS	D	B	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	7%	0%	100%	0%
Vol Thru, %	93%	75%	0%	0%
Vol Right, %	0%	25%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	514	189	255	35
LT Vol	37	0	255	0
Through Vol	477	141	0	0
RT Vol	0	48	0	35
Lane Flow Rate	535	197	266	36
Geometry Grp	2	2	5	5
Degree of Util (X)	0.792	0.315	0.516	0.059
Departure Headway (Hd)	5.323	5.76	6.997	5.777
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	680	622	515	619
Service Time	3.367	3.816	4.745	3.524
HCM Lane V/C Ratio	0.787	0.317	0.517	0.058
HCM Control Delay, s/veh	25.6	11.5	17	8.9
HCM Lane LOS	D	B	C	A
HCM 95th-tile Q	7.9	1.3	2.9	0.2

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	29	321	95	33	131	30
Future Vol, veh/h	29	321	95	33	131	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	30	334	99	34	136	31













Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	133	0	-	0	510 116
Stage 1	-	-	-	-	116 -
Stage 2	-	-	-	-	394 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1446	-	-	-	523 936
Stage 1	-	-	-	-	909 -
Stage 2	-	-	-	-	681 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1446	-	-	-	510 936
Mov Cap-2 Maneuver	-	-	-	-	510 -
Stage 1	-	-	-	-	886 -
Stage 2	-	-	-	-	681 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.6	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1446	-	-	-	557
HCM Lane V/C Ratio	0.021	-	-	-	0.301
HCM Control Delay (s/veh)	7.5	0	-	-	14.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q (veh)	0.1	-	-	-	1.3

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	954	609	515	1369	1088	861
Future Volume (vph)	954	609	515	1369	1088	861
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	2		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.88	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3303	2682	3505	1568	3335	3438
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	2682	3505	1568	3335	3438
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		319		431		
Link Speed (mph)	35		35			35
Link Distance (ft)	522		278			1175
Travel Time (s)	10.2		5.4			22.9
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	3%	3%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	973	621	526	1397	1110	879
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	10.0	6.0	10.0
Minimum Split (s)	36.6	10.6	38.9	38.9	10.6	36.9
Total Split (s)	36.6	54.6	64.9	64.9	54.6	64.9
Total Split (%)	23.4%	35.0%	41.6%	41.6%	35.0%	41.6%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9	4.9	4.6	4.9
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	32.0	86.6	60.0	60.0	50.0	114.6
Actuated g/C Ratio	0.20	0.55	0.38	0.38	0.32	0.73
v/c Ratio	1.43	0.38	0.39	1.60	1.03	0.34
Control Delay (s/veh)	247.8	9.4	35.8	303.0	89.0	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	247.8	9.4	35.8	303.0	89.0	7.8
LOS	F	A	D	F	F	A
Approach Delay (s/veh)	155.0		230.0			53.2
Approach LOS	F		F			D
Queue Length 50th (ft)	~691	88	203	~1762	~627	153
Queue Length 95th (ft)	#826	133	255	#2032	#764	183

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

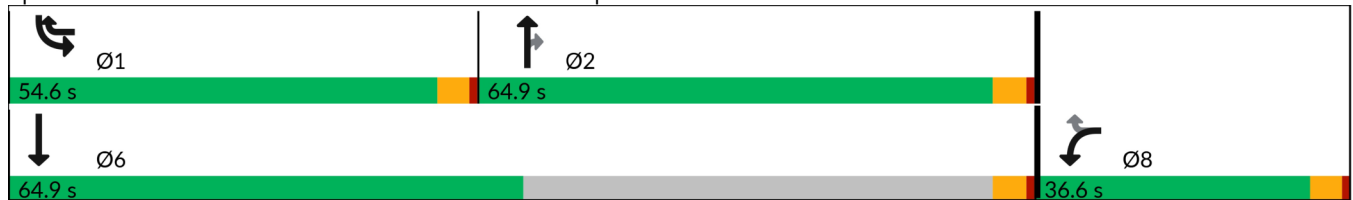


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	442		198			1095
Turn Bay Length (ft)					250	
Base Capacity (vph)	677	1629	1347	868	1068	2523
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.44	0.38	0.39	1.61	1.04	0.35

Intersection Summary

Area Type:	Other
Cycle Length:	156.1
Actuated Cycle Length:	156.1
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.61
Intersection Signal Delay (s/veh):	144.4
Intersection LOS:	F
Intersection Capacity Utilization:	123.7%
ICU Level of Service:	H
Analysis Period (min):	15
~ 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.	

Splits and Phases: 16: N Meridian Avenue & SR-167 Ramps



HCM 6th TWSC
 17: N Meridian Avenue & N Levee Road

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	63.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↔			↕↔	
Traffic Vol, veh/h	0	0	407	0	0	548	0	1374	59	0	1561	96
Future Vol, veh/h	0	0	407	0	0	548	0	1374	59	0	1561	96
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	424	0	0	571	0	1431	61	0	1626	100

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	863	-	-	716	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.96	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.33	-	-
Pot Cap-1 Maneuver	0	0	~ 298	0	0	~ 370	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %							-	-
Mov Cap-1 Maneuver	-	-	~ 298	-	-	~ 370	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	241.7	284.1	0	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	298	370	-	-
HCM Lane V/C Ratio	-	1.423	1.543	-	-
HCM Control Delay (s/veh)	-	241.7	284.1	-	-
HCM Lane LOS	-	F	F	-	-
HCM 95th %tile Q (veh)	-	22.7	31.8	-	-

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

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1058	0	414	20	625	332	0	0	0	0	844	1007
Future Volume (vph)	1058	0	414	20	625	332	0	0	0	0	844	1007
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				72		346						671
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1102	0	431	21	651	346	0	0	0	0	879	1049
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2							4
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2						4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	42.0		42.0	29.0	29.0	29.0					34.0	34.0
Total Split (%)	40.0%		40.0%	27.6%	27.6%	27.6%					32.4%	32.4%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	35.9		35.9	30.0	30.0	30.0					29.2	29.2
Actuated g/C Ratio	0.33		0.33	0.27	0.27	0.27					0.27	0.27
v/c Ratio	1.00		0.85	0.03	0.67	0.50					0.94	1.15
Control Delay (s/veh)	65.5		52.0	0.1	40.0	6.2					59.4	97.3
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	65.5		52.0	0.1	40.0	6.2					59.4	97.3
LOS	E		D	A	D	A					E	F
Approach Delay (s/veh)		61.8			27.8						80.1	
Approach LOS		E			C						F	
Queue Length 50th (ft)	400		283	0	218	0					325	~509
Queue Length 95th (ft)	#546		#454	0	284	70					#454	#763

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

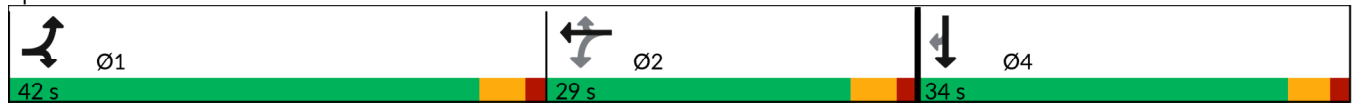


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	1128		520	534	964	683					929	908
Starvation Cap Reductn	0		0	0	0	0					0	0
Spillback Cap Reductn	0		0	0	0	0					0	0
Storage Cap Reductn	0		0	0	0	0					0	0
Reduced v/c Ratio	0.98		0.83	0.04	0.68	0.51					0.95	1.16

Intersection Summary

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 110.1
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay (s/veh): 61.9 Intersection LOS: E
 Intersection Capacity Utilization 87.9% ICU Level of Service E
 Analysis Period (min) 15
 ~ 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.

Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1058	0	414	20	625	332	0	0	0	0	844	1007
Future Volume (vph)	1058	0	414	20	625	332	0	0	0	0	844	1007
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				50		337						664
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1102	0	431	21	651	346	0	0	0	0	879	1049
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2						4	
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2					4	4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	53.0		53.0	36.6	36.6	36.6					60.4	60.4
Total Split (%)	35.3%		35.3%	24.4%	24.4%	24.4%					40.3%	40.3%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	47.9		47.9	31.5	31.5	31.5					55.6	55.6
Actuated g/C Ratio	0.32		0.32	0.21	0.21	0.21					0.37	0.37
v/c Ratio	1.02		0.87	0.05	0.87	0.57					0.67	1.05
Control Delay (s/veh)	83.5		67.1	0.2	71.1	9.6					42.8	59.5
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	83.5		67.1	0.2	71.1	9.6					42.8	59.5
LOS	F		E	A	E	A					D	E
Approach Delay (s/veh)		78.9			48.8						51.9	
Approach LOS		E			D						D	
Queue Length 50th (ft)	~590		398	0	328	7					378	~681
Queue Length 95th (ft)	#727		#588	2	#426	99					456	#948

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	1075		495	411	743	598					1299	999
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	1.03		0.87	0.05	0.88	0.58					0.68	1.05

Intersection Summary













Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.05
Intersection Signal Delay (s/veh):	60.5
Intersection LOS:	E
Intersection Capacity Utilization:	87.9%
ICU Level of Service:	E
Analysis Period (min):	15
~ 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.	

Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↔	
Traffic Volume (vph)	0	206	63	141	291	0	0	0	0	139	1054	47
Future Volume (vph)	0	206	63	141	291	0	0	0	0	139	1054	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	125		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt			0.850									0.994
Flt Protected				0.950								0.994
Satd. Flow (prot)	0	1792	1524	1770	1863	0	0	0	0	0	3531	0
Flt Permitted				0.259								0.994
Satd. Flow (perm)	0	1792	1524	482	1863	0	0	0	0	0	3531	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51									6
Link Speed (mph)		25			25			25				25
Link Distance (ft)		393			385			1349				2133
Travel Time (s)		10.7			10.5			36.8				58.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	0%	0%	0%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	217	66	148	306	0	0	0	0	0	1304	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		8		7	4							2
Permitted Phases			8	4						2		
Detector Phase		8	8	7	4					2		2
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					10.0	10.0	
Minimum Split (s)		21.0	21.0	9.0	21.0					23.0	23.0	
Total Split (s)		31.0	31.0	11.0	41.0					66.0	66.0	
Total Split (%)		28.7%	28.7%	10.2%	38.0%					61.1%	61.1%	
Yellow Time (s)		3.0	3.0	3.0	3.0					3.0	3.0	
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0							0.0
Total Lost Time (s)		4.0	4.0	4.0	4.0							4.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		None	None	None	None					Max	Max	
Act Effct Green (s)		15.0	15.0	25.8	25.8							62.2
Actuated g/C Ratio		0.16	0.16	0.27	0.27							0.65
v/c Ratio		0.77	0.23	0.66	0.61							0.56
Control Delay (s/veh)		57.8	15.7	43.7	36.1							11.2
Queue Delay		0.0	0.0	0.0	0.1							0.0
Total Delay (s/veh)		57.8	15.7	43.7	36.3							11.2
LOS		E	B	D	D							B
Approach Delay (s/veh)		48.1			38.8							11.3
Approach LOS		D			D							B
Queue Length 50th (ft)		129	8	72	163							210
Queue Length 95th (ft)		206	44	123	247							328

Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		313			305			1269			2053	
Turn Bay Length (ft)			50	125								
Base Capacity (vph)		505	466	223	739						2289	
Starvation Cap Reductn		0	0	0	76						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.43	0.14	0.66	0.46						0.57	

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	96
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay (s/veh):	22.5
Intersection LOS:	C
Intersection Capacity Utilization:	63.3%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue



Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	278	0	0	336	258	222	677	2	0	0	0
Future Volume (vph)	47	278	0	0	336	258	222	677	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	0		125	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850						
Flt Protected	0.950							0.988				
Satd. Flow (prot)	1752	1845	0	0	1845	1568	0	3531	0	0	0	0
Flt Permitted	0.174							0.988				
Satd. Flow (perm)	321	1845	0	0	1845	1568	0	3531	0	0	0	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		385			615			394				343
Travel Time (s)		10.5			16.8			10.7				9.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	293	0	0	354	272	0	949	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	3	8			4			2				
Permitted Phases	8					4	2					
Detector Phase	3	8			4	4	2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	10.0	10.0				
Minimum Split (s)	9.5	28.0			28.0	28.0	26.0	26.0				
Total Split (s)	10.0	45.0			29.0	29.0	53.0	53.0				
Total Split (%)	10.2%	45.9%			29.6%	29.6%	54.1%	54.1%				
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0				
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	None			None	None	Max	Max				
Act Effct Green (s)	24.3	24.3			19.0	19.0		49.7				
Actuated g/C Ratio	0.30	0.30			0.23	0.23		0.61				
v/c Ratio	0.25	0.53			0.83	0.75		0.44				
Control Delay (s/veh)	22.4	27.0			47.8	43.6		11.2				
Queue Delay	0.0	0.1			0.0	0.0		0.0				
Total Delay (s/veh)	22.4	27.1			47.8	43.6		11.2				
LOS	C	C			D	D		B				
Approach Delay (s/veh)		26.5			46.0			11.3				
Approach LOS		C			D			B				
Queue Length 50th (ft)	18	123			183	137		146				
Queue Length 95th (ft)	41	194			285	226		227				

Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

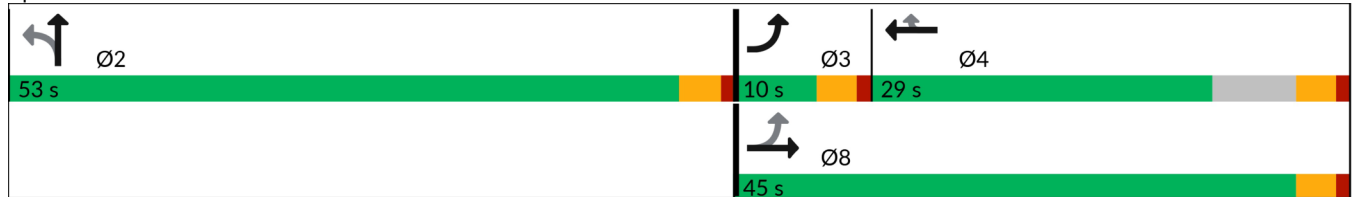


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		305			535			314			263	
Turn Bay Length (ft)	50					125						
Base Capacity (vph)	200	934			706	600		2138				
Starvation Cap Reductn	0	124			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.25	0.36			0.50	0.45		0.44				

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	82.1
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay (s/veh):	25.3
Intersection LOS:	C
Intersection Capacity Utilization:	63.3%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 20: 2nd Street NE & E Stewart Avenue/E Main Avenue



HCM 6th TWSC
21: Freeman Road E & Site Access

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	17	15	69	4	2	256
Future Vol, veh/h	17	15	69	4	2	256
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	16	75	4	2	278

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	359	77	0	0	79
Stage 1	77	-	-	-	-
Stage 2	282	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	640	984	-	-	1519
Stage 1	946	-	-	-	-
Stage 2	766	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	639	984	-	-	1519
Mov Cap-2 Maneuver	639	-	-	-	-
Stage 1	946	-	-	-	-
Stage 2	765	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.9	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	765	1519
HCM Lane V/C Ratio	-	-	0.045	0.001
HCM Control Delay (s/veh)	-	-	9.9	7.4
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q (veh)	-	-	0.1	0

APPENDIX E

LUC 150 – WAREHOUSE ANALYSIS

Trip Generation for: Development Peak Weekday
(a.k.a.): Average Weekday Daily Trips (AWDT)

NET EXTERNAL TRIPS BY TYPE																					
										IN BOTH DIRECTIONS					DIRECTIONAL ASSIGNMENTS						
			Gross Trips				Internal Crossover			TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out	
Warehousing Building A (Total)	238.525 KSF	150	1.71	50%	50%	407.88	0%	0.00	407.88	0%	0.00	0%	0.00	407.88	0.00	0.00	0.00	0.00	203.94	203.94	
Warehousing Building B (Total)	266.911 KSF	150	1.71	50%	50%	456.42	0%	0.00	456.42	0%	0.00	0%	0.00	456.42	0.00	0.00	0.00	0.00	228.21	228.21	
Single-Family Detached	-14 Units	210	9.43	50%	50%	-132.02	0%	0.00	-132.02	0%	0.00	0%	0.00	-132.02	0.00	0.00	0.00	0.00	-66.01	-66.01	
Total Vehicle Trips						732.28		0.00	732.28		0.00		0.00	732.28	0.00	0.00	0.00	0.00	366.14	366.14	

			Gross Truck Trips				Internal Crossover			TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Truck Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out	
Warehousing Building A (Truck)	238.525 KSF	150	0.60	50%	50%	143.12	0%	0.00	143.12	0%	0.00	0%	0.00	143.12	0.00	0.00	0.00	0.00	71.56	71.56	
Warehousing Building B (Truck)	266.911 KSF	150	0.60	50%	50%	160.15	0%	0.00	160.15	0%	0.00	0%	0.00	160.15	0.00	0.00	0.00	0.00	80.08	80.07	
Total Truck Trips						303.27		0.00	303.27		0.00		0.00	303.27	0.00	0.00	0.00	0.00	151.64	151.63	

Total Passenger Car Trips:	429.01	214.50	214.51
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Trip Generation for: Development Peak Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 7 and 9 AM
(a.k.a.): Weekday AM Peak Hour

NET EXTERNAL TRIPS BY TYPE																					
		Gross Trips							Internal Crossover		IN BOTH DIRECTIONS				DIRECTIONAL ASSIGNMENTS						
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	TOTAL In+Out (Total)	PASS-BY % of Ext. Trips	PASS-BY In+Out (Total)	DIVERTED LINK % of Ext. Trips	DIVERTED LINK In+Out (Total)	NEW In+Out (Total)	PASS-BY In Out		DIVERTED LINK In Out		NEW In Out		
Warehousing Building A (Total)	238.525 KSF	150	0.17	81%	19%	40.55	0%	0.00	40.55	0%	0.00	0%	0.00	40.55	0.00	0.00	0.00	0.00	32.85	7.70	
Warehousing Building B (Total)	266.911 KSF	150	0.17	81%	19%	45.37	0%	0.00	45.37	0%	0.00	0%	0.00	45.37	0.00	0.00	0.00	0.00	36.75	8.62	
Single-Family Detached	-14 Units	210	0.70	26%	74%	-9.80	0%	0.00	-9.80	0%	0.00	0%	0.00	-9.80	0.00	0.00	0.00	0.00	-2.55	-7.25	
Total Vehicle Trips						76.12		0.00	76.12		0.00		0.00	76.12	0.00	0.00	0.00	0.00	67.05	9.07	

		Gross Truck Trips					Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Truck Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
Warehousing Building A (Truck)	238.525 KSF	150	0.02	52%	48%	4.77	0%	0.00	4.77	0%	0.00	0%	0.00	4.77	0.00	0.00	0.00	0.00	2.48	2.29
Warehousing Building B (Truck)	266.911 KSF	150	0.02	52%	48%	5.34	0%	0.00	5.34	0%	0.00	0%	0.00	5.34	0.00	0.00	0.00	0.00	2.78	2.56
Total Truck Trips						10.11		0.00	10.11		0.00		0.00	10.11	0.00	0.00	0.00	0.00	5.26	4.85

Total Passenger Car Trips:	66.01	61.79	4.22
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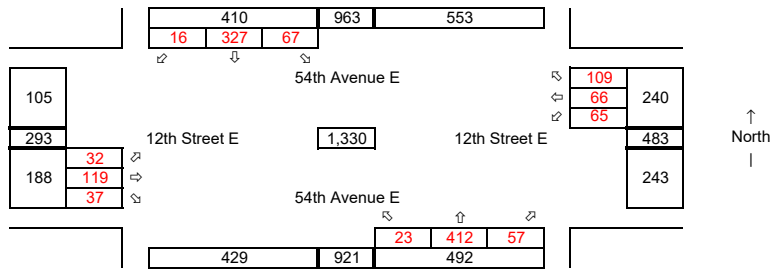
Trip Generation for: Development Peak Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 4 and 6 PM
(a.k.a.): Weekday PM Peak Hour

NET EXTERNAL TRIPS BY TYPE																					
		Gross Trips							Internal Crossover		IN BOTH DIRECTIONS				DIRECTIONAL ASSIGNMENTS						
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	TOTAL In+Out (Total)	PASS-BY % of Ext. Trips	PASS-BY In+Out (Total)	DIVERTED LINK % of Ext. Trips	DIVERTED LINK In+Out (Total)	NEW In+Out (Total)	PASS-BY In Out		DIVERTED LINK In Out		NEW In Out		
Warehousing Building A (Total)	238.525 KSF	150	0.18	39%	61%	42.93	0%	0.00	42.93	0%	0.00	0%	0.00	42.93	0.00	0.00	0.00	0.00	16.74	26.19	
Warehousing Building B (Total)	266.911 KSF	150	0.18	39%	61%	48.04	0%	0.00	48.04	0%	0.00	0%	0.00	48.04	0.00	0.00	0.00	0.00	18.74	29.30	
Single-Family Detached	-14 Units	210	0.94	63%	37%	-13.16	0%	0.00	-13.16	0%	0.00	0%	0.00	-13.16	0.00	0.00	0.00	0.00	-8.29	-4.87	
Total Vehicle Trips						77.81		0.00	77.81		0.00		0.00	77.81	0.00	0.00	0.00	0.00	27.19	50.62	

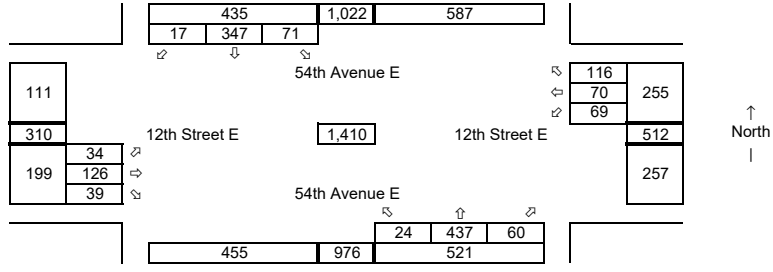
		Gross Truck Trips					Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Truck Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
Warehousing Building A (Truck)	238.525 KSF	150	0.03	52%	48%	7.16	0%	0.00	7.16	0%	0.00	0%	0.00	7.16	0.00	0.00	0.00	0.00	3.72	3.44
Warehousing Building B (Truck)	266.911 KSF	150	0.03	52%	48%	8.01	0%	0.00	8.01	0%	0.00	0%	0.00	8.01	0.00	0.00	0.00	0.00	4.17	3.84
Total Truck Trips						15.17		0.00	15.17		0.00		0.00	15.17	0.00	0.00	0.00	0.00	7.89	7.28

Total Passenger Car Trips:	62.64	19.30	43.34
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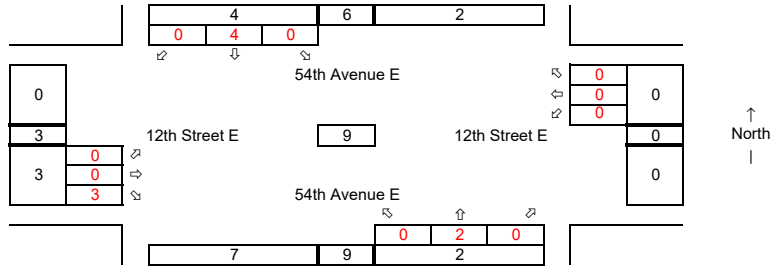
Synchro ID: 1
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



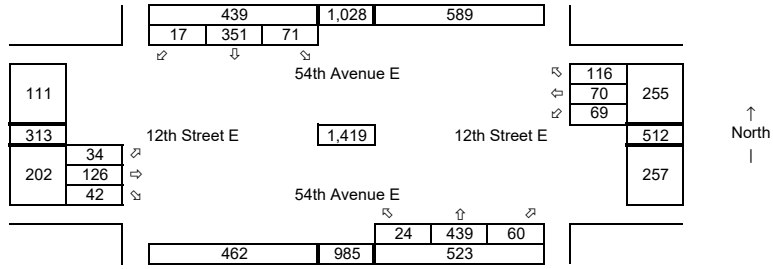
Future without Project
 Average Weekday
 AM Peak Hour
 Year: **2025**
 Growth Rate = **3.0%**
 Years of Growth = **2**
 Total Growth = **1.0609**



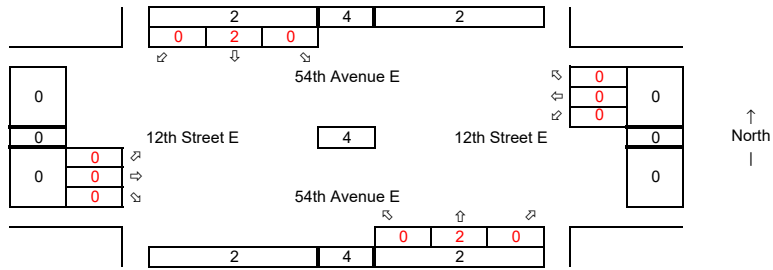
Total Development Trips
 Average Weekday
 AM Peak Hour



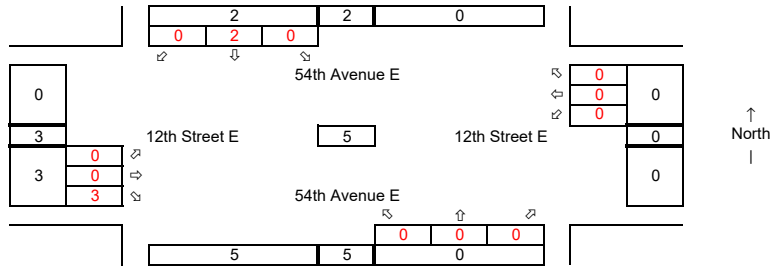
Future with Project
 Average Weekday
 AM Peak Hour

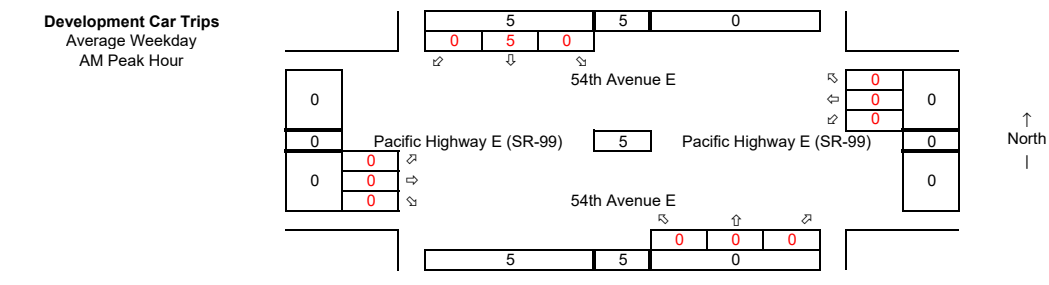
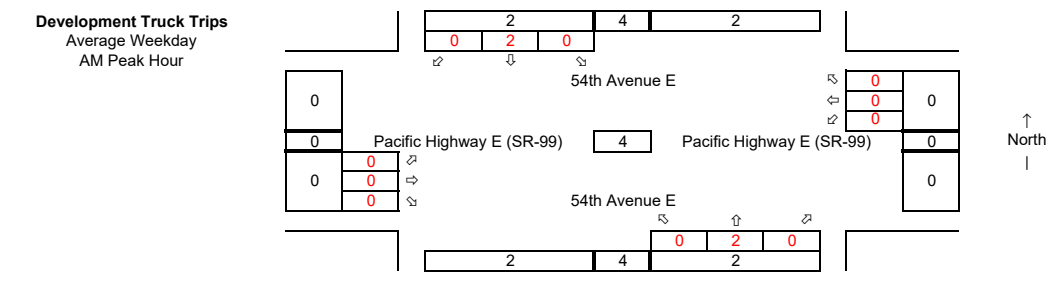
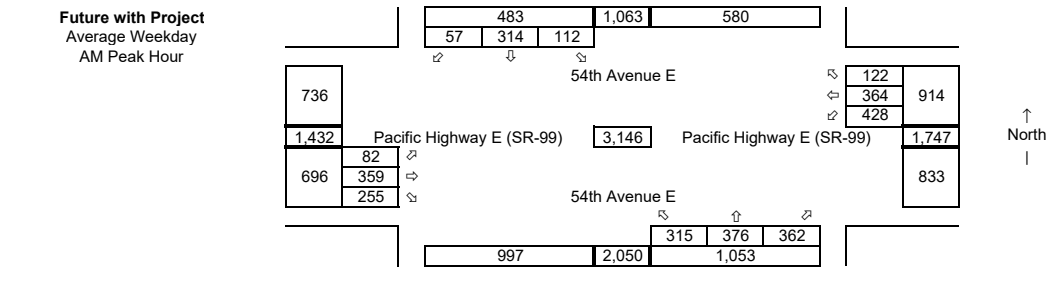
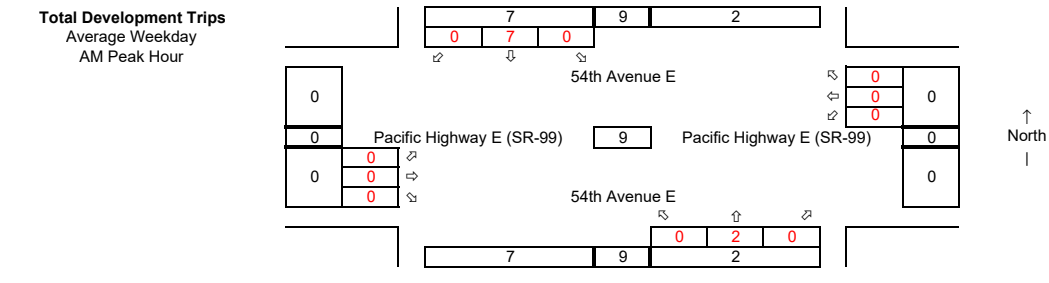
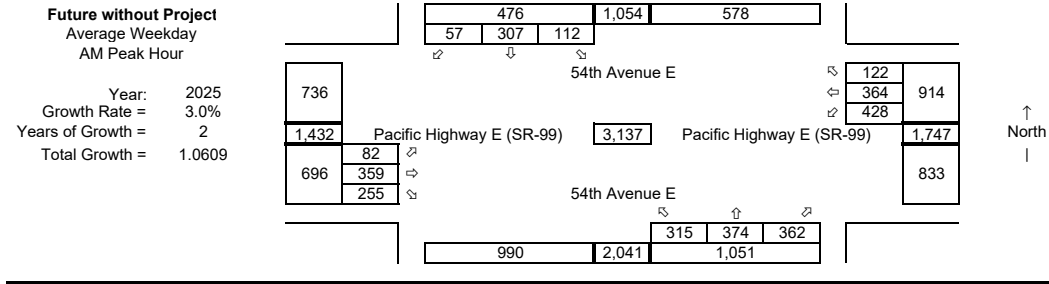
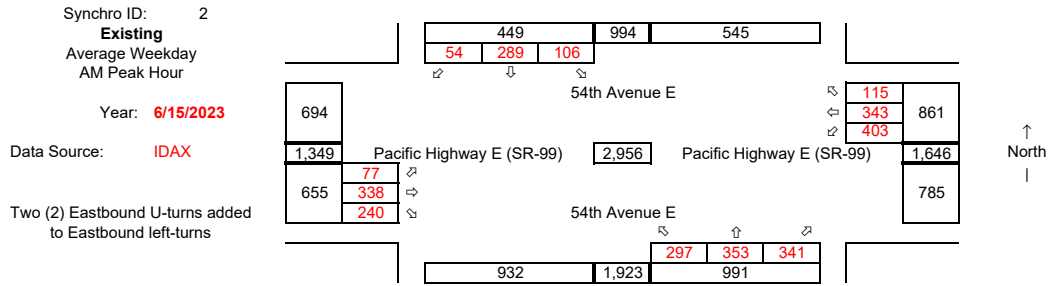


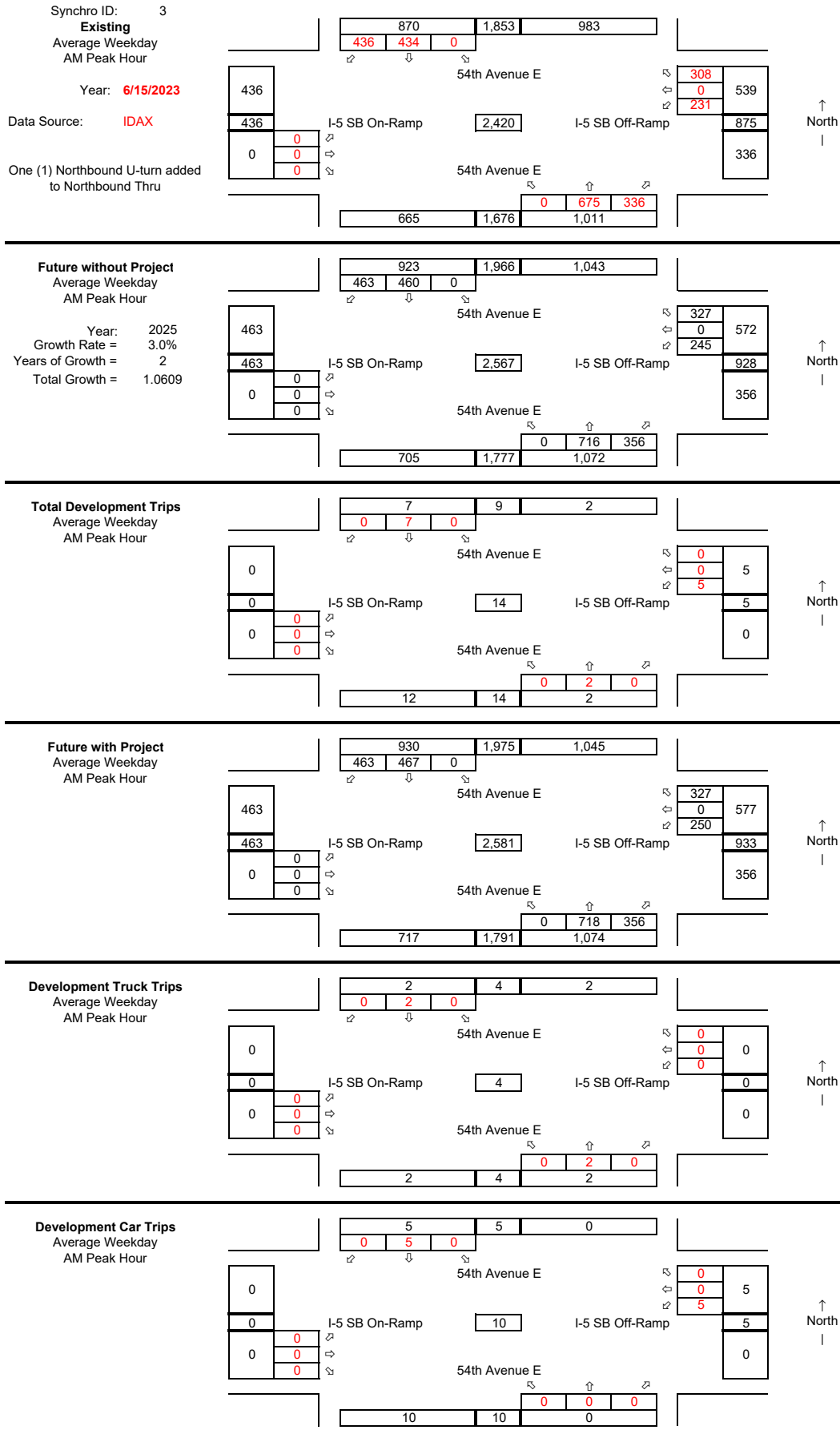
Development Truck Trips
 Average Weekday
 AM Peak Hour



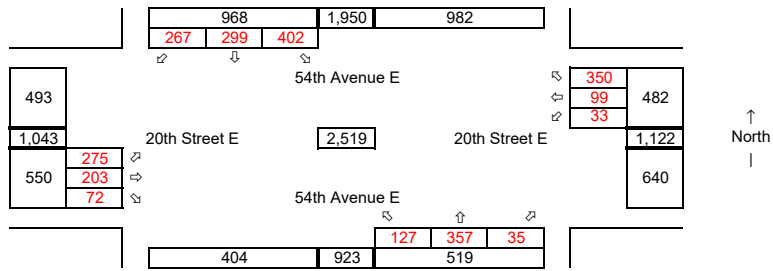
Development Car Trips
 Average Weekday
 AM Peak Hour



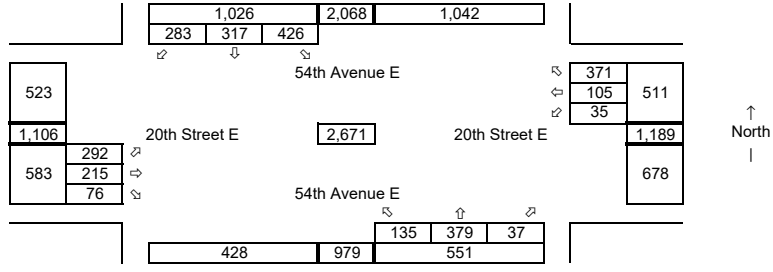




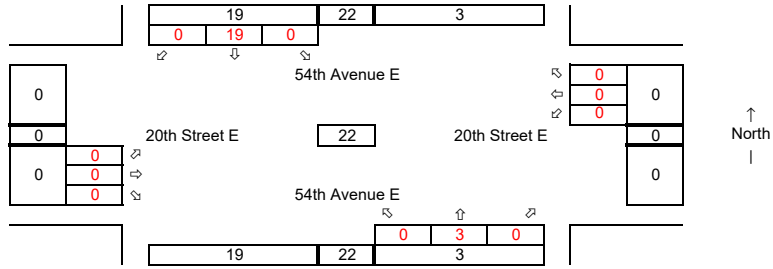
Synchro ID: 4
Existing
 Average Weekday
 AM Peak Hour
 Year: 6/15/2023
 Data Source: IDAX



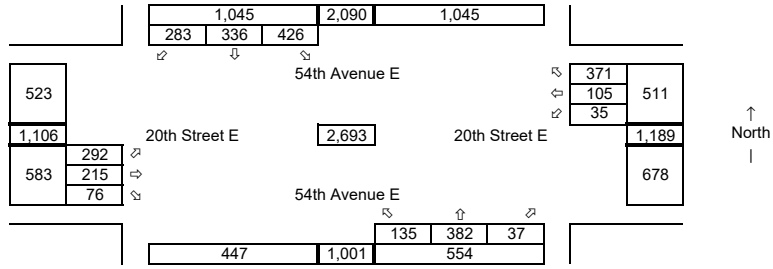
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



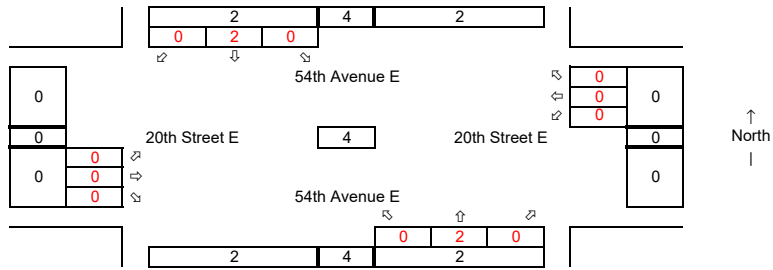
Total Development Trips
 Average Weekday
 AM Peak Hour



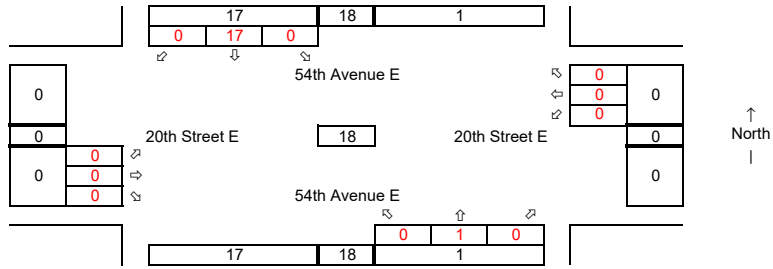
Future with Project
 Average Weekday
 AM Peak Hour



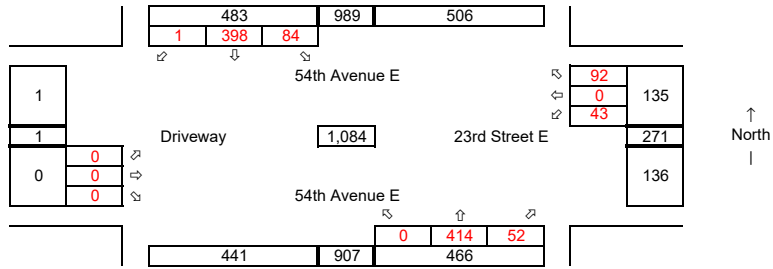
Development Truck Trips
 Average Weekday
 AM Peak Hour



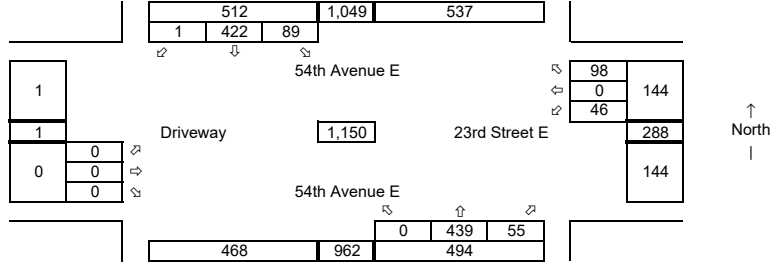
Development Car Trips
 Average Weekday
 AM Peak Hour



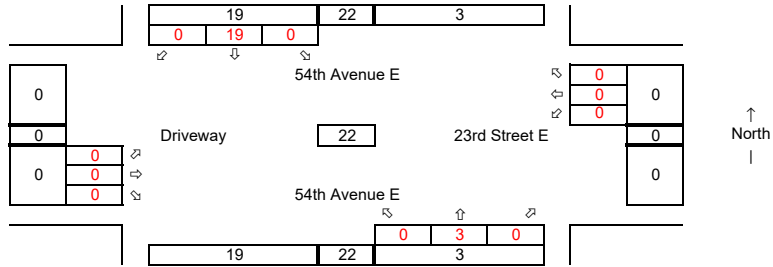
Synchro ID: 5
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



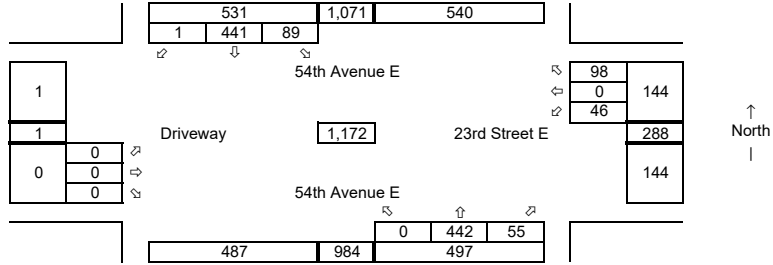
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



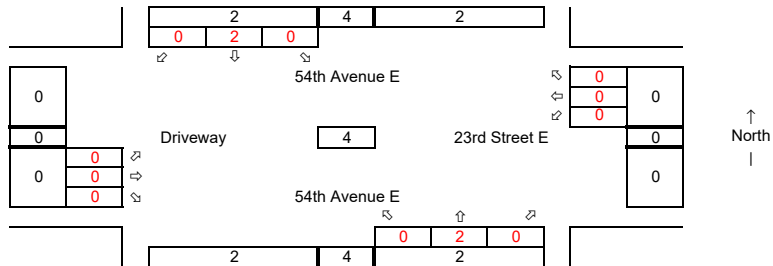
Total Development Trips
 Average Weekday
 AM Peak Hour



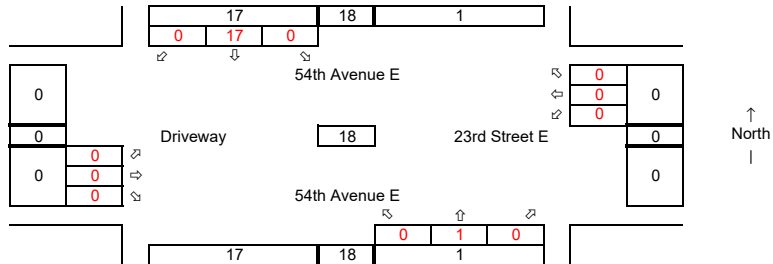
Future with Project
 Average Weekday
 AM Peak Hour



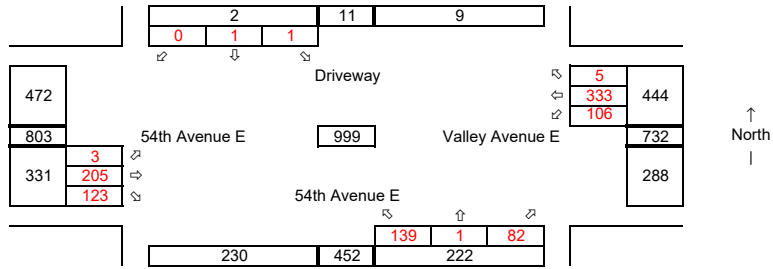
Development Truck Trips
 Average Weekday
 AM Peak Hour



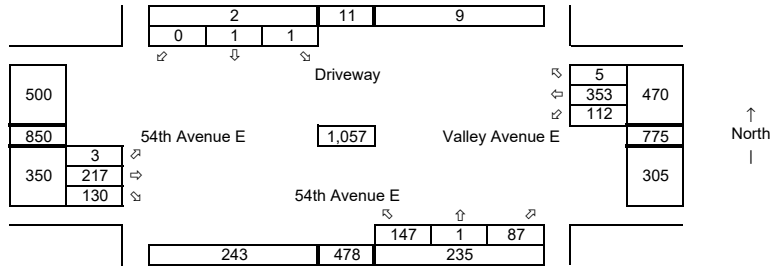
Development Car Trips
 Average Weekday
 AM Peak Hour



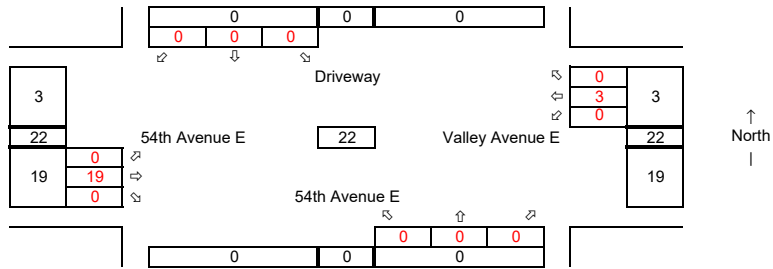
Synchro ID: 6
Existing
 Average Weekday
 AM Peak Hour
 Year: 6/15/2023
 Data Source: IDAX



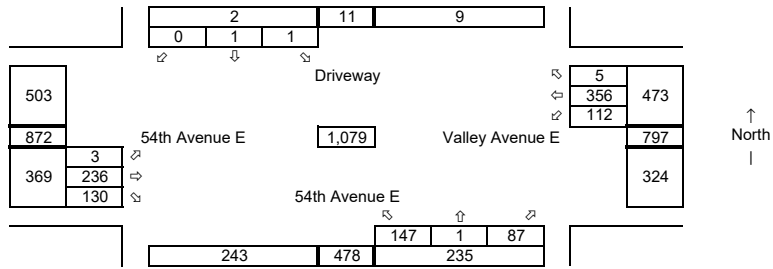
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



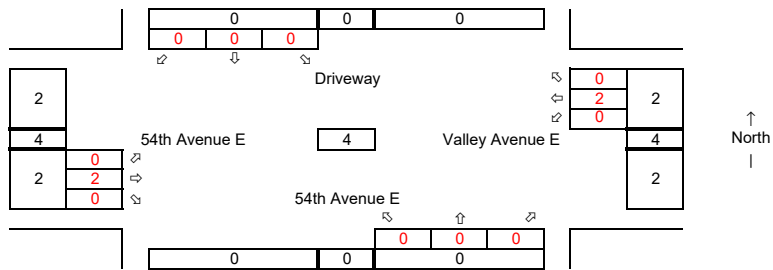
Total Development Trips
 Average Weekday
 AM Peak Hour



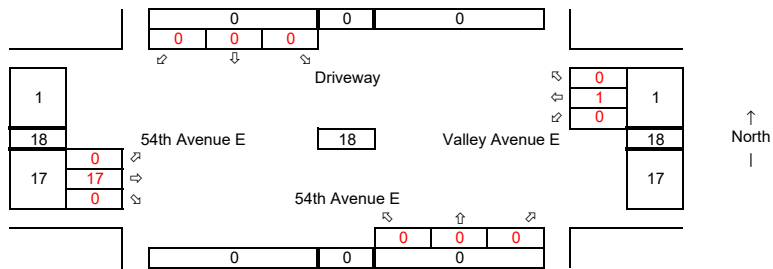
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour

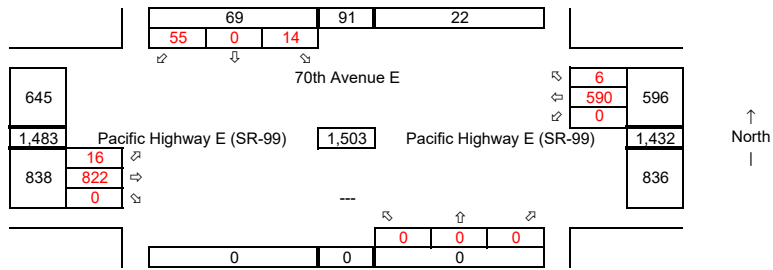


Synchro ID: 7

Existing
Average Weekday
AM Peak Hour

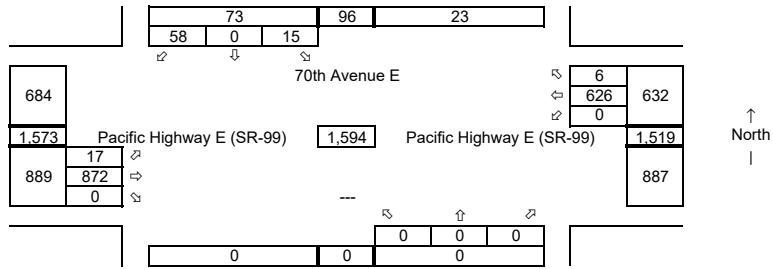
Year: 6/15/2023

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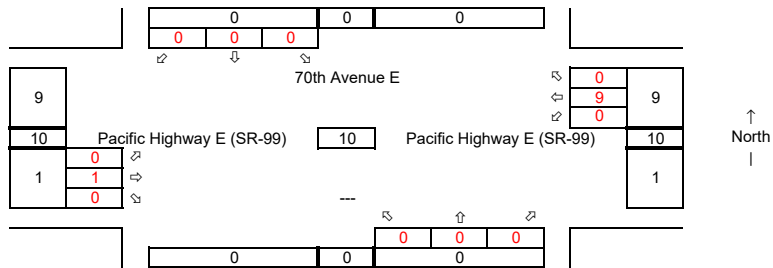


Future without Project
Average Weekday
AM Peak Hour

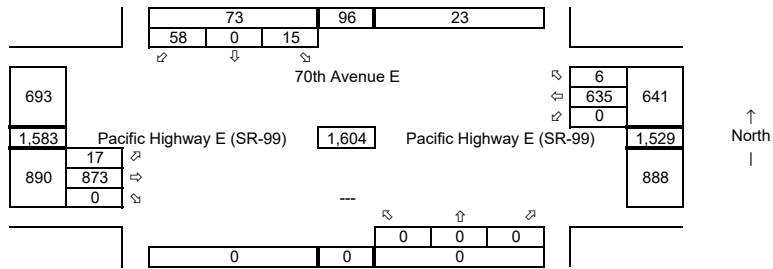
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



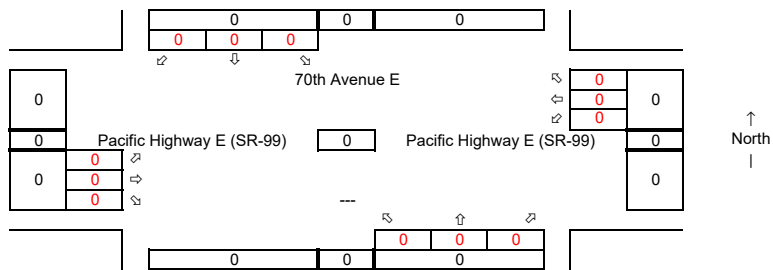
Total Development Trips
Average Weekday
AM Peak Hour



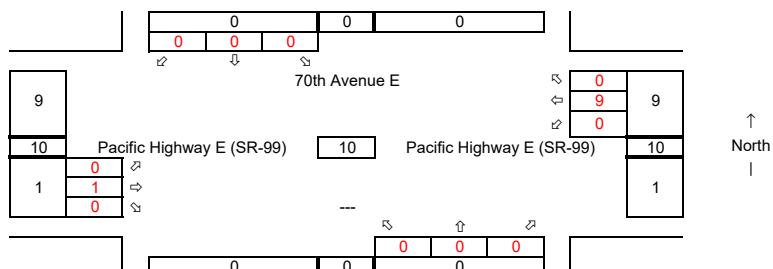
Future with Project
Average Weekday
AM Peak Hour



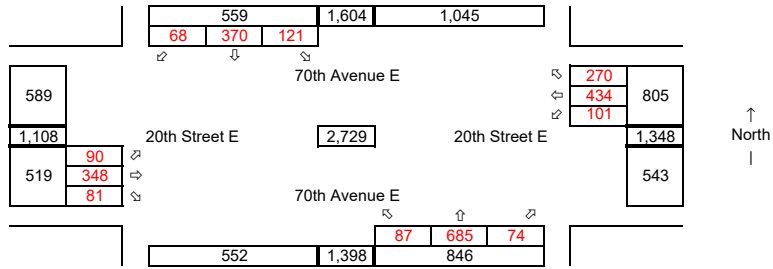
Development Truck Trips
Average Weekday
AM Peak Hour



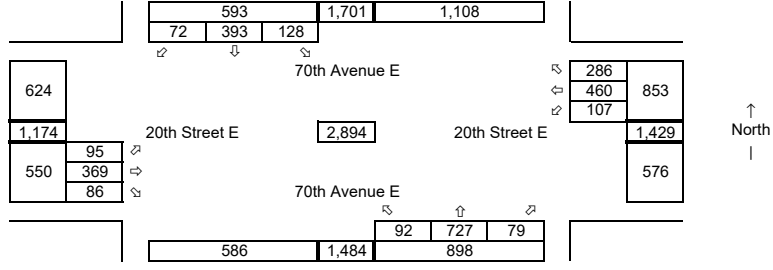
Development Car Trips
Average Weekday
AM Peak Hour



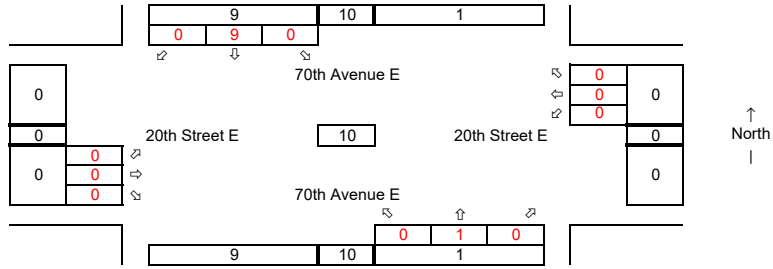
Synchro ID: 8
Existing
 Average Weekday
 AM Peak Hour
 Year: 6/8/2023
 Data Source: IDAX



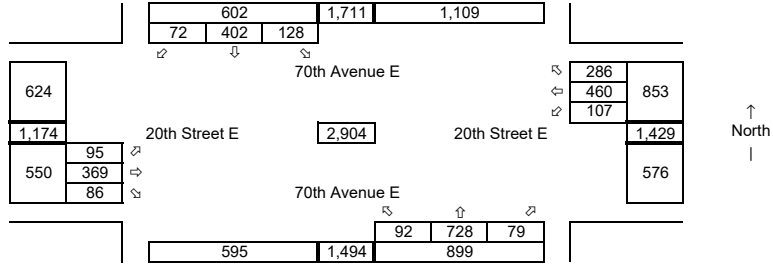
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



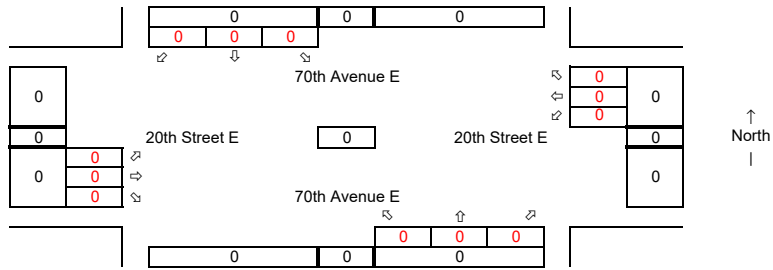
Total Development Trips
 Average Weekday
 AM Peak Hour



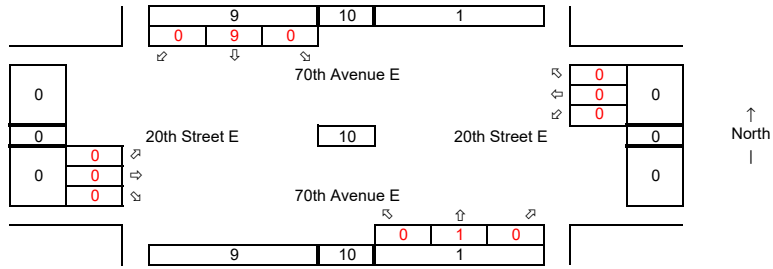
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



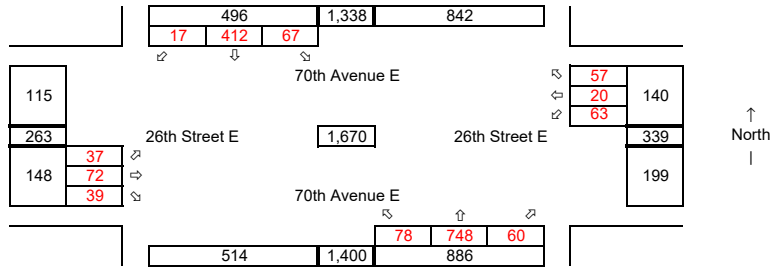
Development Car Trips
 Average Weekday
 AM Peak Hour



Synchro ID: 9
Existing
Average Weekday
AM Peak Hour

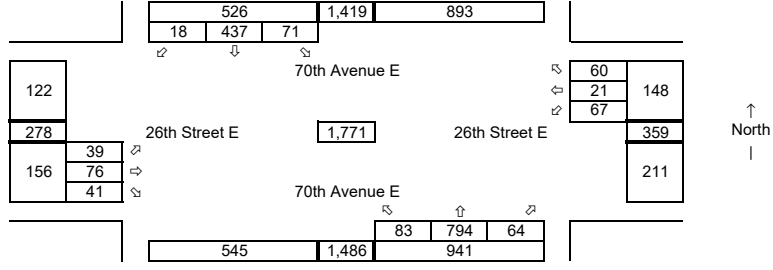
Year: 6/8/2023

Data Source: IDAX

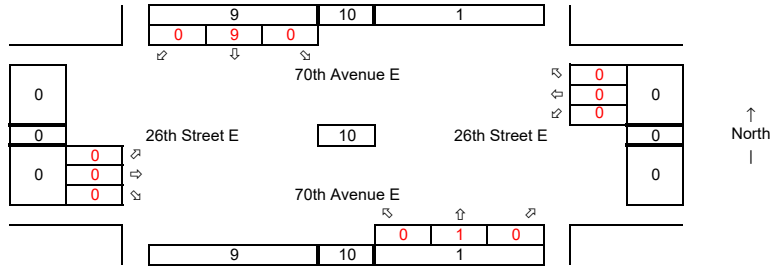


Future without Project
Average Weekday
AM Peak Hour

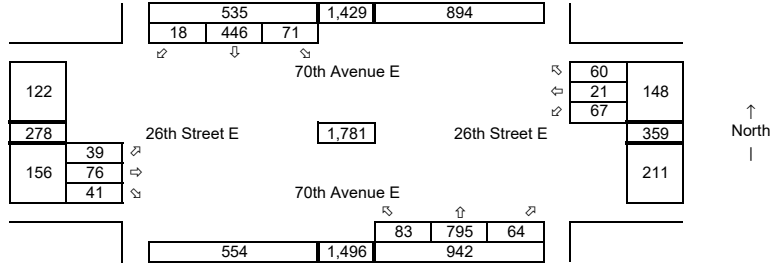
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



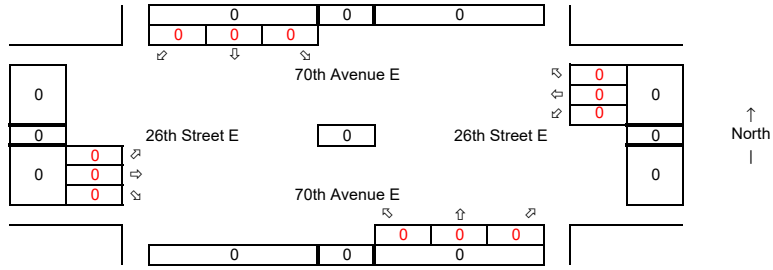
Total Development Trips
Average Weekday
AM Peak Hour



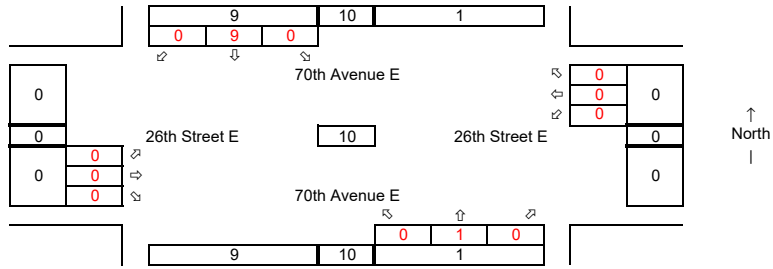
Future with Project
Average Weekday
AM Peak Hour



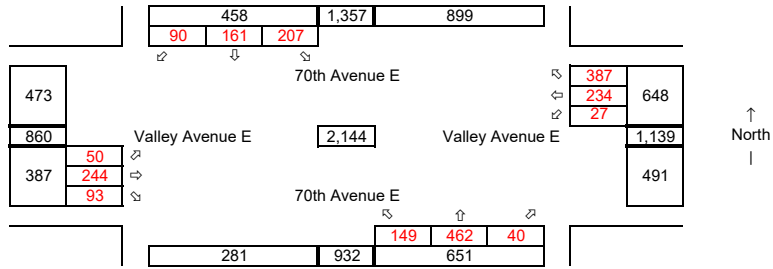
Development Truck Trips
Average Weekday
AM Peak Hour



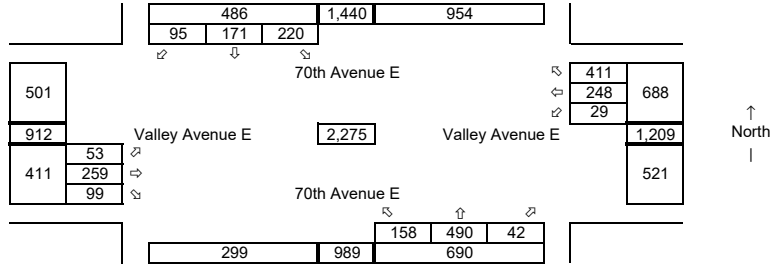
Development Car Trips
Average Weekday
AM Peak Hour



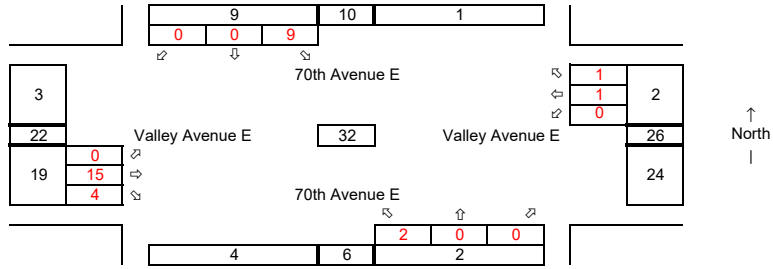
Synchro ID: 10
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



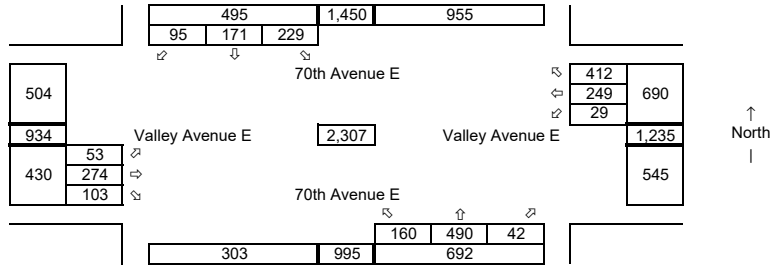
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



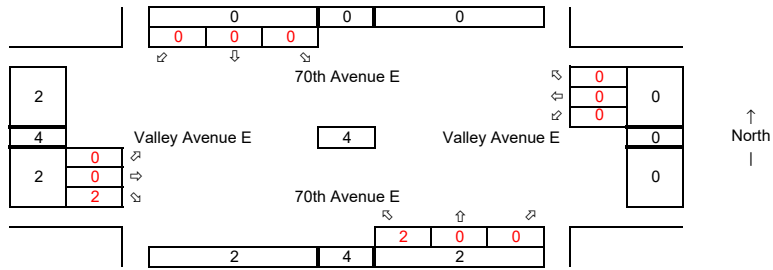
Total Development Trips
 Average Weekday
 AM Peak Hour



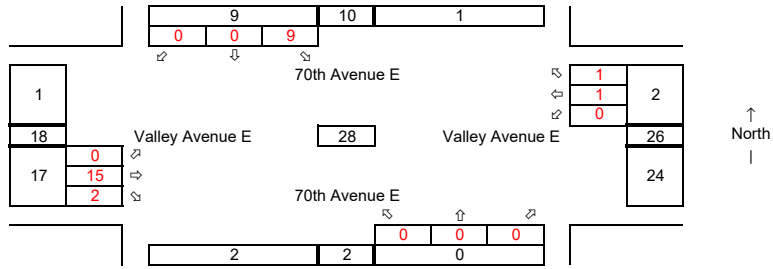
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



**Freeman Logistics
150 - Warehousing**

11 Freeman Rd @ Valley Ave E

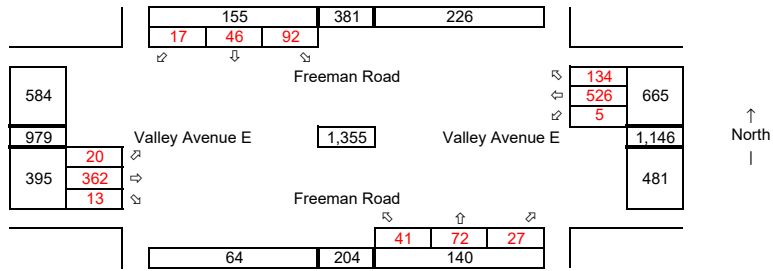
AM Peak-Hour

Synchro ID: 11

Existing
Average Weekday
AM Peak Hour

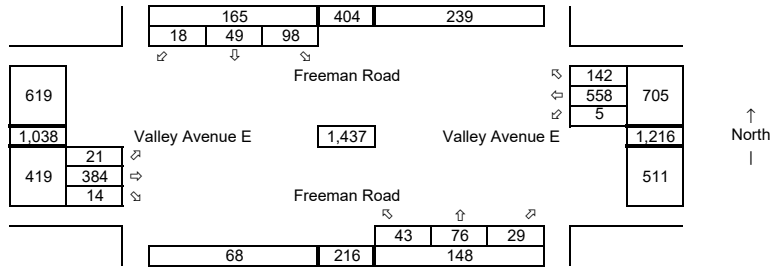
Year: **6/14/2023**

Data Source: **IDAX**

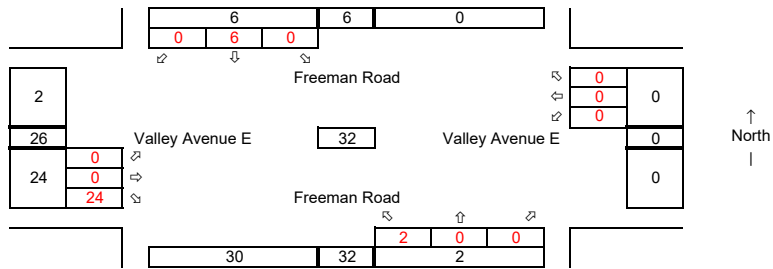


Future without Project
Average Weekday
AM Peak Hour

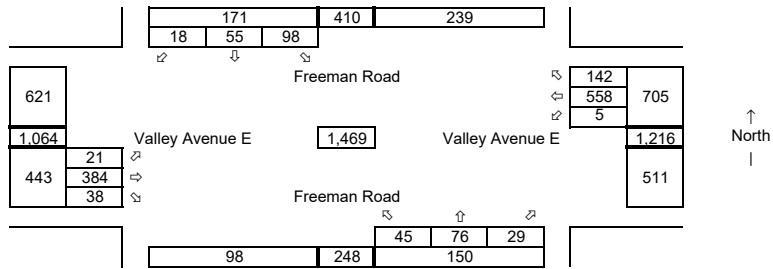
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



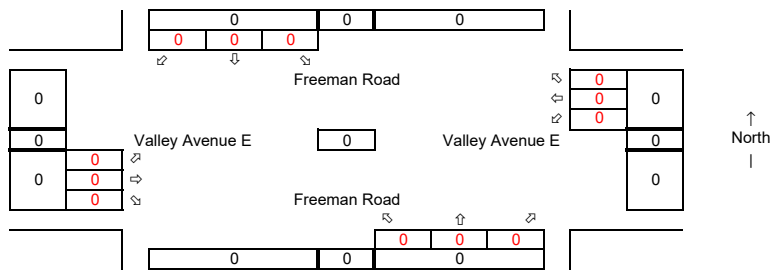
Total Development Trips
Average Weekday
AM Peak Hour



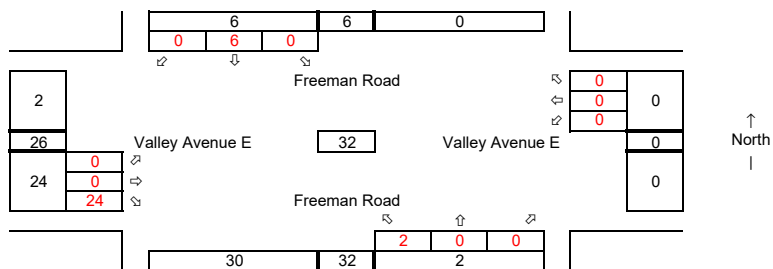
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



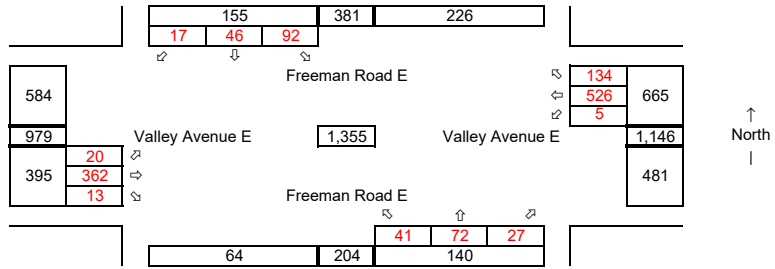
Development Car Trips
Average Weekday
AM Peak Hour



Synchro ID: 11
With SR-167 Extension **Existing**
Average Weekday
AM Peak Hour

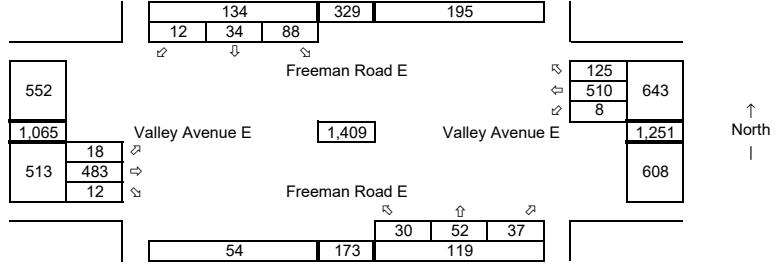
Year: 6/14/23

Data Source: IDAX

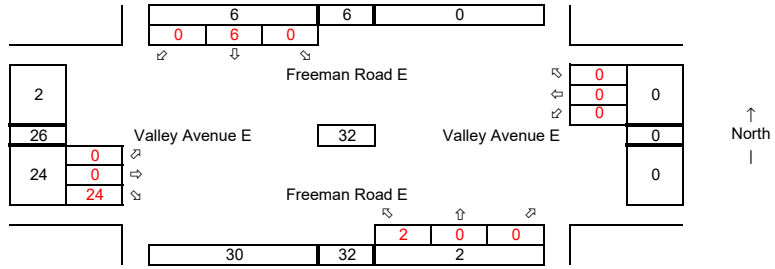


Future without Project
Average Weekday
AM Peak Hour

Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609

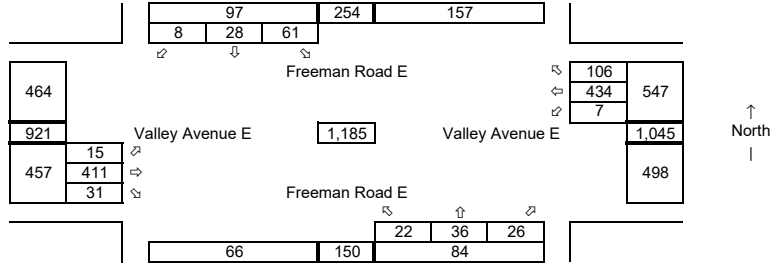


Total Development Trips
Average Weekday
AM Peak Hour

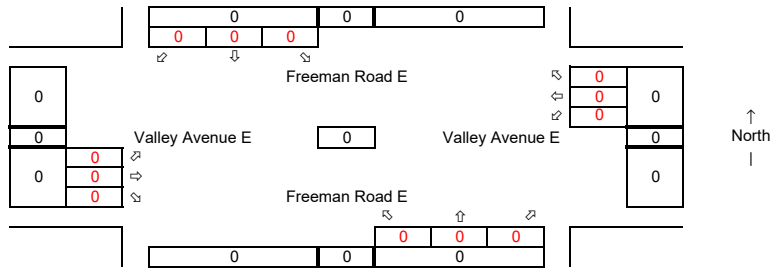


Future with Project
Average Weekday
AM Peak Hour

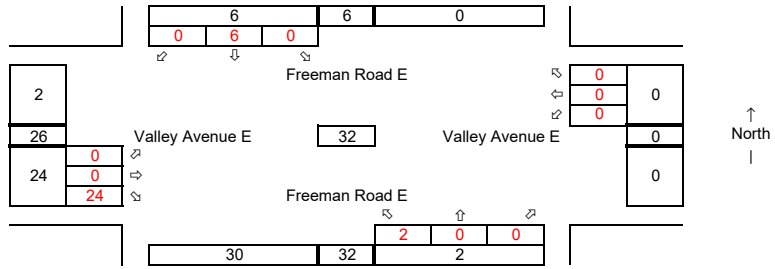
N/S Diversion % 31%
E/W Diversion % 15%



Development Truck Trips
Average Weekday
AM Peak Hour



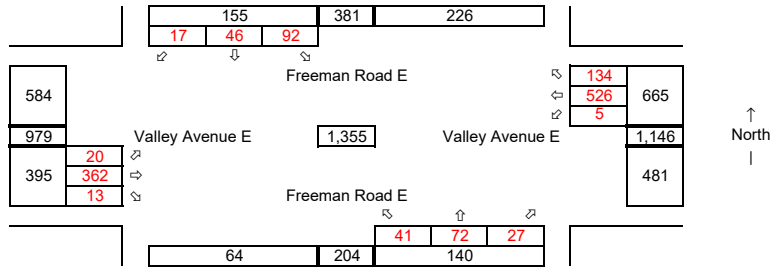
Development Car Trips
Average Weekday
AM Peak Hour



Synchro ID: 11
With SR-167 Extension Existing
Average Weekday
AM Peak Hour

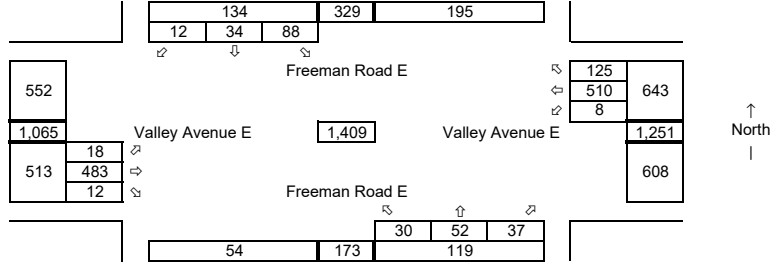
Year: 6/14/23

Data Source: IDAX

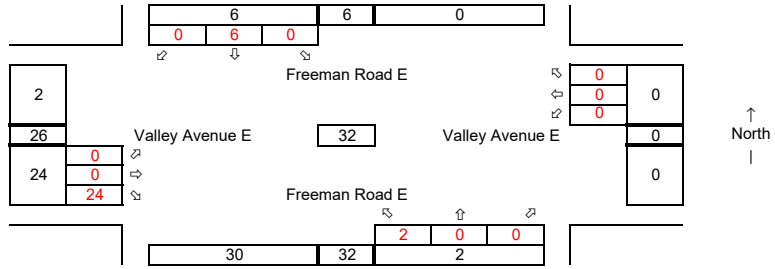


Future without Project
Average Weekday
AM Peak Hour

Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609

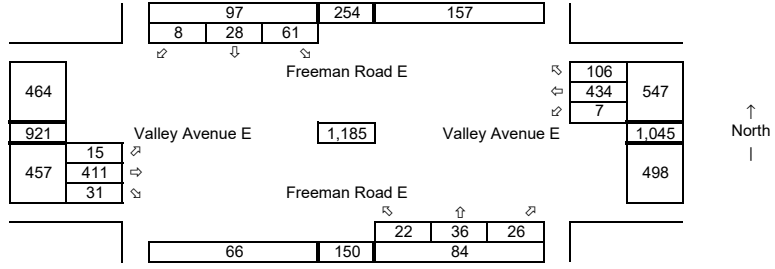


Total Development Trips
Average Weekday
AM Peak Hour

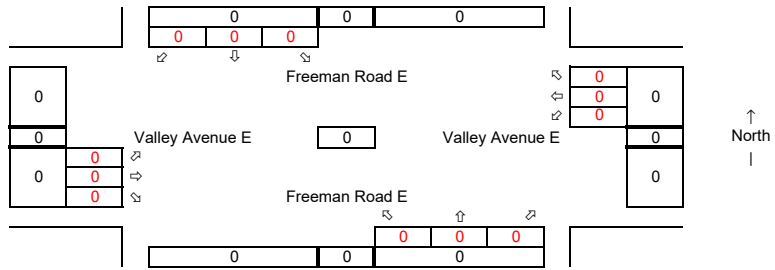


Future with Project
Average Weekday
AM Peak Hour

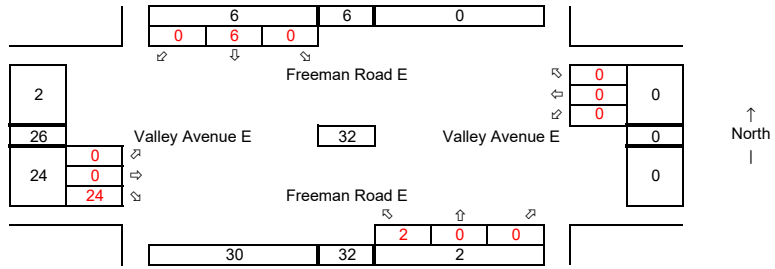
N/S Diversion % 31%
E/W Diversion % 15%



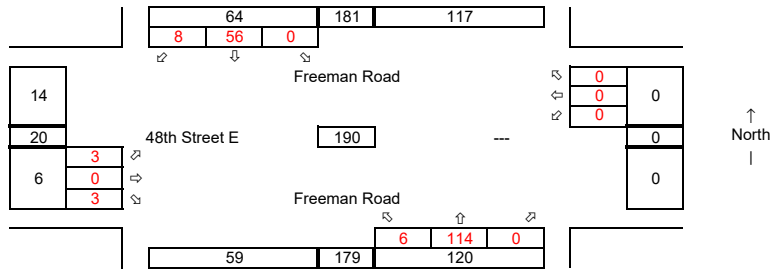
Development Truck Trips
Average Weekday
AM Peak Hour



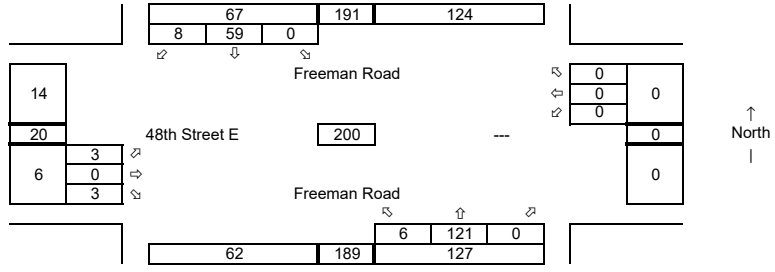
Development Car Trips
Average Weekday
AM Peak Hour



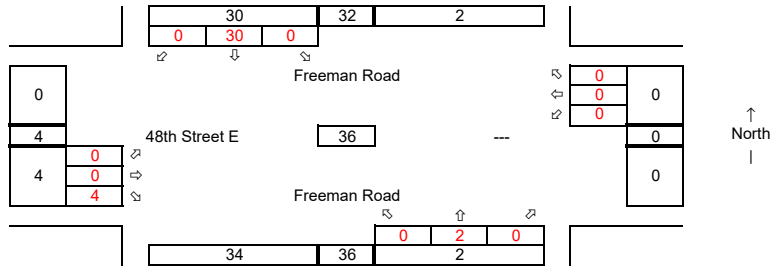
Synchro ID: 12
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



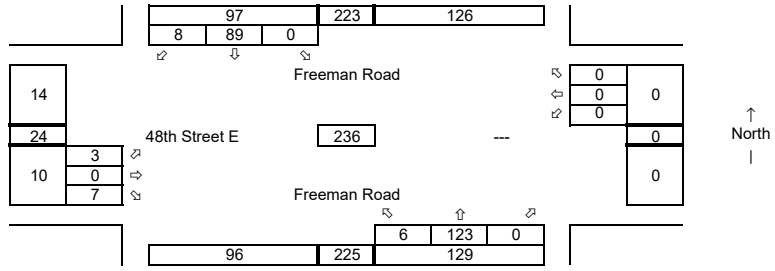
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



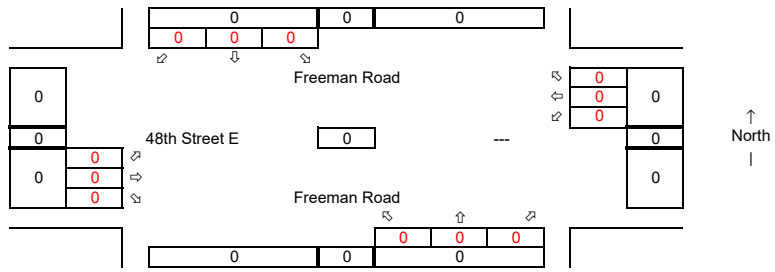
Total Development Trips
 Average Weekday
 AM Peak Hour



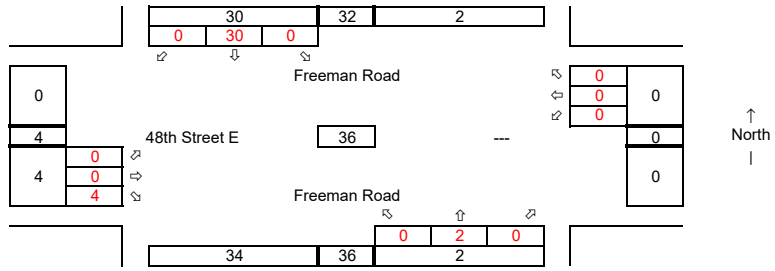
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



**Freeman Logistics
150 - Warehousing**

13 Freeman Rd @ 50th St E

AM Peak-Hour

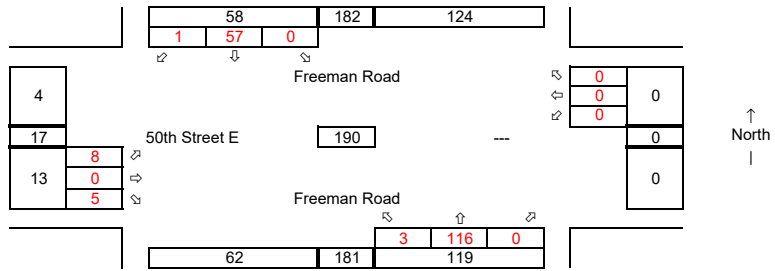
Synchro ID: 13

Existing

Average Weekday
AM Peak Hour

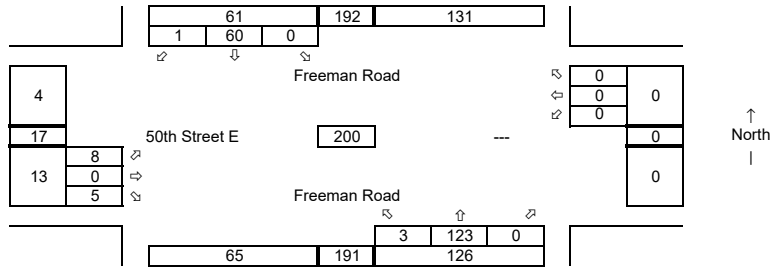
Year: **6/8/2023**

Data Source: **IDAX**

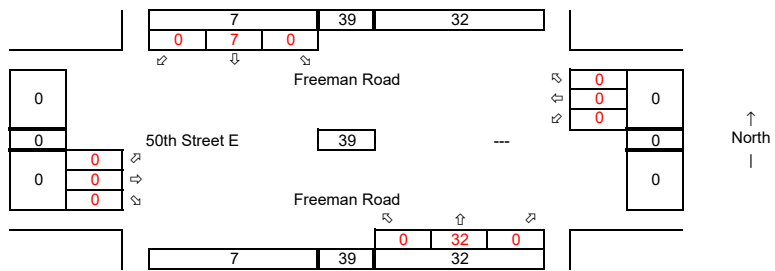


Future without Project
Average Weekday
AM Peak Hour

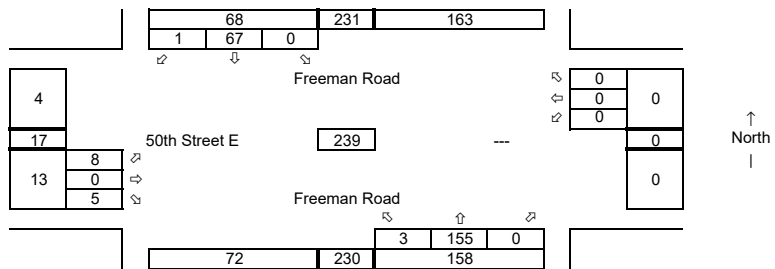
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



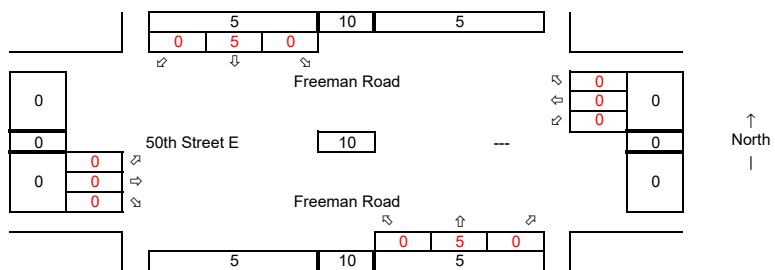
Total Development Trips
Average Weekday
AM Peak Hour



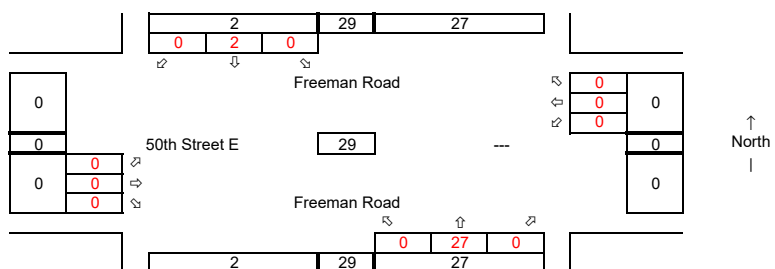
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour



**Freeman Logistics
150 - Warehousing**

14 Freeman Rd @ 52nd St E

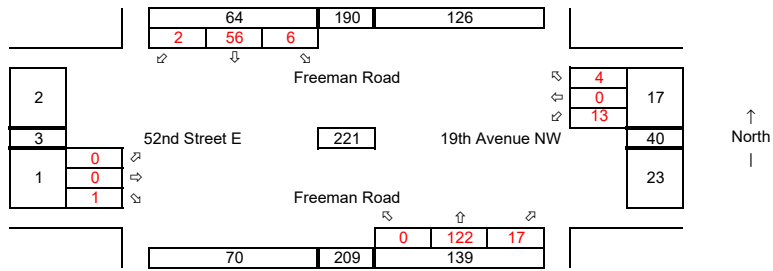
AM Peak-Hour

Synchro ID: 14
Existing
 Average Weekday
 AM Peak Hour

Year: **6/8/2023**

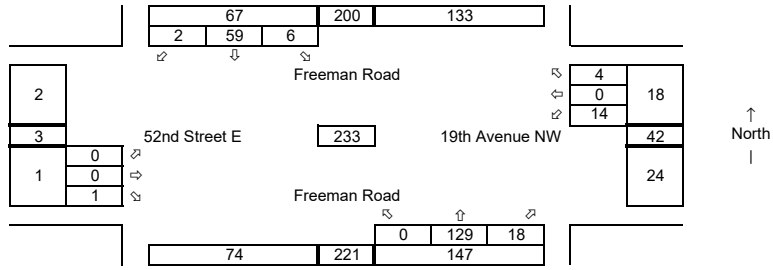
Data Source: **IDAX**

Two (2) Westbound U-turns
 added to Westbound Left-turns

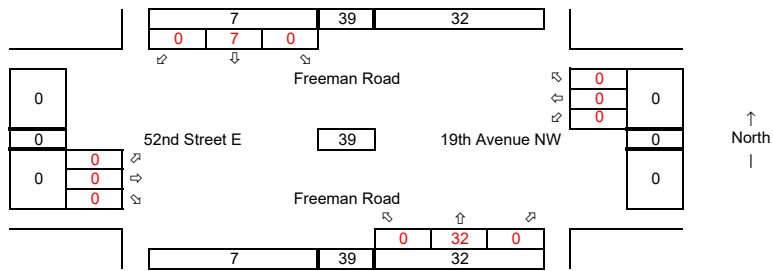


Future without Project
 Average Weekday
 AM Peak Hour

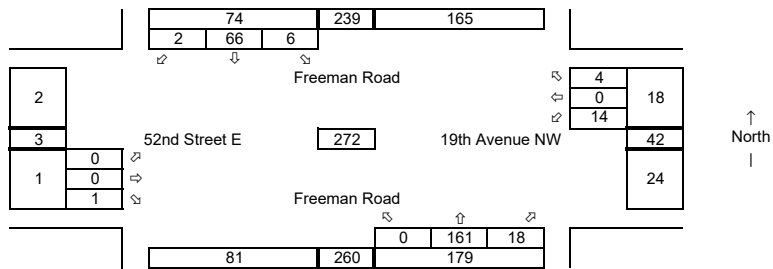
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



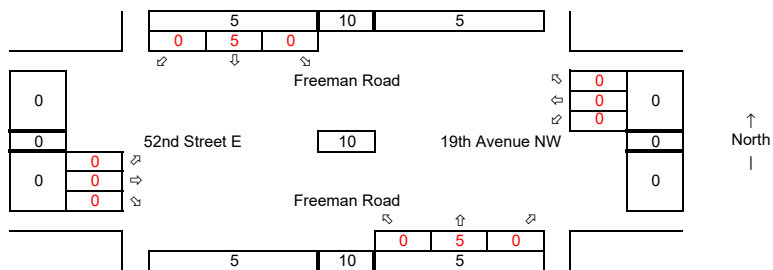
Total Development Trips
 Average Weekday
 AM Peak Hour



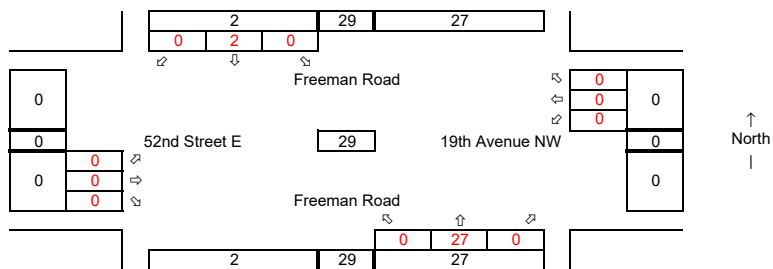
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



**Freeman Logistics
150 - Warehousing**

15 Freeman Rd @ N Levee Rd E

AM Peak-Hour

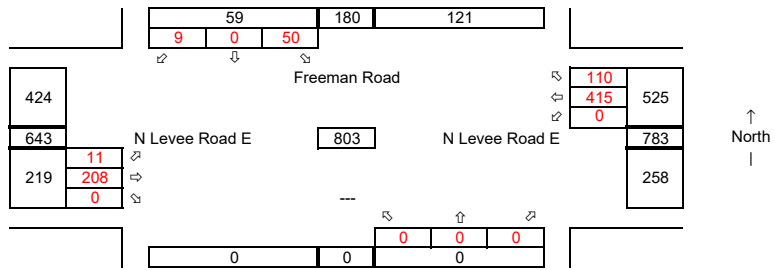
Synchro ID: 15

Existing
Average Weekday
AM Peak Hour

Year: **6/15/2023**

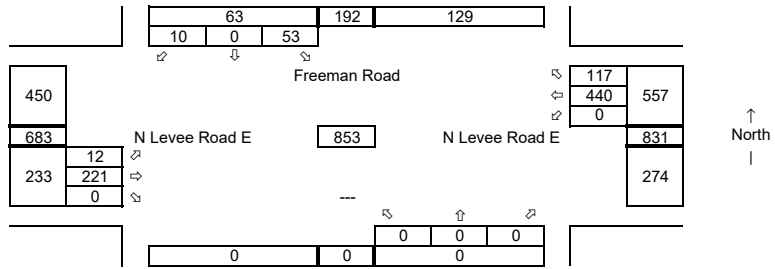
Data Source: **IDAX**

One (1) Westbound U-turn added
to Southbound Left-turns

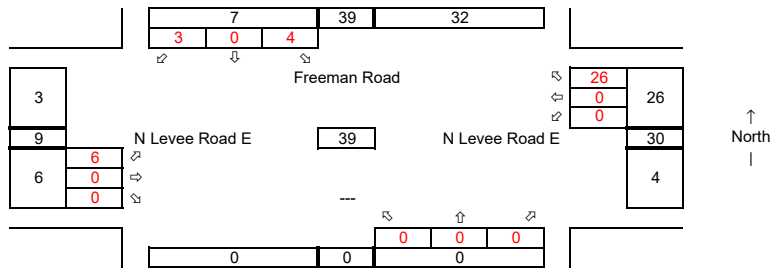


Future without Project
Average Weekday
AM Peak Hour

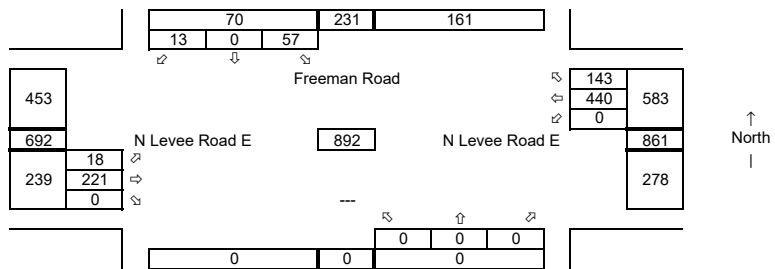
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



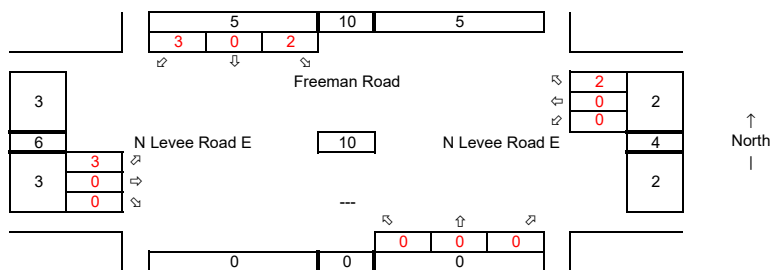
Total Development Trips
Average Weekday
AM Peak Hour



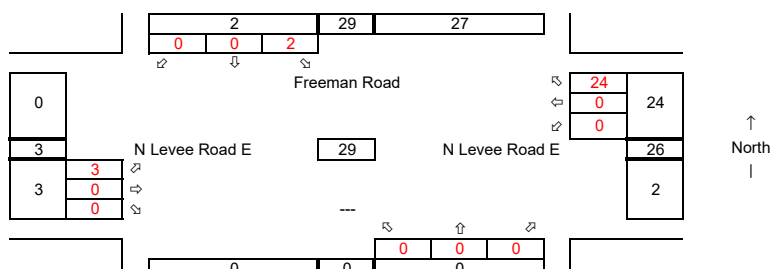
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour

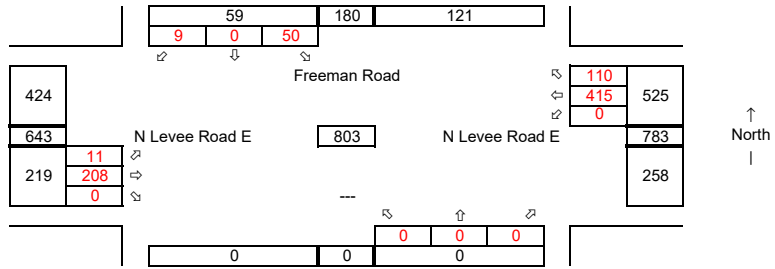


Synchro ID: 15
With SR-167 Extension Existing
Average Weekday
AM Peak Hour

Year: 6/15/2023

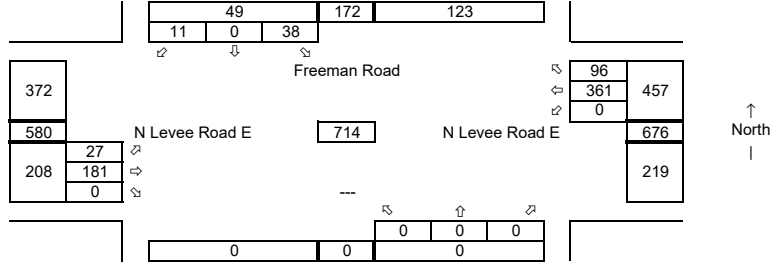
Data Source: IDAX

One (1) Westbound U-turn added
to Southbound Left-turns

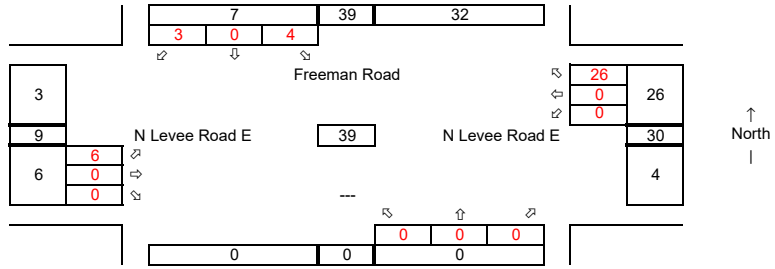


Future without Project
Average Weekday
AM Peak Hour

Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609

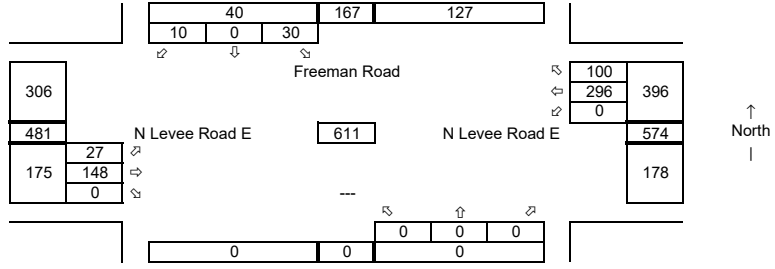


Total Development Trips
Average Weekday
AM Peak Hour

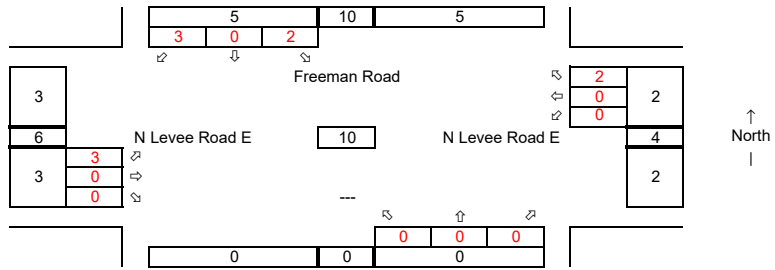


Future with Project
Average Weekday
AM Peak Hour

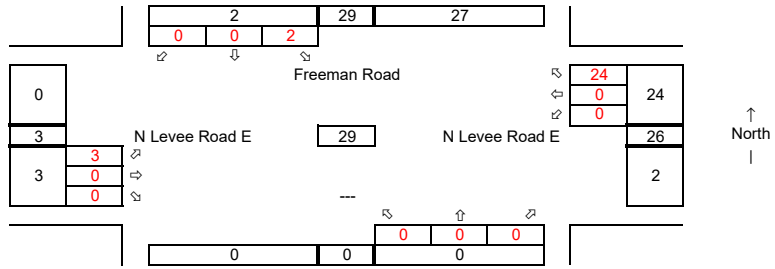
N/S Diversion % 29%
E/W Diversion % 18%



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour

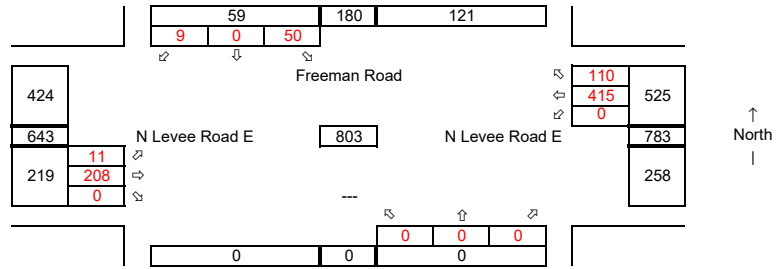


Synchro ID: 15
With SR-167 Extension Existing
Average Weekday
AM Peak Hour

Year: 6/15/2023

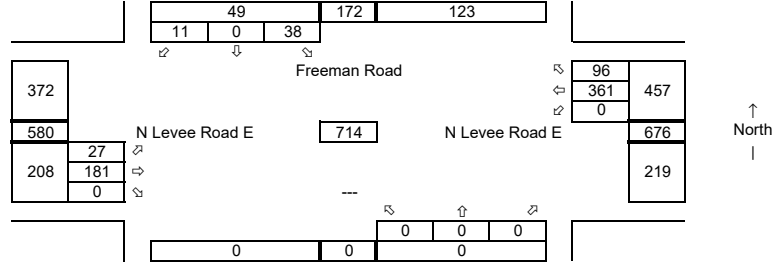
Data Source: IDAX

One (1) Westbound U-turn added
to Southbound Left-turns

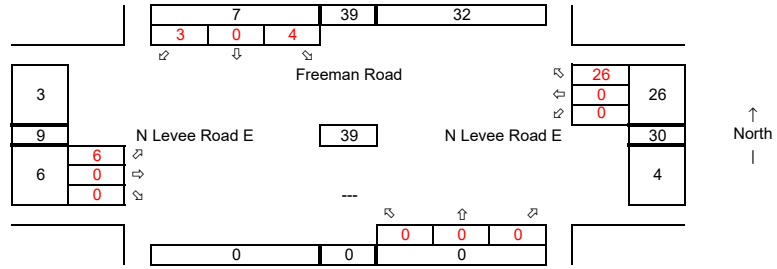


Future without Project
Average Weekday
AM Peak Hour

Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609

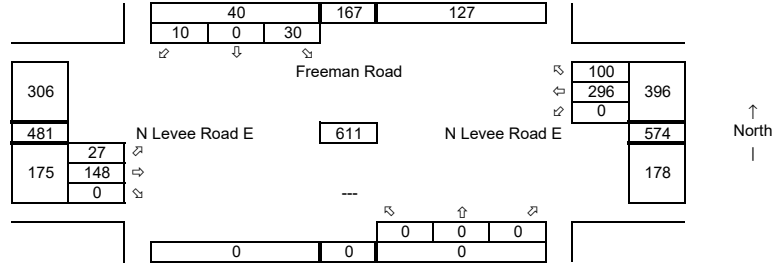


Total Development Trips
Average Weekday
AM Peak Hour

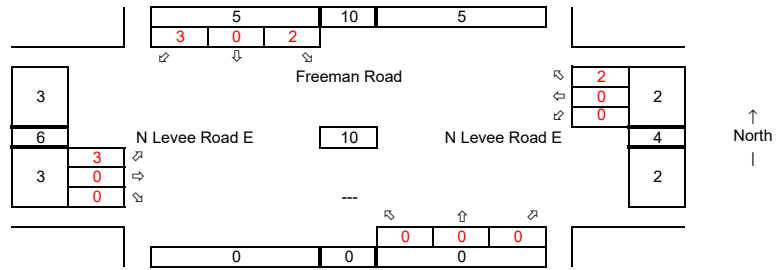


Future with Project
Average Weekday
AM Peak Hour

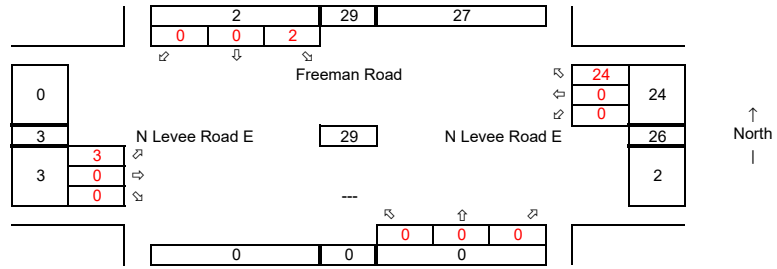
N/S Diversion % 29%
E/W Diversion % 18%



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour

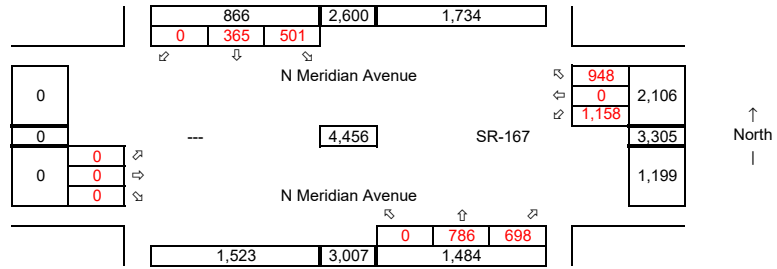


Synchro ID: 16

Existing
Average Weekday
AM Peak Hour

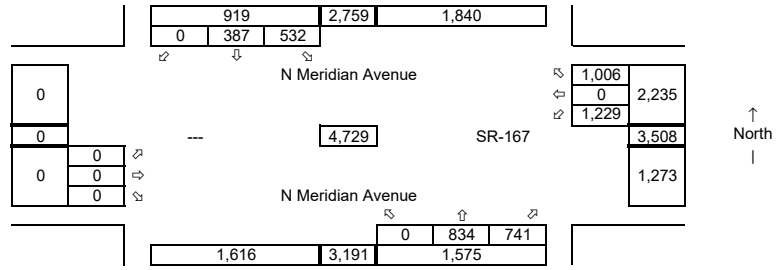
Year: 6/14/2023

Data Source: IDAX

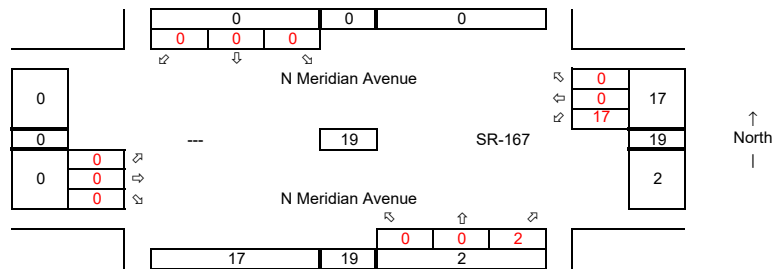


Future without Project
Average Weekday
AM Peak Hour

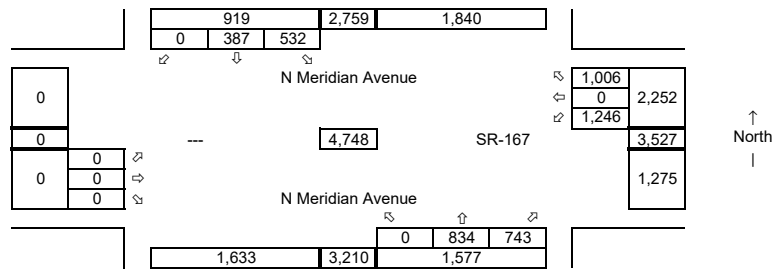
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



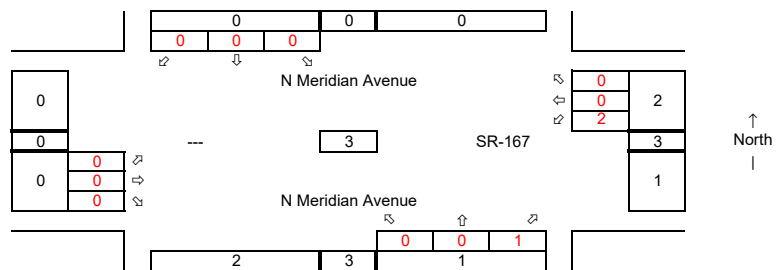
Total Development Trips
Average Weekday
AM Peak Hour



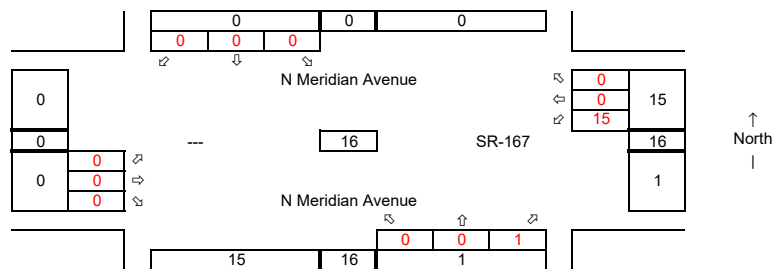
Future with Project
Average Weekday
AM Peak Hour



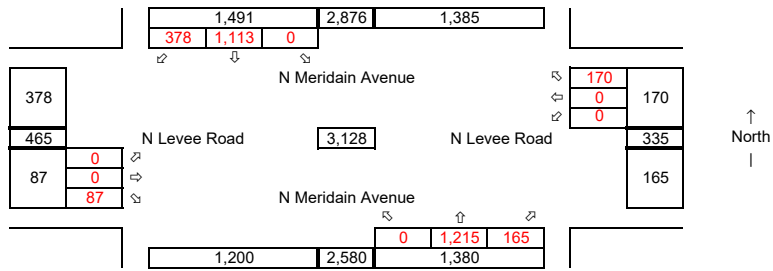
Development Truck Trips
Average Weekday
AM Peak Hour



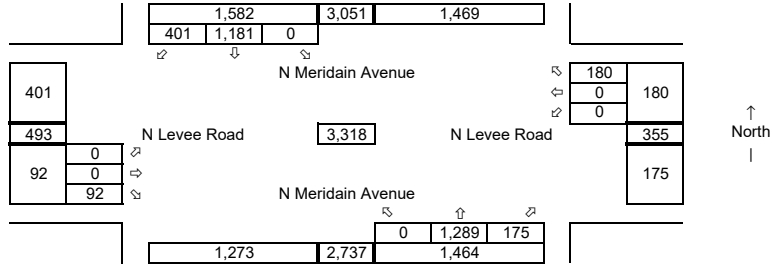
Development Car Trips
Average Weekday
AM Peak Hour



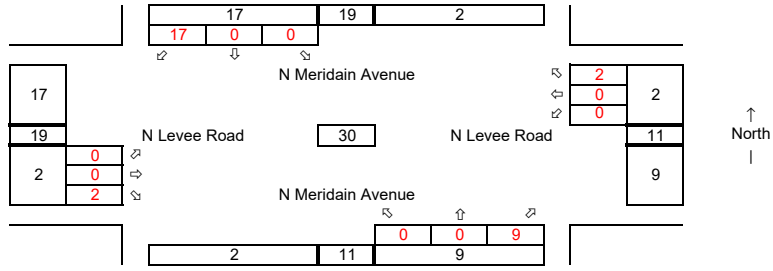
Synchro ID: 17
Existing
 Average Weekday
 AM Peak Hour
 Year: 6/14/2023
 Data Source: IDAX



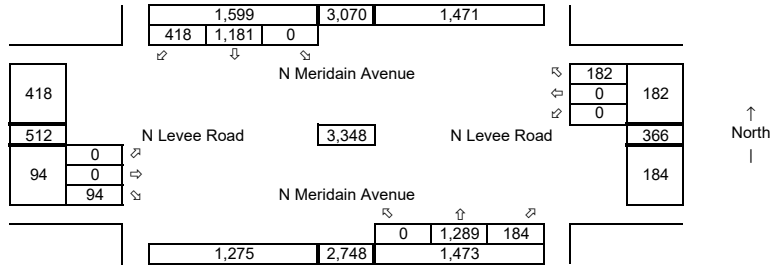
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



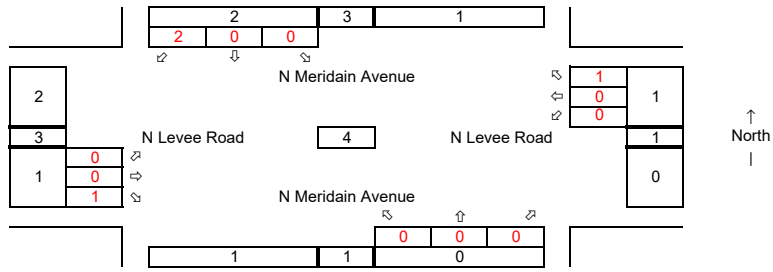
Total Development Trips
 Average Weekday
 AM Peak Hour



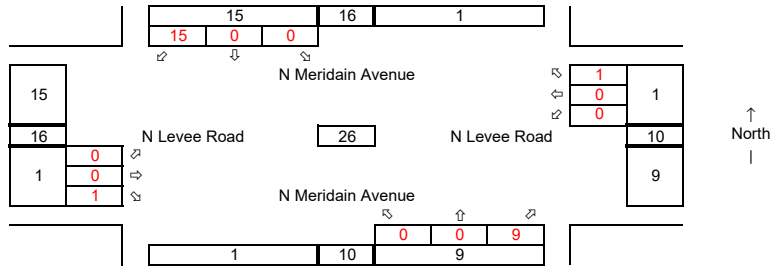
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



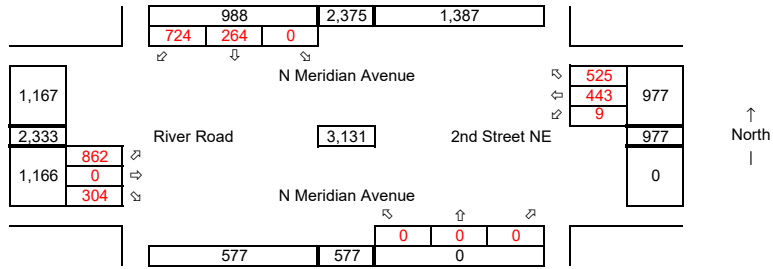
Development Car Trips
 Average Weekday
 AM Peak Hour



Synchro ID: 18
Existing
Average Weekday
AM Peak Hour

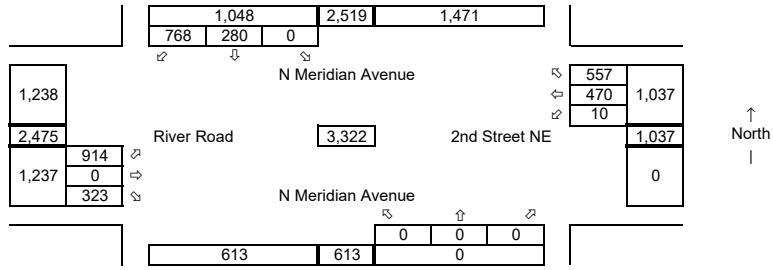
Year: 6/14/2023

Data Source: IDAX

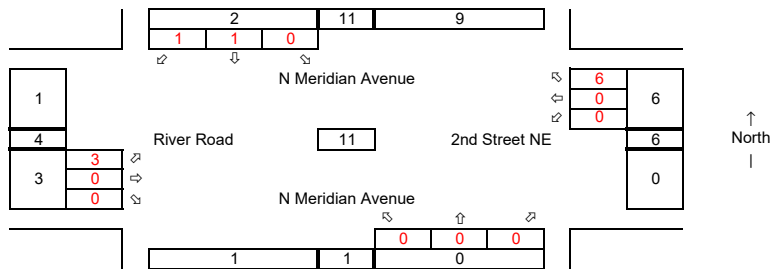


Future without Project
Average Weekday
AM Peak Hour

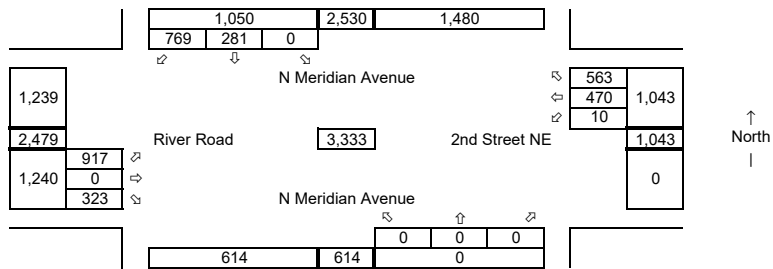
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



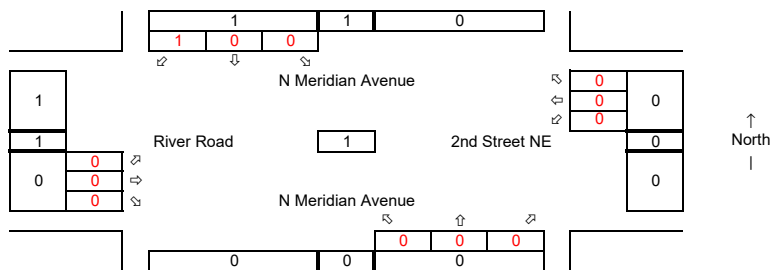
Total Development Trips
Average Weekday
AM Peak Hour



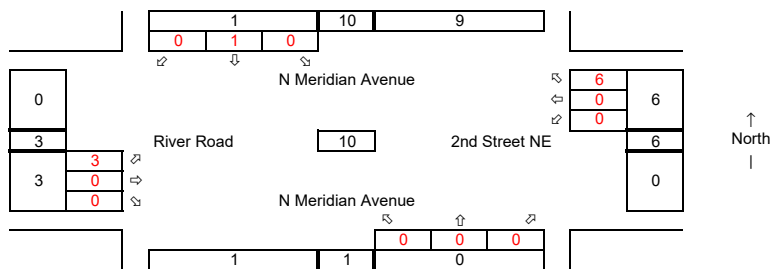
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour

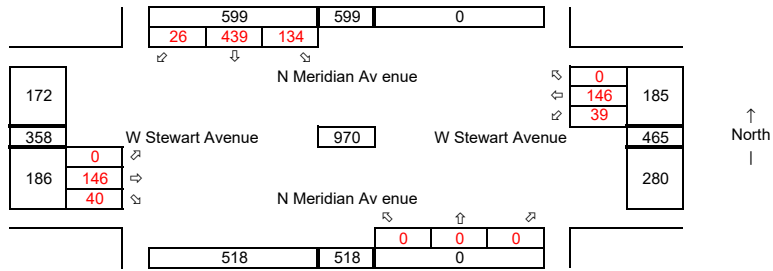


Synchro ID: 19

Existing
Average Weekday
AM Peak Hour

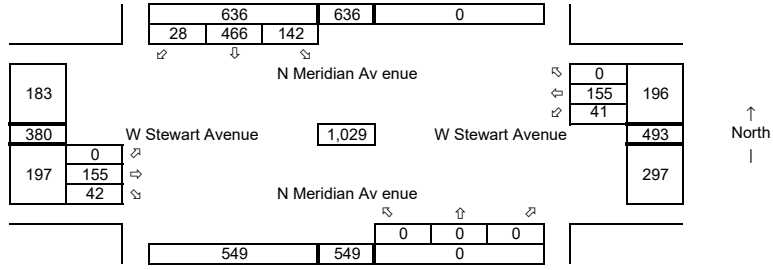
Year: 6/14/2023

Data Source: IDAX

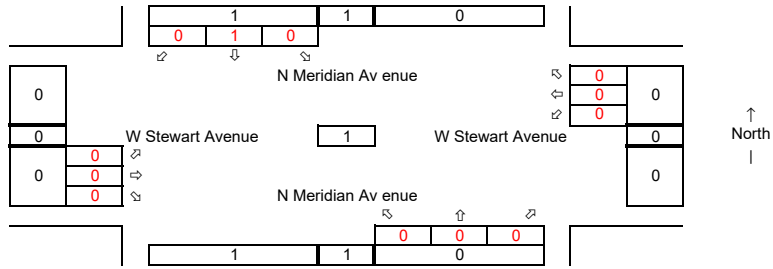


Future without Project
Average Weekday
AM Peak Hour

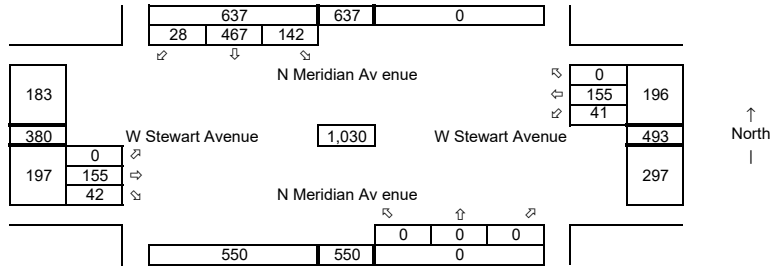
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



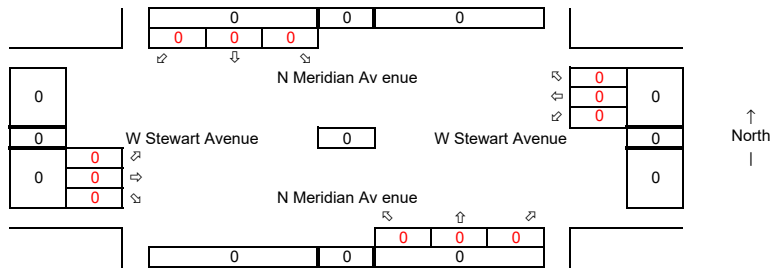
Total Development Trips
Average Weekday
AM Peak Hour



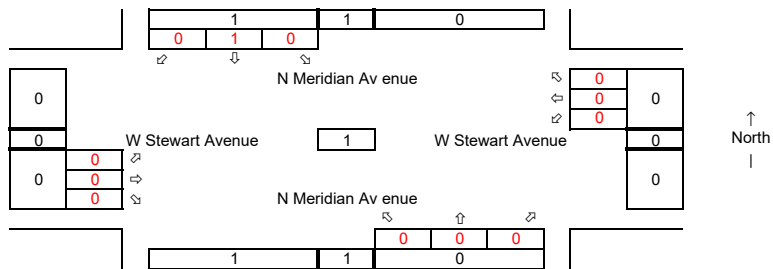
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour

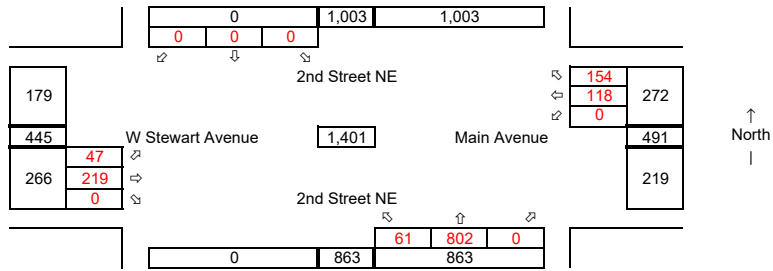


Synchro ID: 20

Existing
Average Weekday
AM Peak Hour

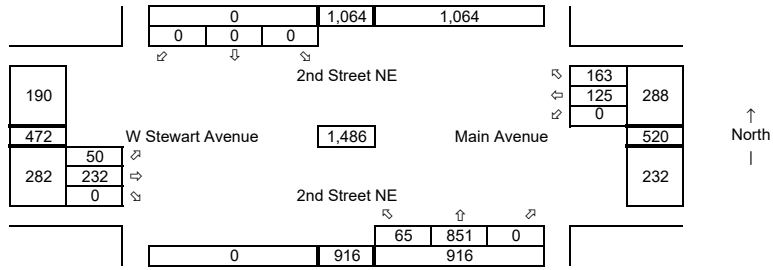
Year: 6/15/2023

Data Source: IDAX

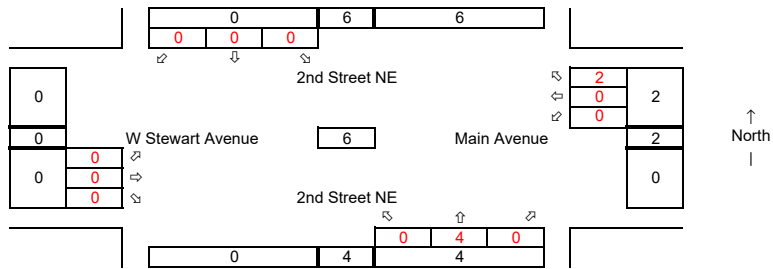


Future without Project
Average Weekday
AM Peak Hour

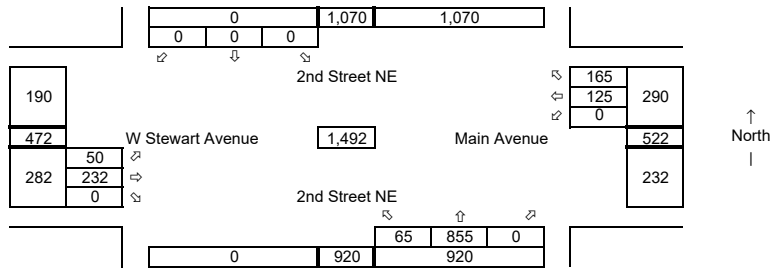
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



Total Development Trips
Average Weekday
AM Peak Hour



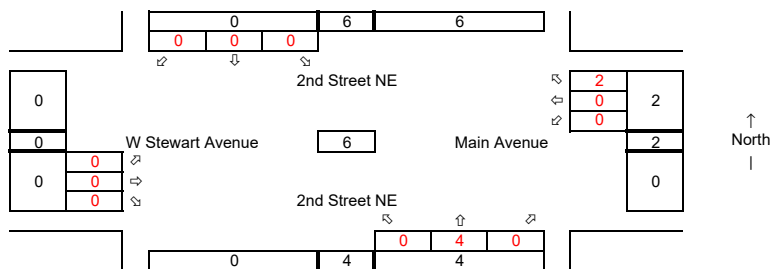
Future with Project
Average Weekday
AM Peak Hour



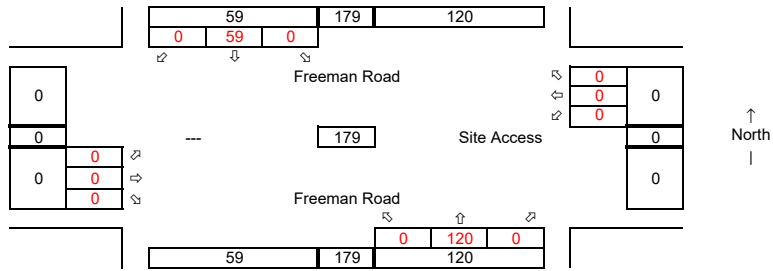
Development Truck Trips
Average Weekday
AM Peak Hour



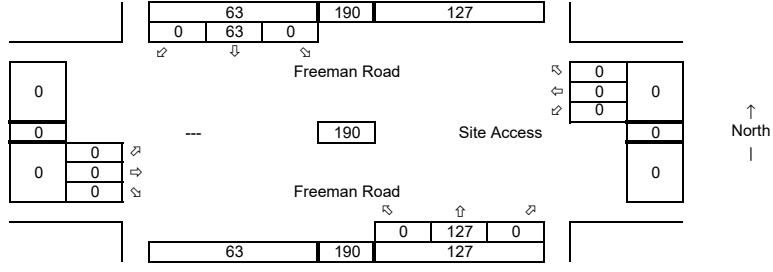
Development Car Trips
Average Weekday
AM Peak Hour



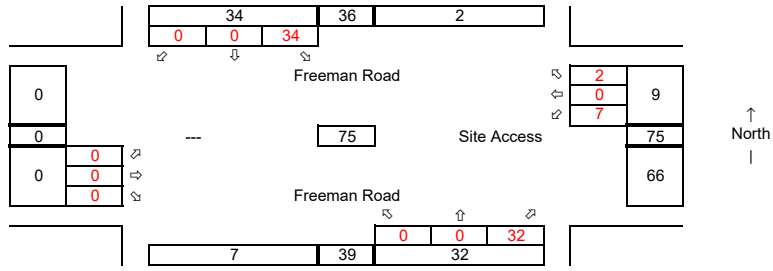
Synchro ID: 21
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**
 NB/SB volumes extrapolated
 from Freeman at 48th Street E



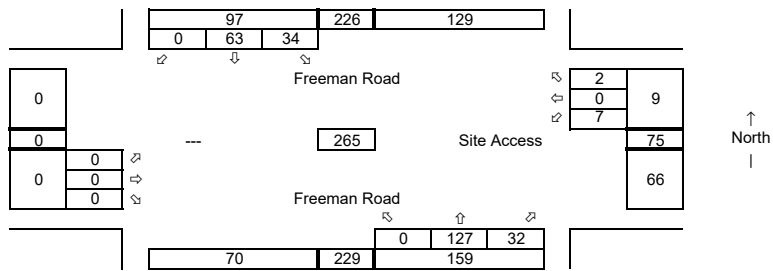
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



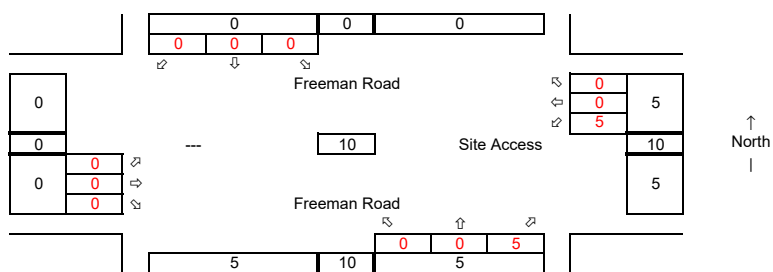
Total Development Trips
 Average Weekday
 AM Peak Hour



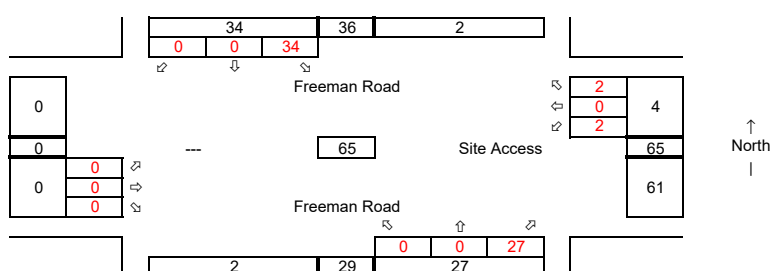
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



Lanes, Volumes, Timings
1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	126	42	69	70	116	24	439	60	71	351	17
Future Volume (vph)	34	126	42	69	70	116	24	439	60	71	351	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.962			0.907			0.982			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1708	0	1671	1596	0	1347	2646	0	1433	2845	0
Flt Permitted	0.610			0.637			0.507			0.421		
Satd. Flow (perm)	1083	1708	0	1121	1596	0	719	2646	0	635	2845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			94			22			7	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		727			778			1175			536	
Travel Time (s)		19.8			15.2			22.9			10.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	7%	7%	8%	8%	8%	34%	34%	34%	26%	26%	26%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	191	0	78	212	0	27	567	0	81	418	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		10.0	19.0		10.0	17.0	
Total Split (s)	25.0	25.0		25.0	25.0		19.0	40.0		19.0	40.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		22.6%	47.6%		22.6%	47.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effct Green (s)	11.6	11.6		11.6	11.6		23.5	17.8		22.7	20.3	
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.51	0.39		0.50	0.44	
v/c Ratio	0.14	0.42		0.27	0.44		0.05	0.54		0.18	0.32	
Control Delay (s/veh)	18.5	19.0		20.1	13.9		5.1	14.0		6.0	10.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	18.5	19.0		20.1	13.9		5.1	14.0		6.0	10.1	
LOS	B	B		C	B		A	B		A	B	
Approach Delay (s/veh)		19.0			15.6			13.7			9.5	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	9	41		18	27		3	63		8	25	
Queue Length 95th (ft)	33	108		57	89		12	125		26	84	

FREEMAN LOGISTICS - WAREHOUSING
KIMLEY-HORN & ASSOCIATES, INC [JMM 090222083]

AM PEAK-HOUR
Synchro 12 Report

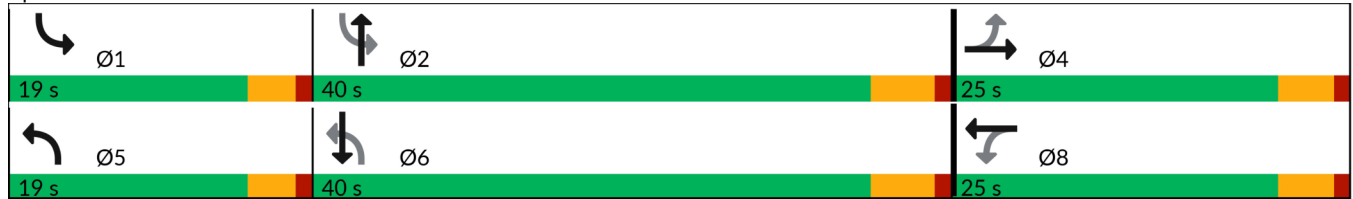
Lanes, Volumes, Timings
 1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		647			698			1095			456	
Turn Bay Length (ft)	100			200			100			100		
Base Capacity (vph)	540	861		559	843		635	2071		649	2223	
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	0.07	0.22		0.14	0.25		0.04	0.27		0.12	0.19	

Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	45.7
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay (s/veh):	13.5
Intersection LOS:	B
Intersection Capacity Utilization:	49.8%
ICU Level of Service:	A
Analysis Period (min):	15























Splits and Phases: 1: 54th Avenue E & 12th Street E



Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	359	255	428	364	122	315	376	362	112	314	57
Future Volume (vph)	82	359	255	428	364	122	315	376	362	112	314	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.962			0.926				0.977
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3167	1417	2993	2968	0	2918	2786	0	1357	2652	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3167	1417	2993	2968	0	2918	2786	0	1357	2652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145		32			166				14
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1085			1070			320				1175
Travel Time (s)		21.1			20.8			6.2				22.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	14%	14%	17%	17%	17%	20%	20%	20%	33%	33%	33%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	374	266	446	506	0	328	769	0	117	386	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.0	40.0	40.0	20.0	42.0		40.0	40.0		40.0	40.0	
Total Split (%)	12.9%	28.6%	28.6%	14.3%	30.0%		28.6%	28.6%		28.6%	28.6%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	11.6	34.0	78.8	15.5	37.9		44.8	44.8		27.1	27.1	
Actuated g/C Ratio	0.08	0.24	0.56	0.11	0.27		0.32	0.32		0.19	0.19	
v/c Ratio	0.64	0.48	0.30	1.34	0.61		0.35	0.76		0.44	0.73	
Control Delay (s/veh)	84.5	48.0	5.0	220.8	45.8		41.7	42.5		54.0	59.2	
Queue Delay	0.0	0.0	0.0	1.6	0.0		0.9	29.4		0.0	0.0	
Total Delay (s/veh)	84.5	48.0	5.1	222.5	45.8		42.7	72.0		54.0	59.2	
LOS	F	D	A	F	D		D	E		D	E	
Approach Delay (s/veh)		36.6			128.6			63.3			58.0	
Approach LOS		D			F			E			E	
Queue Length 50th (ft)	76	154	28	~273	202		125	282		95	170	
Queue Length 95th (ft)	135	207	70	#384	268		188	#408		148	213	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

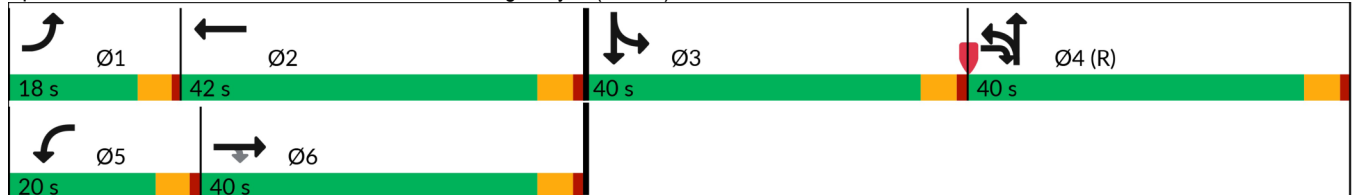
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	152	798	860	331	839		933	1003		342	679	
Starvation Cap Reductn	0	0	0	0	0		366	267		0	0	
Spillback Cap Reductn	0	0	84	44	0		0	0		0	1	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.56	0.47	0.34	1.55	0.60		0.58	1.04		0.34	0.57	

Intersection Summary























Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 14 (10%), Referenced to phase 4:NBT, Start of Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.35
 Intersection Signal Delay (s/veh): 75.6 Intersection LOS: E
 Intersection Capacity Utilization 65.9% ICU Level of Service C
 Analysis Period (min) 15
 ~ 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.

Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings
 2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	359	255	428	364	122	315	376	362	112	314	57
Future Volume (vph)	82	359	255	428	364	122	315	376	362	112	314	57
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.962			0.926				0.977
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3167	1417	2993	2968	0	2918	2786	0	1357	2652	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3167	1417	2993	2968	0	2918	2786	0	1357	2652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			142		33			169				15
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1085			1070			320				1175
Travel Time (s)		21.1			20.8			6.2				22.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	14%	14%	17%	17%	17%	20%	20%	20%	33%	33%	33%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	374	266	446	506	0	328	769	0	117	386	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	19.0	38.7	36.6	21.0	40.7		36.6	36.6		38.7	38.7	
Total Split (%)	14.1%	28.7%	27.1%	15.6%	30.1%		27.1%	27.1%		28.7%	28.7%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	11.9	34.0	73.5	16.5	38.6		39.5	39.5		26.4	26.4	
Actuated g/C Ratio	0.09	0.25	0.54	0.12	0.29		0.29	0.29		0.20	0.20	
v/c Ratio	0.61	0.46	0.31	1.22	0.58		0.38	0.82		0.44	0.72	
Control Delay (s/veh)	77.2	45.1	5.3	170.5	42.1		40.9	43.3		52.0	56.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.8	30.6		0.0	0.0	
Total Delay (s/veh)	77.2	45.1	5.3	170.5	42.1		41.8	74.0		52.0	56.7	
LOS	E	D	A	F	D		D	E		D	E	
Approach Delay (s/veh)		34.3			102.3			64.4			55.7	
Approach LOS		C			F			E			E	
Queue Length 50th (ft)	73	147	28	~246	188		118	265		91	163	
Queue Length 95th (ft)	129	198	70	#356	255		176	#426		144	206	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

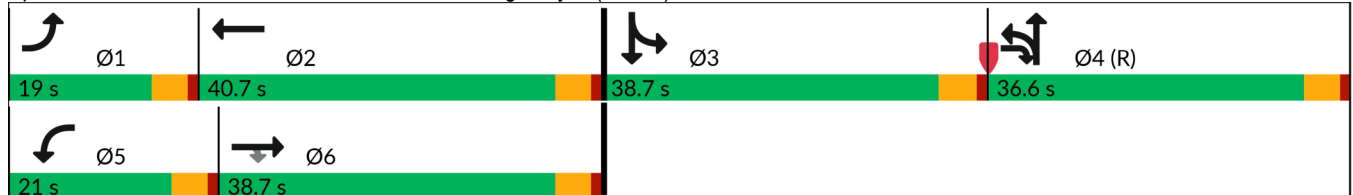
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	170	797	836	365	872		854	935		341	679	
Starvation Cap Reductn	0	0	0	0	0		285	203		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.50	0.47	0.32	1.22	0.58		0.58	1.05		0.34	0.57	

Intersection Summary

Area Type: Other
 Cycle Length: 135
 Actuated Cycle Length: 135
 Offset: 0 (0%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.22
 Intersection Signal Delay (s/veh): 67.4 Intersection LOS: E
 Intersection Capacity Utilization 65.9% ICU Level of Service C
 Analysis Period (min) 15
 ~ 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.



















Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	250	0	327	0	718	356	0	467	463
Future Volume (vph)	0	0	0	250	0	327	0	718	356	0	467	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		50	0		0
Storage Lanes	0		0	1		1	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850		0.986	0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1433	0	1282	0	3282	1468	0	1508	1300
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1433	0	1282	0	3282	1468	0	1508	1300
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						228			197		7	438
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1083			1080			827			320	
Travel Time (s)		21.1			21.0			16.1			6.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	26%	26%	26%	10%	10%	10%	18%	18%	18%
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	0	0	263	0	344	0	756	375	0	541	438
Turn Type				Prot		custom		NA	Perm		NA	custom
Protected Phases				3		3		6			2	2
Permitted Phases									6			Free
Detector Phase				3		3		6	6		2	2
Switch Phase												
Minimum Initial (s)				5.0				10.0	10.0		10.0	
Minimum Split (s)				9.5				14.7	14.7		14.5	
Total Split (s)				35.0				93.0	93.0		93.0	
Total Split (%)				25.0%				66.4%	66.4%		66.4%	
Yellow Time (s)				3.5				3.7	3.7		3.5	
All-Red Time (s)				1.0				1.0	1.0		1.0	
Lost Time Adjust (s)				0.0				0.0	0.0		0.0	
Total Lost Time (s)				4.5				4.7	4.7		4.5	
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Recall Mode				None				C-Max	C-Max		C-Max	
Act Effct Green (s)				28.4		39.5		91.3	91.3		91.5	140.0
Actuated g/C Ratio				0.20		0.28		0.65	0.65		0.65	1.00
v/c Ratio				0.90		0.65		0.35	0.36		0.54	0.33
Control Delay (s/veh)				87.5		20.2		11.9	6.2		13.5	1.9
Queue Delay				0.0		1.0		0.2	0.0		5.3	0.0
Total Delay (s/veh)				87.5		21.3		12.2	6.2		18.9	1.9
LOS				F		C		B	A		B	A
Approach Delay (s/veh)					50.0			10.2			11.3	
Approach LOS					D			B			B	
Queue Length 50th (ft)				232		88		162	64		312	52
Queue Length 95th (ft)				#382		202		203	123		m332	m60

Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENTCONDITIONS

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	12.0
Total Split (%)	9%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

Lanes, Volumes, Timings

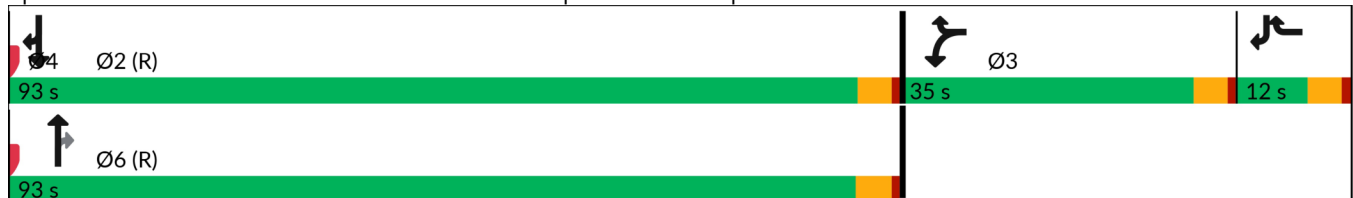
3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1003			1000			747			240	
Turn Bay Length (ft)									50			
Base Capacity (vph)				312		528		2139	1025		987	1300
Starvation Cap Reductn				0		0		0	0		375	0
Spillback Cap Reductn				0		53		678	0		0	0
Storage Cap Reductn				0		0		0	0		0	0
Reduced v/c Ratio				0.84		0.72		0.52	0.37		0.88	0.34

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	75 (54%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.91
Intersection Signal Delay (s/veh):	19.5
Intersection LOS:	B
Intersection Capacity Utilization:	54.9%
ICU Level of Service:	A
Analysis Period (min):	15
#	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.

Splits and Phases: 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp



Lanes, Volumes, Timings





















3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	215	76	35	105	371	135	382	37	426	336	283
Future Volume (vph)	292	215	76	35	105	371	135	382	37	426	336	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.971					0.850		0.987			0.939
Flt Protected	0.950	0.987			0.988		0.950			0.950	0.995	
Satd. Flow (prot)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2743	0
Flt Permitted	0.950	0.987			0.988		0.950			0.950	0.995	
Satd. Flow (perm)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2743	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				98		6			115	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	8%	8%	8%	6%	6%	6%
Shared Lane Traffic (%)	34%									17%		
Lane Group Flow (vph)	214	433	0	0	156	412	150	465	0	393	767	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	34.0	34.0		24.0	24.0	53.0	29.0	29.0		53.0	53.0	
Total Split (%)	24.3%	24.3%		17.1%	17.1%	37.9%	20.7%	20.7%		37.9%	37.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	26.1	26.1			17.4	76.7	23.7	23.7		54.8	54.8	
Actuated g/C Ratio	0.19	0.19			0.12	0.55	0.17	0.17		0.39	0.39	
v/c Ratio	0.86	0.84			0.83	0.54	0.58	0.91		0.71	0.67	
Control Delay (s/veh)	86.8	68.4			93.2	19.1	63.7	80.0		46.9	34.3	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	86.8	68.4			93.2	19.1	63.7	80.0		46.9	34.3	
LOS	F	E			F	B	E	F		D	C	
Approach Delay (s/veh)		74.5			39.5			76.1			38.6	
Approach LOS		E			D			E			D	
Queue Length 50th (ft)	205	198			139	188	127	217		352	288	
Queue Length 95th (ft)	#338	264			#244	297	203	#315		#540	375	

FREEMAN LOGISTICS - WAREHOUSING
KIMLEY-HORN & ASSOCIATES, INC [JMM 090222083]

AM PEAK-HOUR
Synchro 12 Report

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	278	575			210	755	263	524		546	1144	
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	0.77	0.75			0.74	0.55	0.57	0.89		0.72	0.67	

Intersection Summary

Area Type: CBD

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 6:, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay (s/veh): 54.3 Intersection LOS: D

Intersection Capacity Utilization 71.6% ICU Level of Service C

Analysis Period (min) 15























95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	215	76	35	105	371	135	382	37	426	336	283
Future Volume (vph)	292	215	76	35	105	371	135	382	37	426	336	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.971					0.850		0.987			0.939
Flt Protected	0.950	0.987			0.988		0.950			0.950	0.995	
Satd. Flow (prot)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2743	0
Flt Permitted	0.950	0.987			0.988		0.950			0.950	0.995	
Satd. Flow (perm)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2743	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26				101		9			143	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	8%	8%	8%	6%	6%	6%
Shared Lane Traffic (%)	34%									17%		
Lane Group Flow (vph)	214	433	0	0	156	412	150	465	0	393	767	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	24.5	24.5		22.5	22.5	25.5	22.5	22.5		25.5	25.5	
Total Split (%)	25.8%	25.8%		23.7%	23.7%	26.8%	23.7%	23.7%		26.8%	26.8%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	18.3	18.3			13.7	45.4	17.7	17.7		27.3	27.3	
Actuated g/C Ratio	0.19	0.19			0.14	0.48	0.19	0.19		0.29	0.29	
v/c Ratio	0.84	0.80			0.72	0.61	0.53	0.82		0.98	0.86	
Control Delay (s/veh)	64.9	46.8			56.8	19.0	42.3	50.1		79.6	40.1	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	64.9	46.8			56.8	19.0	42.3	50.1		79.6	40.1	
LOS	E	D			E	B	D	D		E	D	
Approach Delay (s/veh)		52.9			29.5			48.3			53.5	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	131	124			91	148	80	135		~326	~239	
Queue Length 95th (ft)	#260	185			151	244	146	#217		#529	#368	

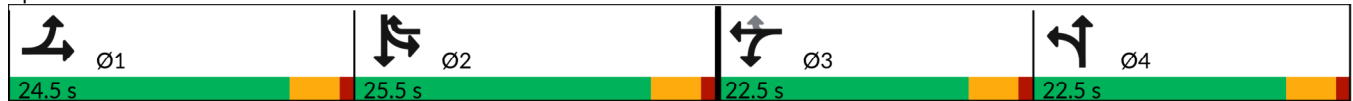
Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	281	588			285	673	295	591		400	889	
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	0.76	0.74			0.55	0.61	0.51	0.79		0.98	0.86	

Intersection Summary	
Area Type:	CBD
Cycle Length:	95
Actuated Cycle Length:	95
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	95
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.98
Intersection Signal Delay (s/veh):	47.7
Intersection LOS:	D
Intersection Capacity Utilization:	71.6%
ICU Level of Service:	C
Analysis Period (min)	15
~ 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.	





















Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	46	0	98	0	442	55	89	441	1
Future Volume (vph)	0	0	0	46	0	98	0	442	55	89	441	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	210		0	100		0
Storage Lanes	0		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.850			0.983				0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	1900	0	1736	1553	0	1759	1729	0	1752	1845	1568
Flt Permitted				0.714						0.284		
Satd. Flow (perm)	0	1900	0	1304	1553	0	1759	1729	0	524	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					540			9				128
Link Speed (mph)		25			25			30				30
Link Distance (ft)		362			838			563				783
Travel Time (s)		9.9			22.9			12.8				17.8
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	8%	8%	8%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	54	115	0	0	585	0	105	519	1
Turn Type				pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	6.0		4.0	6.0	6.0
Minimum Split (s)	8.0	24.5		8.0	24.0		8.0	14.5		8.0	14.5	14.5
Total Split (s)	14.0	16.5		14.0	16.0		14.0	34.5		16.0	34.5	34.5
Total Split (%)	17.3%	20.4%		17.3%	19.8%		17.3%	42.6%		19.8%	42.6%	42.6%
Yellow Time (s)	3.0	3.5		3.0	3.0		3.0	3.5		3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5		4.0	4.0		4.0	4.5		4.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effct Green (s)				7.2	7.2			34.6		43.6	44.1	44.1
Actuated g/C Ratio				0.13	0.13			0.61		0.77	0.78	0.78
v/c Ratio				0.24	0.17			0.55		0.18	0.36	0.00
Control Delay (s/veh)				25.8	0.5			12.4		3.1	3.7	0.0
Queue Delay				0.0	0.0			0.0		0.0	0.0	0.0
Total Delay (s/veh)				25.8	0.5			12.4		3.1	3.7	0.0
LOS				C	A			B		A	A	A
Approach Delay (s/veh)					8.7			12.4			3.7	
Approach LOS					A			B			A	
Queue Length 50th (ft)				17	0			129		7	48	0
Queue Length 95th (ft)				43	0			237		18	90	0

FREEMAN LOGISTICS - WAREHOUSING
KIMLEY-HORN & ASSOCIATES, INC [JMM 090222083]

AM PEAK-HOUR
Synchro 12 Report

Lanes, Volumes, Timings

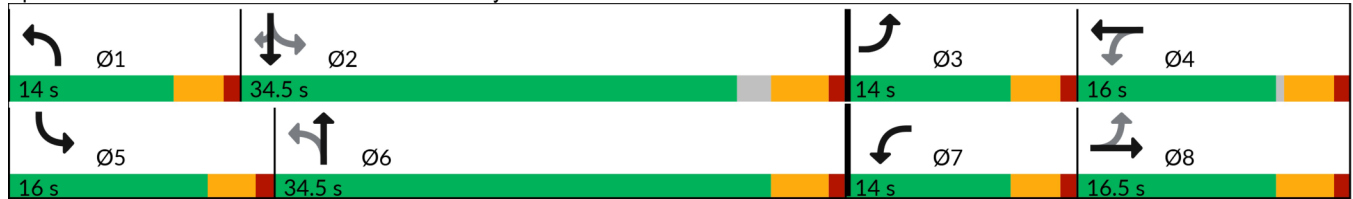
5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	282			758			483			703		
Turn Bay Length (ft)				100						100		
Base Capacity (vph)				308			764			1061		
Starvation Cap Reductn				0			0			0		
Spillback Cap Reductn				0			0			0		
Storage Cap Reductn				0			0			0		
Reduced v/c Ratio				0.18			0.15			0.55		

Intersection Summary	
Area Type:	Other
Cycle Length:	81
Actuated Cycle Length:	56.6
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay (s/veh):	8.0
Intersection LOS:	A
Intersection Capacity Utilization:	48.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: 54th Avenue E & Driveway/23rd Street E



Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	236	130	112	356	5	147	1	87	1	1	0
Future Volume (vph)	3	236	130	112	356	5	147	1	87	1	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.947			0.998			0.950				
Flt Protected	0.950			0.950				0.970			0.976	
Satd. Flow (prot)	1656	1651	0	1641	1724	0	0	1700	0	0	1854	0
Flt Permitted	0.388			0.381				0.809			0.883	
Satd. Flow (perm)	676	1651	0	658	1724	0	0	1418	0	0	1678	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		85			2			55				
Link Speed (mph)		30			30			25				25
Link Distance (ft)		563			491			578				252
Travel Time (s)		12.8			11.2			15.8				6.9
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	9%	9%	9%	10%	10%	10%	3%	3%	3%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	509	0	156	501	0	0	326	0	0	2	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4				8
Permitted Phases	6			2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.5	30.5		22.5	22.5		32.0	32.0		32.0	32.0	
Total Split (s)	34.5	34.5		34.5	34.5		19.0	19.0		19.0	19.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effect Green (s)	18.9	18.9		18.9	18.9			12.5			12.5	
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.31			0.31	
v/c Ratio	0.01	0.62		0.50	0.62			0.68			0.00	
Control Delay (s/veh)	5.6	10.3		14.3	11.8			21.8			13.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay (s/veh)	5.6	10.3		14.3	11.8			21.8			13.0	
LOS	A	B		B	B			C			B	
Approach Delay (s/veh)		10.4			12.4			21.8			13.0	
Approach LOS		B			B			C			B	
Queue Length 50th (ft)	0	65		23	80			50			0	
Queue Length 95th (ft)	3	89		44	105			110			3	

Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS

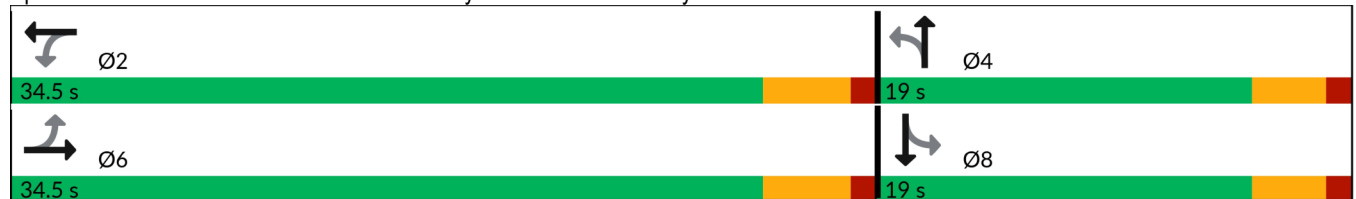


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		483			411			498				172
Turn Bay Length (ft)	200			125								
Base Capacity (vph)	515	1277		501	1313			593				662
Starvation Cap Reductn	0	0		0	0			0				0
Spillback Cap Reductn	0	0		0	0			0				0
Storage Cap Reductn	0	0		0	0			0				0
Reduced v/c Ratio	0.01	0.40		0.31	0.38			0.55				0.00

Intersection Summary

Area Type:	Other
Cycle Length:	53.5
Actuated Cycle Length:	40.4
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay (s/veh):	13.8
Intersection LOS:	B
Intersection Capacity Utilization	55.9%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 6: 54th Avenue E & Valley Avenue E & Driveway



Lanes, Volumes, Timings

7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	0	0	0	0	58
Future Volume (vph)	17	0	0	0	0	58
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	290			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.850	
Flt Protected	0.950					
Satd. Flow (prot)	1641	0	1545	2935	2692	0
Flt Permitted	0.950					
Satd. Flow (perm)	1641	0	1545	2935	2692	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1091	
Link Speed (mph)	30			30	30	
Link Distance (ft)	592			513	541	
Travel Time (s)	13.5			11.7	12.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	23%	23%	14%	14%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	0	60	0
Turn Type	Prot		Prot		NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	5.0		6.0	10.0	10.0	
Minimum Split (s)	40.0		10.5	23.7	33.7	
Total Split (s)	40.0		20.0	66.0	66.0	
Total Split (%)	31.7%		15.9%	52.4%	52.4%	
Yellow Time (s)	3.5		3.5	4.7	4.7	
All-Red Time (s)	1.0		1.0	1.5	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	6.2	6.2	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	Max		None	Max	None	
Act Effct Green (s)	35.5				59.8	
Actuated g/C Ratio	0.33				0.56	
v/c Ratio	0.03				0.03	
Control Delay (s/veh)	24.0				0.0	
Queue Delay	0.0				0.0	
Total Delay (s/veh)	24.0				0.0	
LOS	C				A	
Approach Delay (s/veh)	24.1					
Approach LOS	C					
Queue Length 50th (ft)	8				0	
Queue Length 95th (ft)	25				0	

Lanes, Volumes, Timings

7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

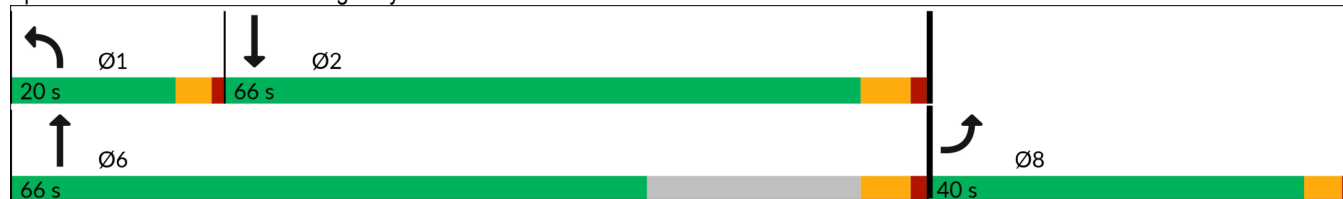


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	512			433	461	
Turn Bay Length (ft)						
Base Capacity (vph)	549				1994	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.03				0.03	

Intersection Summary

























Area Type:	Other
Cycle Length:	126
Actuated Cycle Length:	106
Natural Cycle:	85
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.03
Intersection Signal Delay (s/veh):	5.6
Intersection LOS:	A
Intersection Capacity Utilization:	21.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 7: Pacific Highway E & 70th Avenue E



Lanes, Volumes, Timings
8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	369	86	107	460	286	92	728	79	128	403	72
Future Volume (vph)	95	369	86	107	460	286	92	728	79	128	403	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	400		400	250		0	225		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.985			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	1759	1495	1656	1743	1482	1467	2891	0	2870	2891	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1671	1759	1495	1656	1743	1482	1467	2891	0	2870	2891	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			84		10			18	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1295			1073			2009			522	
Travel Time (s)		25.2			20.9			39.1			10.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	8%	8%	9%	9%	9%	23%	23%	23%	22%	22%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	380	89	110	474	295	95	832	0	132	489	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2						
Detector Phase	1	6	6	5	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	14.5	22.5	14.5	14.5	24.5		14.5	24.5	
Total Split (s)	14.5	44.5	44.5	14.5	44.5	19.5	19.5	44.4		19.5	44.5	
Total Split (%)	11.8%	36.2%	36.2%	11.8%	36.2%	15.9%	15.9%	36.1%		15.9%	36.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	None	None	None		None	None	
Act Effct Green (s)	9.7	40.1	40.1	10.0	40.4	56.1	12.4	37.4		11.2	36.2	
Actuated g/C Ratio	0.08	0.34	0.34	0.09	0.35	0.48	0.11	0.32		0.10	0.31	
v/c Ratio	0.71	0.62	0.15	0.78	0.78	0.39	0.61	0.89		0.47	0.53	
Control Delay (s/veh)	80.5	38.7	6.1	88.2	46.2	15.5	67.7	50.4		56.4	34.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	80.5	38.7	6.1	88.2	46.2	15.5	67.7	50.4		56.4	34.6	
LOS	F	D	A	F	D	B	E	D		E	C	
Approach Delay (s/veh)		40.8			41.2			52.2			39.3	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	75	247	0	85	331	101	70	308		50	155	
Queue Length 95th (ft)	#163	371	35	#191	#523	170	130	#437		82	213	

FREEMAN LOGISTICS - WAREHOUSING
KIMLEY-HORN & ASSOCIATES, INC [JMM 090222083]

AM PEAK-HOUR
Synchro 12 Report

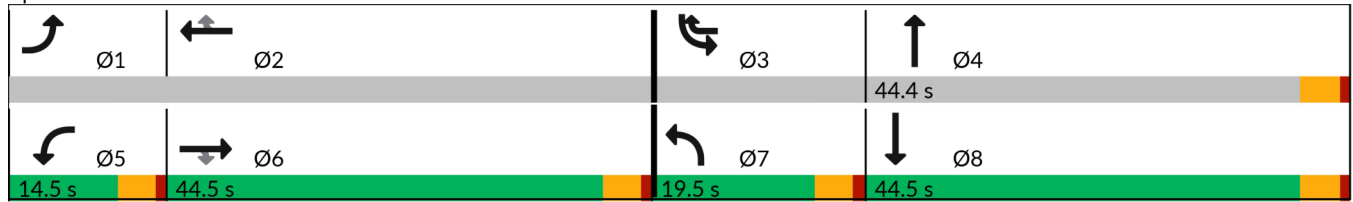
Lanes, Volumes, Timings
 8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1215			993			1929			442	
Turn Bay Length (ft)	250		200	400		400	250			225		
Base Capacity (vph)	143	604	574	142	603	801	189	999		369	1005	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.69	0.63	0.16	0.77	0.79	0.37	0.50	0.83		0.36	0.49	

























Intersection Summary	
Area Type:	Other
Cycle Length:	123
Actuated Cycle Length:	116.7
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay (s/veh):	44.2
Intersection LOS:	D
Intersection Capacity Utilization:	72.1%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: 70th Avenue E & 20th Street E



Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	76	41	67	21	60	83	795	64	71	447	18
Future Volume (vph)	39	76	41	67	21	60	83	795	64	71	447	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	200		0	225		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.989			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	1624	1380	1492	1570	1335	1480	2926	0	1530	3041	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1543	1624	1380	1492	1570	1335	1480	2926	0	1530	3041	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53			67		9			4	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1057			880			2032			2009	
Travel Time (s)		20.6			17.1			39.6			39.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	17%	17%	17%	21%	21%	21%	22%	22%	22%	18%	18%	18%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	84	46	74	23	67	92	954	0	79	517	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4	4 5	3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.5	24.5		10.5	24.5		10.5	22.5		10.5	22.5	
Total Split (s)	20.0	24.5		20.0	24.5		20.0	60.0		20.0	60.0	
Total Split (%)	16.1%	19.7%		16.1%	19.7%		16.1%	48.2%		16.1%	48.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	8.6	10.9	24.0	10.6	15.0	27.4	11.5	63.1		10.7	62.4	
Actuated g/C Ratio	0.08	0.11	0.23	0.10	0.14	0.26	0.11	0.61		0.10	0.60	
v/c Ratio	0.33	0.49	0.12	0.48	0.10	0.16	0.56	0.53		0.50	0.28	
Control Delay (s/veh)	56.2	57.2	7.8	58.4	43.4	8.0	60.4	19.2		58.5	15.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	56.2	57.2	7.8	58.4	43.4	8.0	60.4	19.2		58.5	15.6	
LOS	E	E	A	E	D	A	E	B		E	B	
Approach Delay (s/veh)		43.8			35.8			22.9			21.4	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	28	56	0	49	14	0	61	227		52	103	
Queue Length 95th (ft)	70	112	24	103	41	33	124	382		109	176	

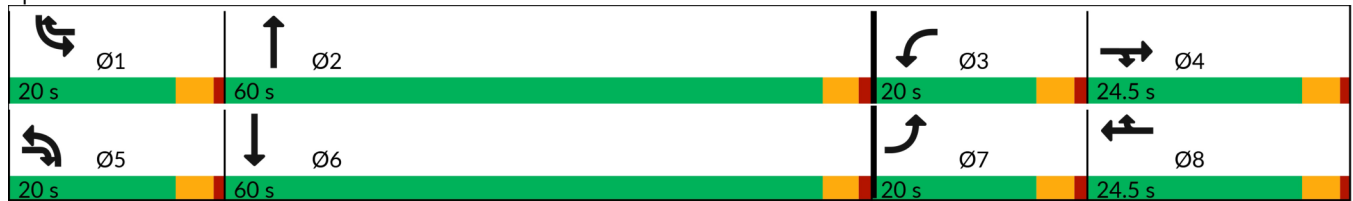
Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	977			800			1952			1929		
Turn Bay Length (ft)	150		150	150		150	200			225		
Base Capacity (vph)	237	322	431	229	319	473	227	1786		235	1835	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.18	0.26	0.11	0.32	0.07	0.14	0.41	0.53		0.34	0.28	

























Intersection Summary	
Area Type:	Other
Cycle Length:	124.5
Actuated Cycle Length:	103.5
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.56
Intersection Signal Delay (s/veh):	25.3
Intersection LOS:	C
Intersection Capacity Utilization	50.6%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 9: 70th Avenue E & 26th Street E



Lanes, Volumes, Timings
10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	274	103	29	249	412	160	490	42	230	171	95
Future Volume (vph)	53	274	103	29	249	412	160	490	42	230	171	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	200		0	200		130	350		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.946	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1776	1509	1492	1570	1335	1641	3282	1468	2870	2799	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1687	1776	1509	1492	1570	1335	1641	3282	1468	2870	2799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			429			164			80
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		831			1056			750			2032	
Travel Time (s)		18.9			24.0			14.6			39.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	7%	7%	21%	21%	21%	10%	10%	10%	22%	22%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	285	107	30	259	429	167	510	44	240	277	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0	8.0	6.0	8.0	8.0	6.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	11.0	31.0	31.0	10.5	31.0	31.0	10.5	31.0	31.0	13.0	31.0	31.0
Total Split (s)	30.0	40.0	40.0	20.0	40.0	40.0	20.0	30.0	30.0	40.0	40.0	40.0
Total Split (%)	21.4%	28.6%	28.6%	14.3%	28.6%	28.6%	14.3%	21.4%	21.4%	28.6%	28.6%	28.6%
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	11.4	69.0	69.0	8.8	64.0	64.0	15.5	29.1	29.1	18.0	32.1	32.1
Actuated g/C Ratio	0.08	0.49	0.49	0.06	0.46	0.46	0.11	0.21	0.21	0.13	0.23	0.23
v/c Ratio	0.40	0.32	0.13	0.32	0.36	0.50	0.92	0.74	0.10	0.65	0.39	0.39
Control Delay (s/veh)	68.8	26.3	3.5	70.8	30.3	5.2	110.3	58.8	0.4	66.2	32.2	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	68.8	26.3	3.5	70.8	30.3	5.2	110.3	58.8	0.4	66.2	32.2	32.2
LOS	E	C	A	E	C	A	F	E	A	E	C	C
Approach Delay (s/veh)		26.1			17.0			67.2			48.0	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	48	163	0	27	156	0	153	231	0	108	79	79
Queue Length 95th (ft)	92	284	29	60	278	86	#297	280	0	149	110	110

FREEMAN LOGISTICS - WAREHOUSING
KIMLEY-HORN & ASSOCIATES, INC [JMM 090222083]

AM PEAK-HOUR
Synchro 12 Report

Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		751			976			670			1952	
Turn Bay Length (ft)	150		250	200			200		130	350		
Base Capacity (vph)	301	875	807	165	717	842	181	695	440	717	953	
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.33	0.13	0.18	0.36	0.51	0.92	0.73	0.10	0.33	0.29	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 30 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

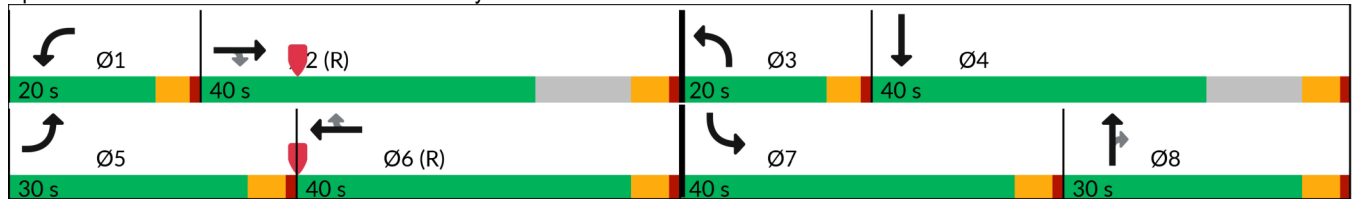
Intersection Signal Delay (s/veh): 40.4 Intersection LOS: D

Intersection Capacity Utilization 56.6% ICU Level of Service B

Analysis Period (min) 15





















95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 10: 70th Avenue E & Valley Avenue E



Lanes, Volumes, Timings
11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	384	39	5	558	142	45	76	29	98	55	18
Future Volume (vph)	21	384	39	5	558	142	45	76	29	98	55	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986			0.970			0.958			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1492	2942	0	1530	2968	0	1703	1717	0	1641	1663	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1492	2942	0	1530	2968	0	1703	1717	0	1641	1663	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			29			14			12	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		671			1259			2534			494	
Travel Time (s)		15.3			28.6			69.1			13.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	21%	21%	21%	18%	18%	18%	6%	6%	6%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	450	0	5	745	0	48	112	0	104	78	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effect Green (s)	7.4	43.6		6.5	40.8		10.8	10.8		11.2	11.2	
Actuated g/C Ratio	0.09	0.53		0.08	0.50		0.13	0.13		0.14	0.14	
v/c Ratio	0.16	0.28		0.04	0.50		0.21	0.47		0.46	0.32	
Control Delay (s/veh)	40.9	12.9		41.0	17.5		35.9	36.8		41.0	33.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.9	12.9		41.0	17.5		35.9	36.8		41.0	33.1	
LOS	D	B		D	B		D	D		D	C	
Approach Delay (s/veh)		14.3			17.7			36.6			37.6	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	10	55		2	101		20	43		45	28	
Queue Length 95th (ft)	38	140		15	256		61	111		113	82	

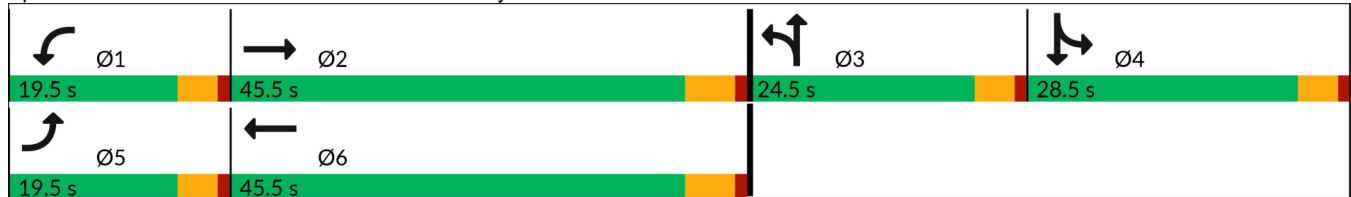
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	276	1564		283	1540		420	434		486	500	
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	0.08	0.29		0.02	0.48		0.11	0.26		0.21	0.16	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	82.3
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.50
Intersection Signal Delay (s/veh):	20.9
Intersection LOS:	C
Intersection Capacity Utilization:	40.4%
ICU Level of Service:	A
Analysis Period (min):	15





















Splits and Phases: 11: Freeman Road E & Valley Avenue E



Lanes, Volumes, Timings

11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	411	31	7	434	106	22	36	26	61	28	8
Future Volume (vph)	15	411	31	7	434	106	22	36	26	61	28	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.989			0.971			0.936			0.965	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1492	2951	0	1530	2971	0	1703	1678	0	1641	1667	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1492	2951	0	1530	2971	0	1703	1678	0	1641	1667	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		7			27			27			9	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		671			1259			2534			494	
Travel Time (s)		15.3			28.6			69.1			13.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	21%	21%	21%	18%	18%	18%	6%	6%	6%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	470	0	7	575	0	23	66	0	65	39	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.0	45.6		6.5	45.4		7.9	7.9		8.8	8.8	
Actuated g/C Ratio	0.10	0.63		0.09	0.63		0.11	0.11		0.12	0.12	
v/c Ratio	0.11	0.25		0.05	0.30		0.12	0.31		0.32	0.18	
Control Delay (s/veh)	35.5	10.1		35.4	10.4		33.5	26.1		35.9	27.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	35.5	10.1		35.4	10.4		33.5	26.1		35.9	27.8	
LOS	D	B		D	B		C	C		D	C	
Approach Delay (s/veh)		11.0			10.7			28.0			32.9	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	7	49		3	61		9	16		26	12	
Queue Length 95th (ft)	28	126		17	156		35	59		73	45	

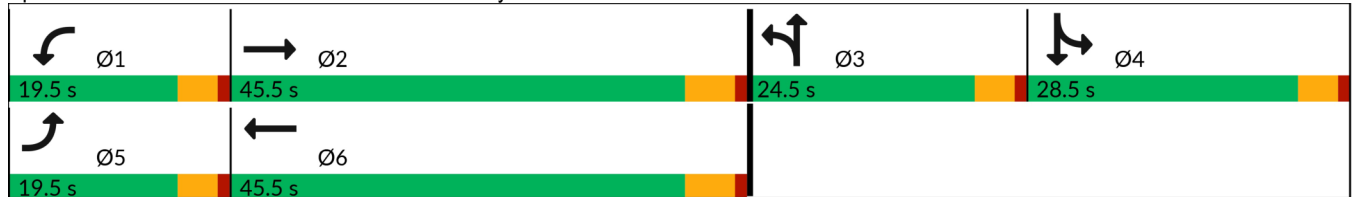
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	313	1854		321	1874		476	489		551	565	
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	0.05	0.25		0.02	0.31		0.05	0.13		0.12	0.07	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	72.6
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.33
Intersection Signal Delay (s/veh):	13.9
Intersection LOS:	B
Intersection Capacity Utilization	33.8%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 11: Freeman Road E & Valley Avenue E



Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:55	6:55	6:55	6:55	6:55	6:55
End Time	8:00	8:00	8:00	8:00	8:00	8:00
Total Time (min)	65	65	65	65	65	65
Time Recorded (min)	60	60	60	60	60	60
# of Intervals	5	5	5	5	5	5
# of Recorded Intervals	4	4	4	4	4	4
Vehs Entered	19486	19590	19649	19658	19455	19569
Vehs Exited	19350	19528	19557	19570	19368	19473
Starting Vehs	526	574	558	519	521	534
Ending Vehs	662	636	650	607	608	625
Travel Distance (mi)	8212	8170	8199	8226	8127	8187
Travel Time (hr)	1551.5	1634.8	1657.2	1488.8	1473.8	1561.2
Total Delay (hr)	1264.3	1348.8	1370.4	1200.3	1189.3	1274.6
Total Stops	18482	18612	18514	18525	18518	18536
Fuel Used (gal)	573.1	592.0	597.6	560.7	555.4	575.8

Interval #0 Information Seeding

Start Time	6:55
End Time	7:00
Total Time (min)	5
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information

Start Time	7:00
End Time	7:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	4911	4931	4888	4837	4831	4877
Vehs Exited	4817	4933	4833	4759	4781	4825
Starting Vehs	526	574	558	519	521	534
Ending Vehs	620	572	613	597	571	601
Travel Distance (mi)	2086	2065	2048	1994	2030	2045
Travel Time (hr)	213.2	213.8	221.1	201.4	204.1	210.7
Total Delay (hr)	140.4	141.6	149.5	131.3	133.0	139.2
Total Stops	4690	4790	4700	4506	4698	4683
Fuel Used (gal)	106.2	106.0	107.1	101.2	102.7	104.6

SimTraffic Simulation Summary
 2025 FUTURE WITH DEVELOPMENTCONDITIONS

06/25/2024

Interval #2 Information

Start Time	7:15
End Time	7:30
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	4783	4860	4921	4927	4905	4880
Vehs Exited	4829	4803	4879	4894	4878	4858
Starting Vehs	620	572	613	597	571	601
Ending Vehs	574	629	655	630	598	619
Travel Distance (mi)	2031	1995	2049	2035	2049	2032
Travel Time (hr)	336.3	342.6	348.2	315.3	315.9	331.7
Total Delay (hr)	265.0	272.7	276.6	244.1	244.1	260.5
Total Stops	4514	4373	4765	4519	4779	4589
Fuel Used (gal)	131.3	132.0	135.3	127.1	128.0	130.7

Interval #3 Information

Start Time	7:30
End Time	7:45
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	4979	4896	4867	4996	4928	4935
Vehs Exited	4866	4896	4887	4964	4927	4910
Starting Vehs	574	629	655	630	598	619
Ending Vehs	687	629	635	662	599	638
Travel Distance (mi)	2064	2091	2044	2104	2044	2069
Travel Time (hr)	454.4	472.3	483.3	428.0	425.7	452.7
Total Delay (hr)	382.3	399.0	412.0	354.3	354.2	380.4
Total Stops	4769	4752	4400	4758	4684	4670
Fuel Used (gal)	158.0	163.5	164.0	153.6	151.6	158.1

Interval #4 Information Recording

Start Time	7:45
End Time	8:00
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	4813	4903	4973	4898	4791	4875
Vehs Exited	4838	4896	4958	4953	4782	4886
Starting Vehs	687	629	635	662	599	638
Ending Vehs	662	636	650	607	608	625
Travel Distance (mi)	2031	2019	2058	2093	2004	2041
Travel Time (hr)	547.7	606.2	604.5	544.1	528.1	566.1
Total Delay (hr)	476.6	535.5	532.2	470.6	458.0	494.6
Total Stops	4509	4697	4649	4742	4357	4587
Fuel Used (gal)	177.6	190.6	191.3	178.8	173.0	182.3

Queuing and Blocking Report
 2025 FUTURE WITH DEVELOPMENTCONDITIONS

06/25/2024

Intersection: 11: Freeman Road E & Valley Avenue E

Movement	EB	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	TR	L	TR
Maximum Queue (ft)	61	183	132	37	234	234	75	154	136	124
Average Queue (ft)	12	66	17	3	103	82	24	63	55	44
95th Queue (ft)	40	132	66	16	190	184	65	124	109	92
Link Distance (ft)		603	603		1195	1195		2428		418
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	150			230			50		250	
Storage Blk Time (%)		0			0		1	22		
Queuing Penalty (veh)		0			0		1	10		

HCM 6th TWSC
 12: Freeman Road E & 48th Street E

2025 FUTURE WITH DEVELOPMENTCONDITIONS

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T		T		T	
Traffic Vol, veh/h	3	6	6	123	90	8
Future Vol, veh/h	3	6	6	123	90	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	5	5	8	8
Mvmt Flow	4	7	7	150	110	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	279	115	120	0	0
Stage 1	115	-	-	-	-
Stage 2	164	-	-	-	-
Critical Hdwy	6.4	6.2	4.15	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.245	-	-
Pot Cap-1 Maneuver	715	943	1449	-	-
Stage 1	915	-	-	-	-
Stage 2	870	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	711	943	1449	-	-
Mov Cap-2 Maneuver	711	-	-	-	-
Stage 1	910	-	-	-	-
Stage 2	870	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.3	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1449	-	850	-	-
HCM Lane V/C Ratio	0.005	-	0.013	-	-
HCM Control Delay (s/veh)	7.5	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0	-	-

HCM 6th TWSC
 13: Freeman Road E & 50th Street E

2025 FUTURE WITH DEVELOPMENTCONDITIONS

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	8	5	3	156	67	1
Future Vol, veh/h	8	5	3	156	67	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	8	8	6	6	10	10
Mvmt Flow	9	6	3	177	76	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	260	77	77	0	0
Stage 1	77	-	-	-	-
Stage 2	183	-	-	-	-
Critical Hdwy	6.48	6.28	4.16	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.254	-	-
Pot Cap-1 Maneuver	716	967	1497	-	-
Stage 1	931	-	-	-	-
Stage 2	834	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	715	967	1497	-	-
Mov Cap-2 Maneuver	715	-	-	-	-
Stage 1	929	-	-	-	-
Stage 2	834	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.6	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1497	-	795	-	-
HCM Lane V/C Ratio	0.002	-	0.019	-	-
HCM Control Delay (s/veh)	7.4	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC

14: Freeman Road E & 52nd Street E/19th Avenue NW

2025 FUTURE WITH DEVELOPMENTCONDITIONS

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	14	0	4	0	162	18	6	66	2
Future Vol, veh/h	0	0	1	14	0	4	0	162	18	6	66	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	59	59	59	5	5	5	9	9	9
Mvmt Flow	0	0	1	17	0	5	0	193	21	7	79	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	300	308	80	299	299	204	81	0	0	214	0	0
Stage 1	94	94	-	204	204	-	-	-	-	-	-	-
Stage 2	206	214	-	95	95	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.69	7.09	6.79	4.15	-	-	4.19	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.69	6.09	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.69	6.09	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	4.031	4.531	3.831	2.245	-	-	2.281	-	-
Pot Cap-1 Maneuver	656	609	986	555	529	712	1498	-	-	1316	-	-
Stage 1	918	821	-	684	638	-	-	-	-	-	-	-
Stage 2	801	729	-	789	718	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	649	605	986	552	526	712	1498	-	-	1316	-	-
Mov Cap-2 Maneuver	649	605	-	552	526	-	-	-	-	-	-	-
Stage 1	918	816	-	684	638	-	-	-	-	-	-	-
Stage 2	796	729	-	783	714	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	8.7		11.4		0		0.6	
HCM LOS	A		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1498	-	-	986	581	1316	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.037	0.005	-	-
HCM Control Delay (s/veh)	0	-	-	8.7	11.4	7.8	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.1	0	-	-

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENTCONDITIONS

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	18	221	440	144	57	13
Future Vol, veh/h	18	221	440	144	57	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	20	248	494	162	64	15

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	656	0	-	0	863 575
Stage 1	-	-	-	-	575 -
Stage 2	-	-	-	-	288 -
Critical Hdwy	4.26	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.344	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	868	-	-	-	315 503
Stage 1	-	-	-	-	547 -
Stage 2	-	-	-	-	743 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	868	-	-	-	306 503
Mov Cap-2 Maneuver	-	-	-	-	306 -
Stage 1	-	-	-	-	532 -
Stage 2	-	-	-	-	743 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.7	0	19.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	868	-	-	-	330
HCM Lane V/C Ratio	0.023	-	-	-	0.238
HCM Control Delay (s/veh)	9.2	0	-	-	19.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q (veh)	0.1	-	-	-	0.9

HCM 6th AWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection	
Intersection Delay, s/veh	20
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	18	221	440	144	57	13
Future Vol, veh/h	18	221	440	144	57	13
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	20	248	494	162	64	15
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	11.4	24.6	10.7
HCM LOS	B	C	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	8%	0%	100%	0%
Vol Thru, %	92%	75%	0%	0%
Vol Right, %	0%	25%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	239	584	57	13
LT Vol	18	0	57	0
Through Vol	221	440	0	0
RT Vol	0	144	0	13
Lane Flow Rate	269	656	64	15
Geometry Grp	2	2	5	5
Degree of Util (X)	0.384	0.82	0.13	0.025
Departure Headway (Hd)	5.152	4.497	7.33	6.108
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	693	801	492	590
Service Time	3.225	2.547	5.03	3.808
HCM Lane V/C Ratio	0.388	0.819	0.13	0.025
HCM Control Delay, s/veh	11.4	24.6	11.1	9
HCM Lane LOS	B	C	B	A
HCM 95th-tile Q	1.8	9.1	0.4	0.1

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	27	148	296	101	30	10
Future Vol, veh/h	27	148	296	101	30	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	30	166	333	113	34	11


















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	446	0	-	0	616 390
Stage 1	-	-	-	-	390 -
Stage 2	-	-	-	-	226 -
Critical Hdwy	4.26	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.344	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	1044	-	-	-	441 641
Stage 1	-	-	-	-	667 -
Stage 2	-	-	-	-	793 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1044	-	-	-	427 641
Mov Cap-2 Maneuver	-	-	-	-	427 -
Stage 1	-	-	-	-	646 -
Stage 2	-	-	-	-	793 -

Approach	EB	WB	SB
HCM Control Delay, s/v	1.3	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1044	-	-	-	466
HCM Lane V/C Ratio	0.029	-	-	-	0.096
HCM Control Delay (s/veh)	8.6	0	-	-	13.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.3

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 		 	 
Traffic Volume (vph)	1247	1006	834	743	532	387
Future Volume (vph)	1247	1006	834	743	532	387
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	2		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.88	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3183	2584	3282	1468	3019	3112
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3183	2584	3282	1468	3019	3112
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		90		491		
Link Speed (mph)	35		35			35
Link Distance (ft)	522		278			1175
Travel Time (s)	10.2		5.4			22.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	10%	10%	10%	10%	16%	16%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1313	1059	878	782	560	407
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	10.0	6.0	10.0
Minimum Split (s)	36.6	10.6	38.9	38.9	10.6	36.9
Total Split (s)	36.6	54.6	64.9	64.9	54.6	64.9
Total Split (%)	23.4%	35.0%	41.6%	41.6%	35.0%	41.6%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9	4.9	4.6	4.9
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	32.1	70.0	60.2	60.2	33.3	98.1
Actuated g/C Ratio	0.23	0.50	0.43	0.43	0.24	0.70
v/c Ratio	1.79	0.79	0.62	0.85	0.77	0.18
Control Delay (s/veh)	395.8	30.9	34.2	24.0	57.5	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	395.8	30.9	34.2	24.0	57.5	7.2
LOS	F	C	C	C	E	A
Approach Delay (s/veh)	232.9		29.5			36.4
Approach LOS	F		C			D
Queue Length 50th (ft)	~913	407	318	272	246	61
Queue Length 95th (ft)	#1170	505	452	#644	311	79

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

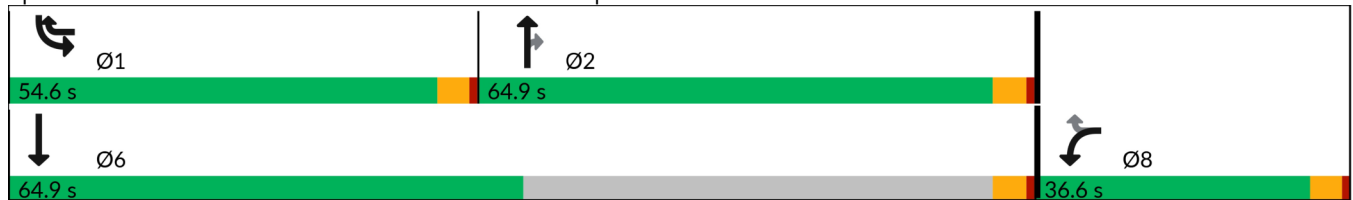


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	442		198			1095
Turn Bay Length (ft)					250	
Base Capacity (vph)	730	1640	1413	911	1083	2560
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.80	0.65	0.62	0.86	0.52	0.16

Intersection Summary

Area Type:	Other
Cycle Length:	156.1
Actuated Cycle Length:	139.7
Natural Cycle:	120
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.80
Intersection Signal Delay (s/veh):	127.3
Intersection LOS:	F
Intersection Capacity Utilization	85.6%
ICU Level of Service	E
Analysis Period (min)	15
~ 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.	

Splits and Phases: 16: N Meridian Avenue & SR-167 Ramps



HCM 6th TWSC
 17: N Meridian Avenue & N Levee Road

2025 FUTURE WITH DEVELOPMENTCONDITIONS

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↔			↕↔	
Traffic Vol, veh/h	0	0	94	0	0	182	0	1289	184	0	1181	419
Future Vol, veh/h	0	0	94	0	0	182	0	1289	184	0	1181	419
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	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, %	6	6	6	10	10	10	9	9	9	9	9	9
Mvmt Flow	0	0	99	0	0	192	0	1357	194	0	1243	441

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	842	-	-	679	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.02	-	-	7.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.36	-	-	3.4	-	-
Pot Cap-1 Maneuver	0	0	300	0	0	376	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	300	-	-	376	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	22.8		24.1		0		0	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	300	376	-	-
HCM Lane V/C Ratio	-	0.33	0.51	-	-
HCM Control Delay (s/veh)	-	22.8	24.1	-	-
HCM Lane LOS	-	C	C	-	-
HCM 95th %tile Q (veh)	-	1.4	2.8	-	-

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	917	0	323	10	470	563	0	0	0	0	281	769
Future Volume (vph)	917	0	323	10	470	563	0	0	0	0	281	769
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3242	0	1495	1736	3471	1553	0	0	0	0	3282	1468
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3242	0	1495	1736	3471	1553	0	0	0	0	3282	1468
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				90		444						610
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	8%	8%	4%	4%	4%	0%	0%	0%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	976	0	344	11	500	599	0	0	0	0	299	818
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2						4	
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2					4	4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	31.0		31.0	31.0	31.0	31.0					22.0	22.0
Total Split (%)	36.9%		36.9%	36.9%	36.9%	36.9%					26.2%	26.2%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	25.9		25.9	30.0	30.0	30.0					17.2	17.2
Actuated g/C Ratio	0.29		0.29	0.34	0.34	0.34					0.20	0.20
v/c Ratio	1.02		0.78	0.01	0.42	0.72					0.46	1.05
Control Delay (s/veh)	67.6		43.0	0.0	23.7	12.5					34.1	58.3
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	67.6		43.0	0.0	23.7	12.5					34.1	58.3
LOS	E		D	A	C	B					C	E
Approach Delay (s/veh)		61.2			17.5						51.9	
Approach LOS		E			B						D	
Queue Length 50th (ft)	~301		174	0	111	62					77	~202
Queue Length 95th (ft)	#420		#310	0	155	198					118	#429

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	953		439	650	1181	821					640	777
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	1.02		0.78	0.02	0.42	0.73					0.47	1.05

Intersection Summary



















Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	88.1
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.05
Intersection Signal Delay (s/veh):	44.6
Intersection LOS:	D
Intersection Capacity Utilization:	68.9%
ICU Level of Service:	C
Analysis Period (min):	15
~ 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.	

Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	155	42	41	155	0	0	0	0	142	467	28
Future Volume (vph)	0	155	42	41	155	0	0	0	0	142	467	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	125		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt			0.850								0.993	
Flt Protected				0.950							0.989	
Satd. Flow (prot)	0	1776	1509	1703	1792	0	0	0	0	0	3409	0
Flt Permitted				0.421							0.989	
Satd. Flow (perm)	0	1776	1509	755	1792	0	0	0	0	0	3409	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91								16	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		393			385			1349			2133	
Travel Time (s)		10.7			10.5			36.8			58.2	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	7%	7%	6%	6%	6%	0%	0%	0%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	48	47	178	0	0	0	0	0	732	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		8		7	4						2	
Permitted Phases			8	4						2		
Detector Phase		8	8	7	4					2	2	
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					10.0	10.0	
Minimum Split (s)		21.0	21.0	9.0	21.0					23.0	23.0	
Total Split (s)		9.0	9.0	7.0	13.0					44.0	44.0	
Total Split (%)		15.0%	15.0%	11.7%	21.7%					73.3%	73.3%	
Yellow Time (s)		3.0	3.0	3.0	3.0					3.0	3.0	
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0						0.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0						4.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		None	None	None	None					Max	Max	
Act Effct Green (s)		5.5	5.5	9.7	9.7						42.5	
Actuated g/C Ratio		0.09	0.09	0.16	0.16						0.70	
v/c Ratio		1.09	0.21	0.27	0.61						0.30	
Control Delay (s/veh)		132.7	4.8	24.3	32.2						3.9	
Queue Delay		0.0	0.0	0.0	0.0						0.0	
Total Delay (s/veh)		132.7	4.8	24.3	32.2						3.9	
LOS		F	A	C	C						A	
Approach Delay (s/veh)		105.6			30.6						4.0	
Approach LOS		F			C						A	
Queue Length 50th (ft)		~81	0	14	58						46	
Queue Length 95th (ft)		#178	9	37	106						64	

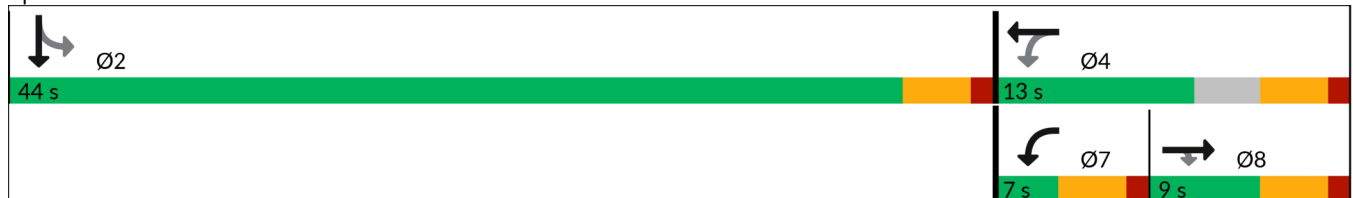
Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		313			305			1269			2053	
Turn Bay Length (ft)			50	125								
Base Capacity (vph)		162	220	169	357						2409	
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		1.10	0.22	0.28	0.50						0.30	

Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60.3
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.10
Intersection Signal Delay (s/veh):	28.5
Intersection LOS:	C
Intersection Capacity Utilization:	49.9%
ICU Level of Service:	A
Analysis Period (min)	15
~ 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.	



















Splits and Phases: 19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue



Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	232	0	0	125	165	65	855	0	0	0	0
Future Volume (vph)	50	232	0	0	125	165	65	855	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	0		125	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850						
Flt Protected	0.950							0.996				
Satd. Flow (prot)	1719	1810	0	0	1792	1524	0	3457	0	0	0	0
Flt Permitted	0.465							0.996				
Satd. Flow (perm)	841	1810	0	0	1792	1524	0	3457	0	0	0	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		385			615			394				343
Travel Time (s)		10.5			16.8			10.7				9.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	6%	6%	6%	4%	4%	4%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	244	0	0	132	174	0	968	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	3	8			4			2				
Permitted Phases	8					4	2					
Detector Phase	3	8			4	4	2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	10.0	10.0				
Minimum Split (s)	9.5	28.0			28.0	28.0	26.0	26.0				
Total Split (s)	10.0	45.0			29.0	29.0	53.0	53.0				
Total Split (%)	10.2%	45.9%			29.6%	29.6%	54.1%	54.1%				
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0				
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	None			None	None	Max	Max				
Act Effct Green (s)	18.0	18.0			12.6	12.6		49.6				
Actuated g/C Ratio	0.24	0.24			0.17	0.17		0.66				
v/c Ratio	0.20	0.56			0.44	0.68		0.42				
Control Delay (s/veh)	22.7	29.7			33.9	44.8		8.3				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay (s/veh)	22.7	29.7			33.9	44.8		8.3				
LOS	C	C			C	D		A				
Approach Delay (s/veh)		28.5			40.1			8.4				
Approach LOS		C			D			A				
Queue Length 50th (ft)	19	100			60	82		116				
Queue Length 95th (ft)	45	164			111	148		199				

Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

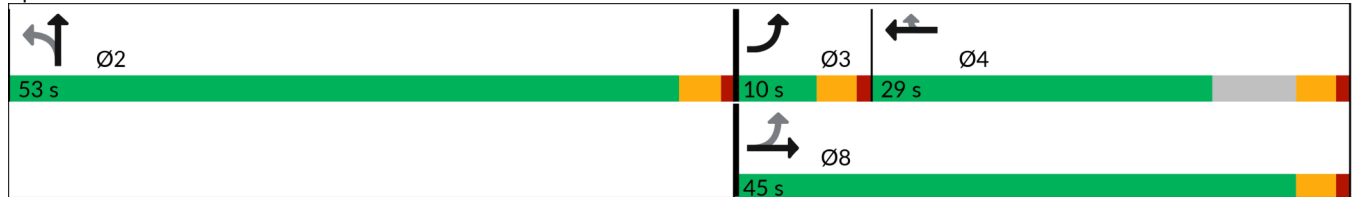


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		305			535			314			263	
Turn Bay Length (ft)	50					125						
Base Capacity (vph)	270	991			742	631		2263				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.20	0.25			0.18	0.28		0.43				

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	75.7
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay (s/veh):	18.4
Intersection LOS:	B
Intersection Capacity Utilization:	49.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 20: 2nd Street NE & E Stewart Avenue/E Main Avenue



HCM 6th TWSC
21: Freeman Road E & Site Access

2025 FUTURE WITH DEVELOPMENT CONDITIONS

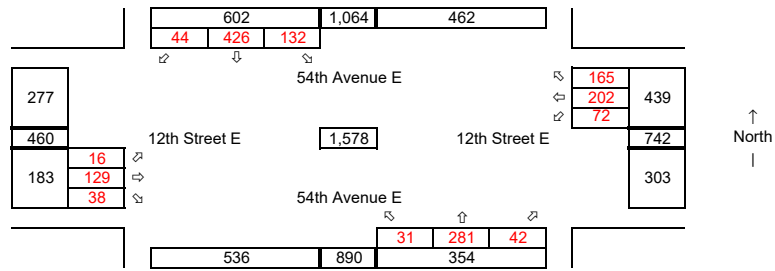
Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	7	2	127	33	34	63
Future Vol, veh/h	7	2	127	33	34	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	8	2	138	36	37	68

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	298	156	0	0	174
Stage 1	156	-	-	-	-
Stage 2	142	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	693	890	-	-	1403
Stage 1	872	-	-	-	-
Stage 2	885	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	675	890	-	-	1403
Mov Cap-2 Maneuver	675	-	-	-	-
Stage 1	872	-	-	-	-
Stage 2	862	-	-	-	-

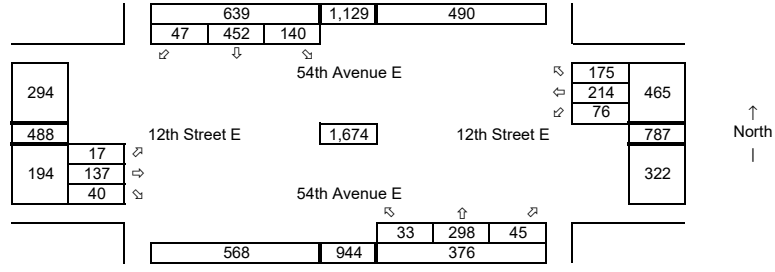
Approach	WB	NB	SB
HCM Control Delay, s/v	10.1	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	713	1403
HCM Lane V/C Ratio	-	-	0.014	0.026
HCM Control Delay (s/veh)	-	-	10.1	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q (veh)	-	-	0	0.1

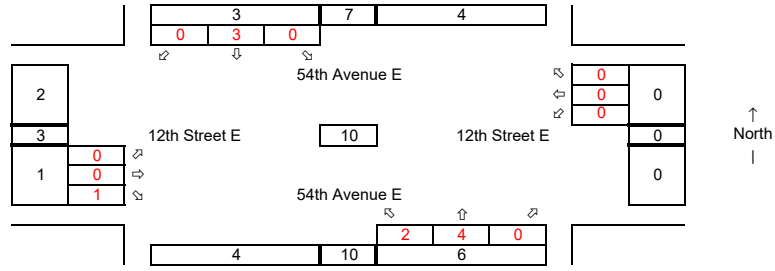
Synchro ID: 1
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



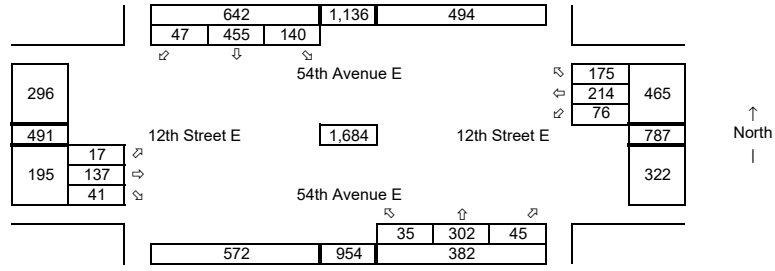
Future without Project
 Average Weekday
 PM Peak Hour
 Year: **2025**
 Growth Rate = **3.0%**
 Years of Growth = **2**
 Total Growth = **1.0609**



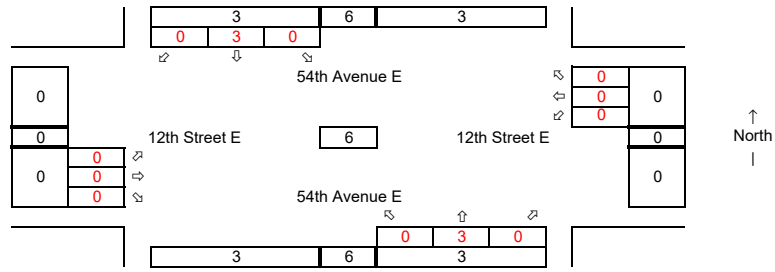
Total Development Trips
 Average Weekday
 PM Peak Hour



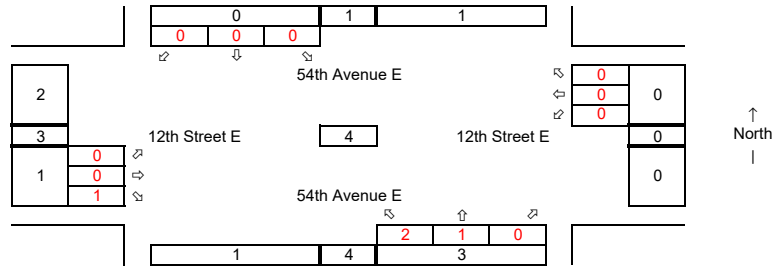
Future with Project
 Average Weekday
 PM Peak Hour

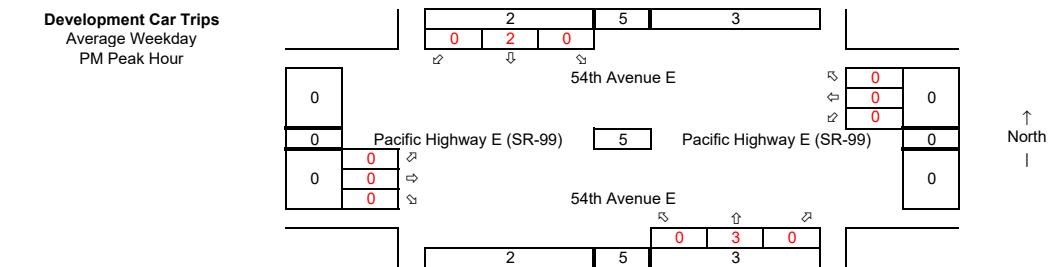
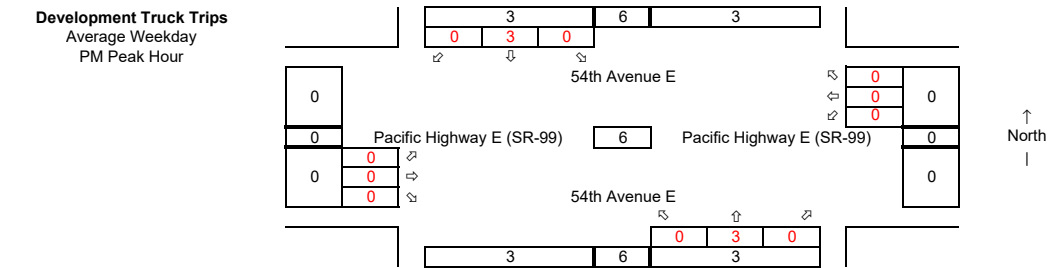
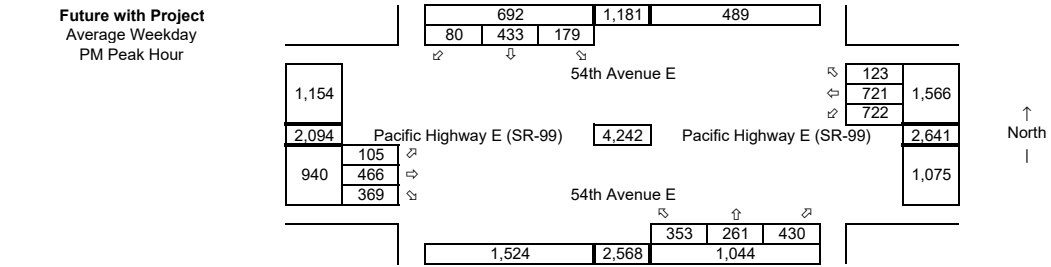
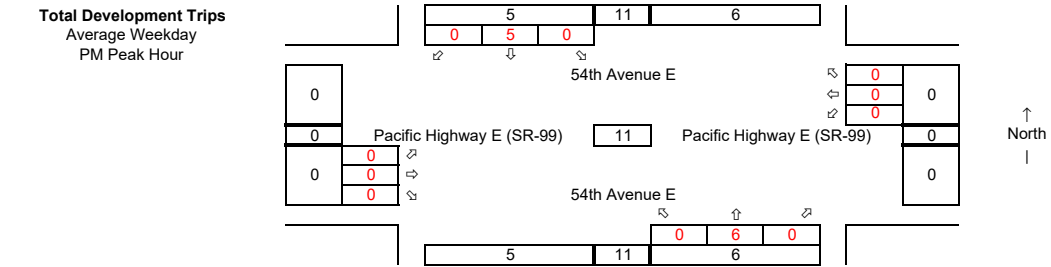
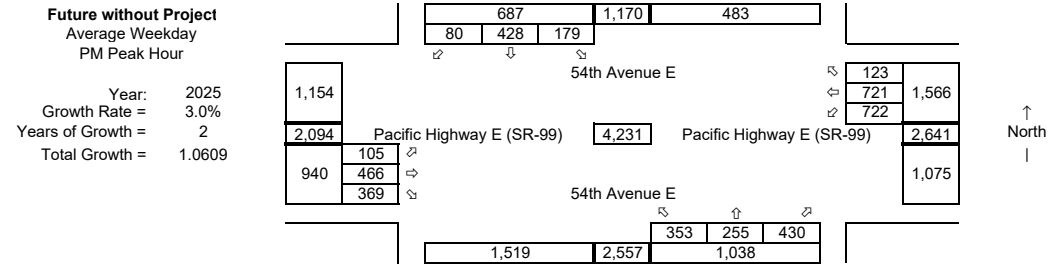
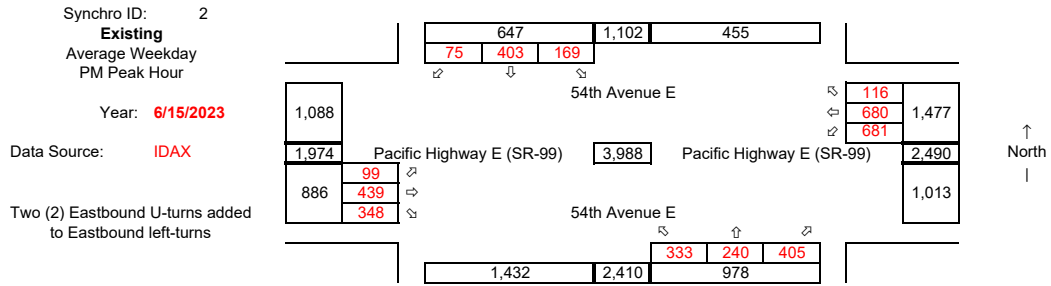


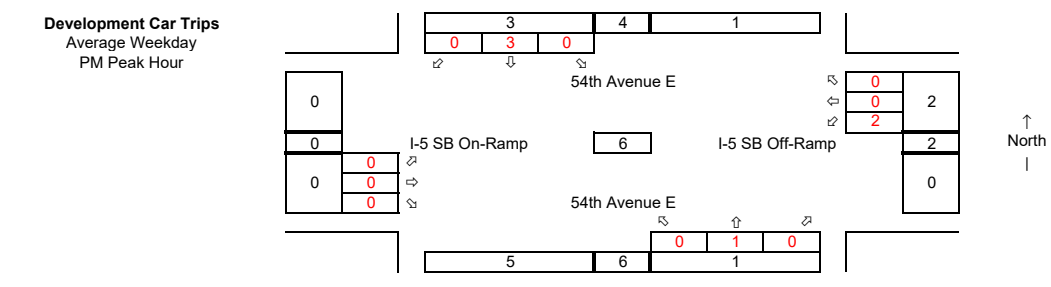
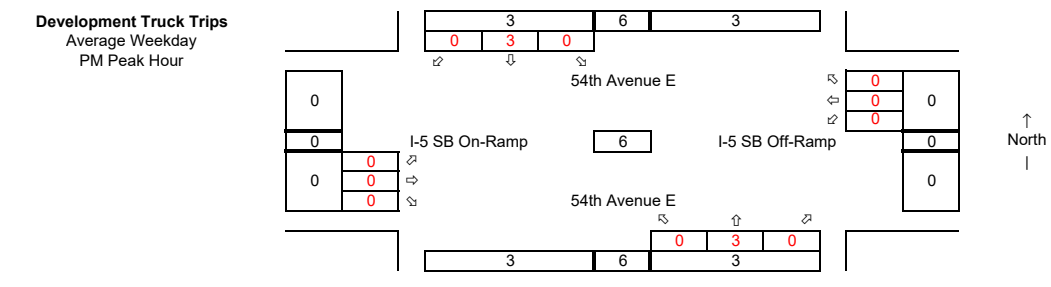
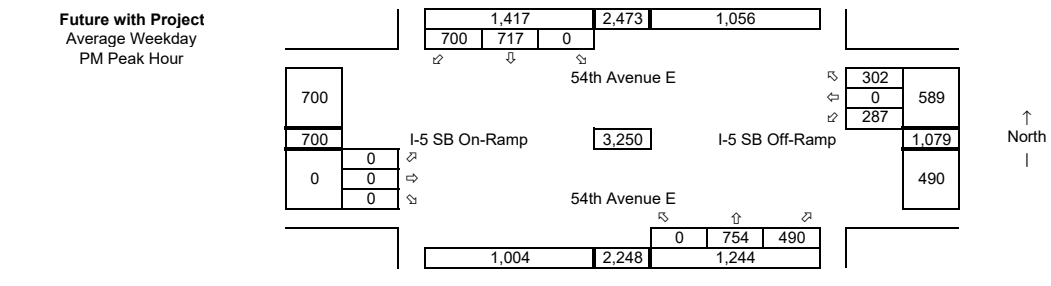
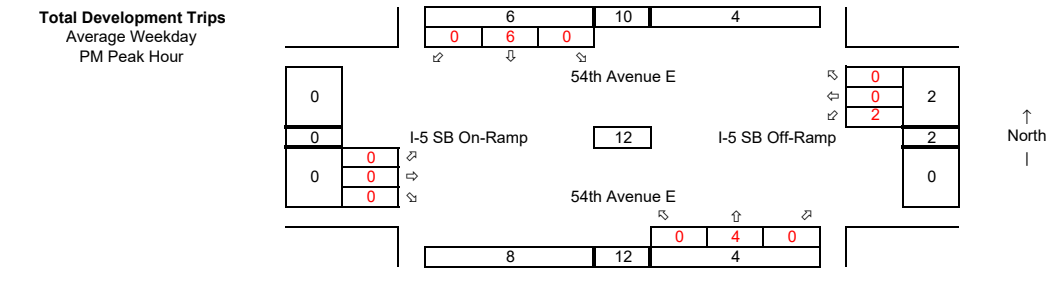
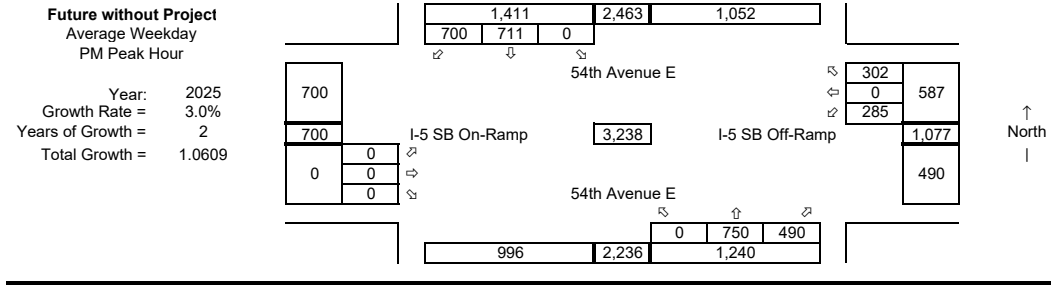
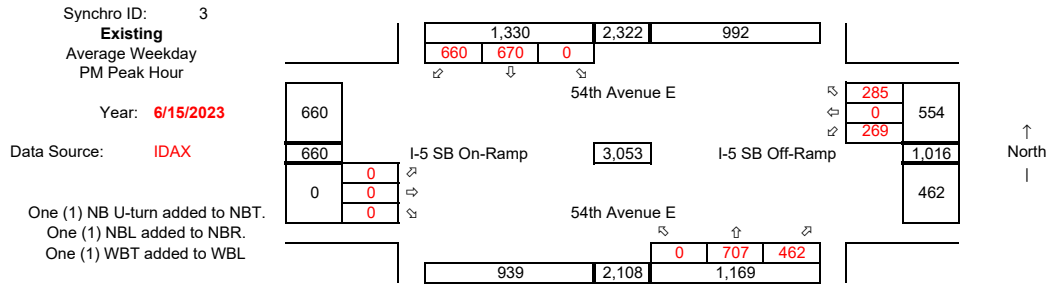
Development Truck Trips
 Average Weekday
 PM Peak Hour

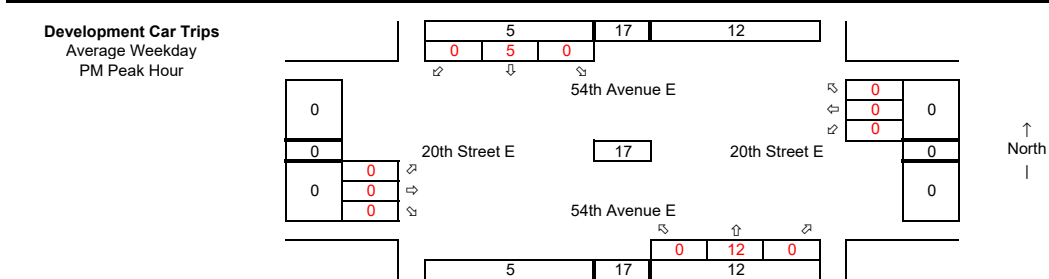
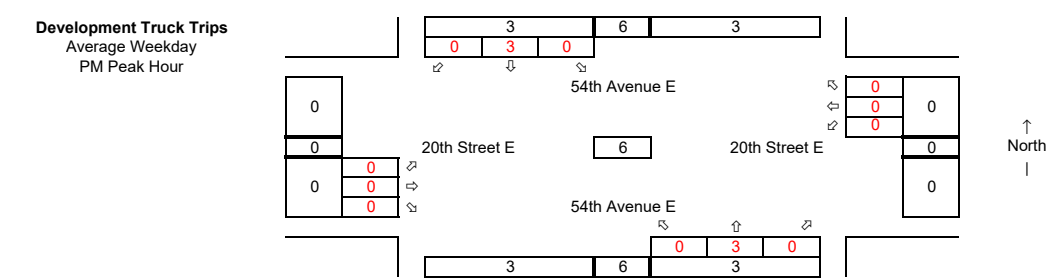
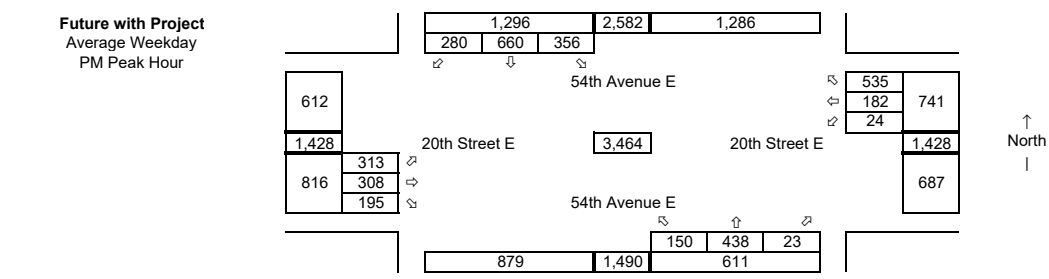
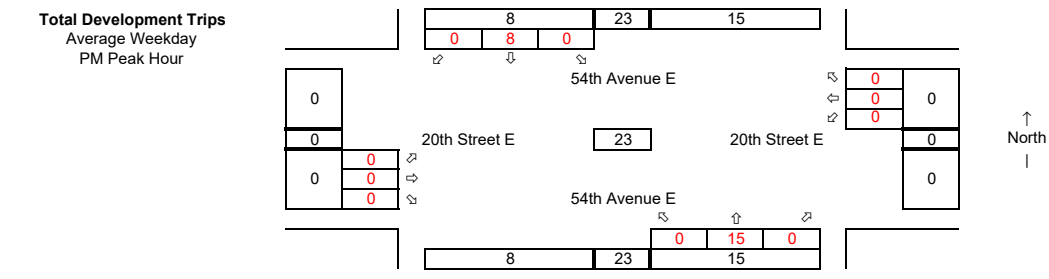
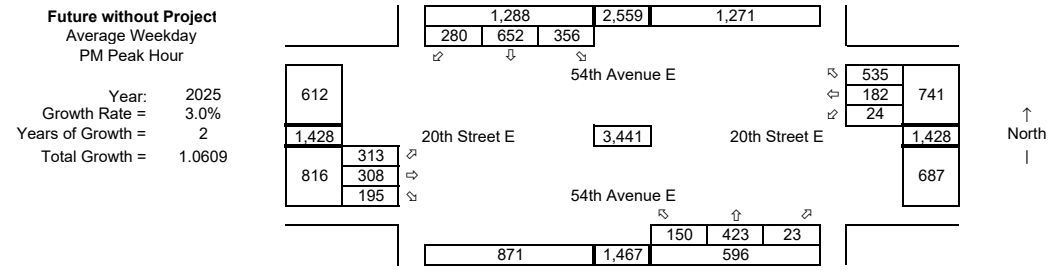
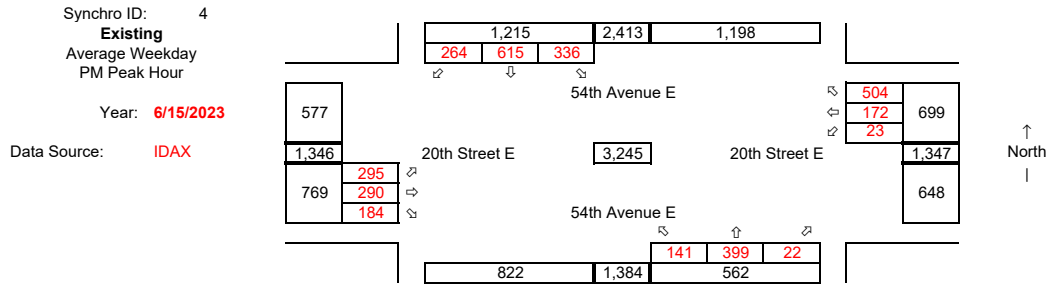


Development Car Trips
 Average Weekday
 PM Peak Hour





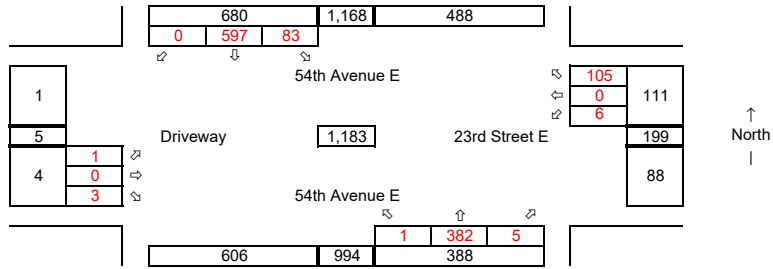




Synchro ID: 5
Existing
Average Weekday
PM Peak Hour

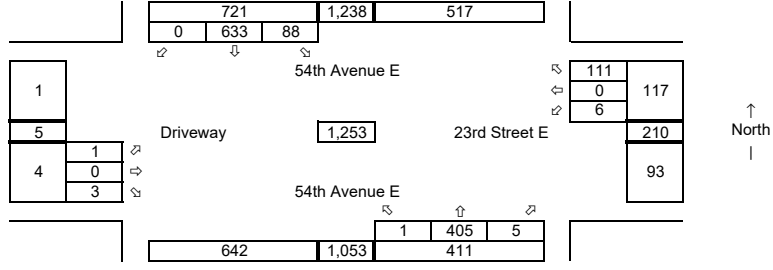
Year: 6/8/2023

Data Source: IDAX

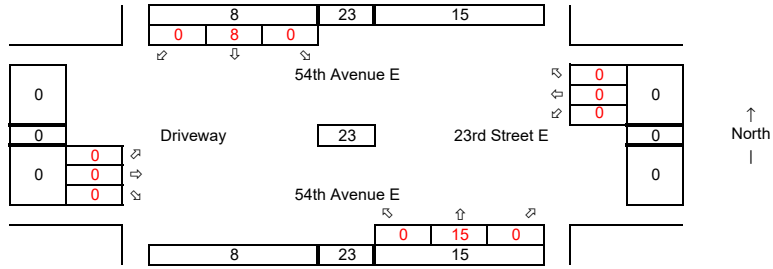


Future without Project
Average Weekday
PM Peak Hour

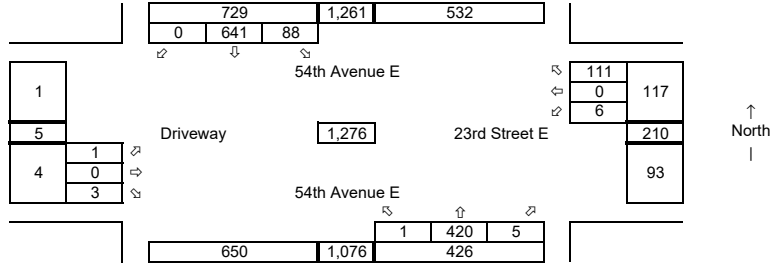
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



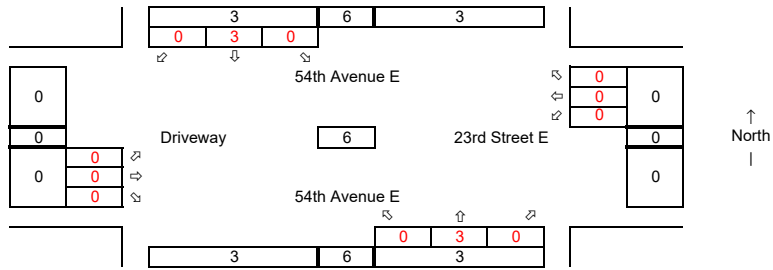
Total Development Trips
Average Weekday
PM Peak Hour



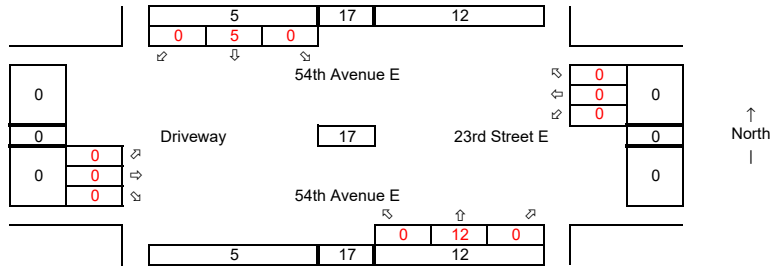
Future with Project
Average Weekday
PM Peak Hour



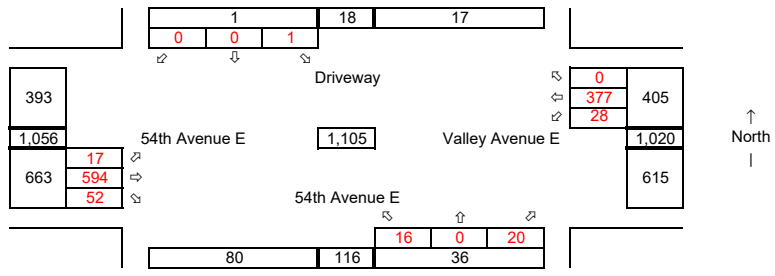
Development Truck Trips
Average Weekday
PM Peak Hour



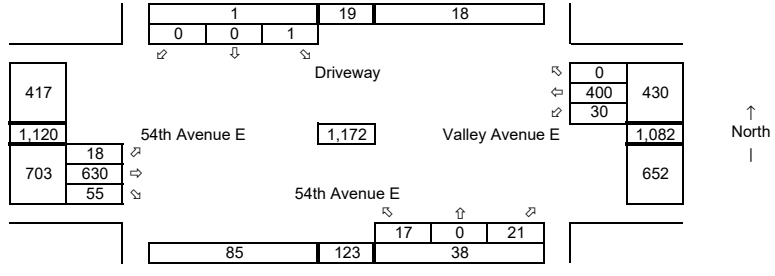
Development Car Trips
Average Weekday
PM Peak Hour



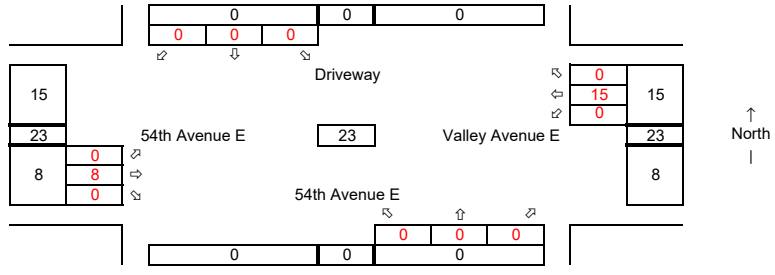
Synchro ID: 6
Existing
 Average Weekday
 PM Peak Hour
 Year: 6/15/2023
 Data Source: IDAX



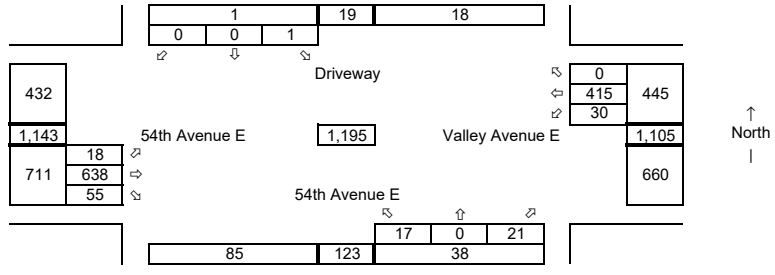
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



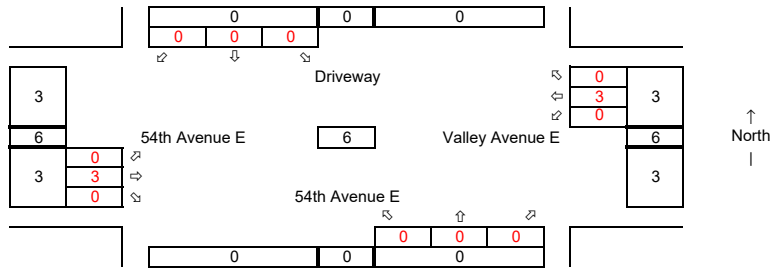
Total Development Trips
 Average Weekday
 PM Peak Hour



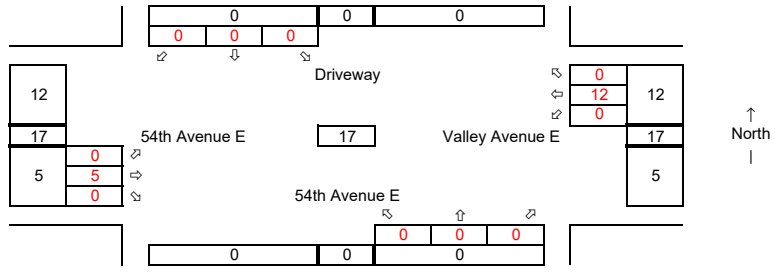
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

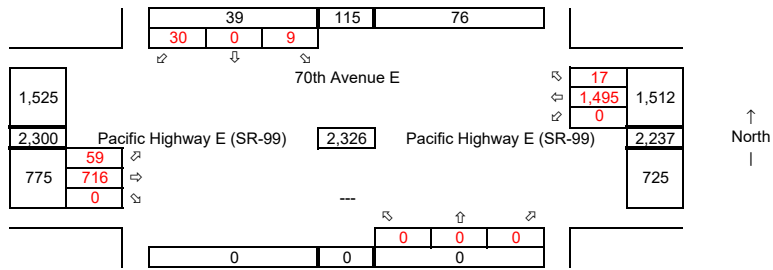


Synchro ID: 7
Existing
Average Weekday
PM Peak Hour

Year: 6/15/2023

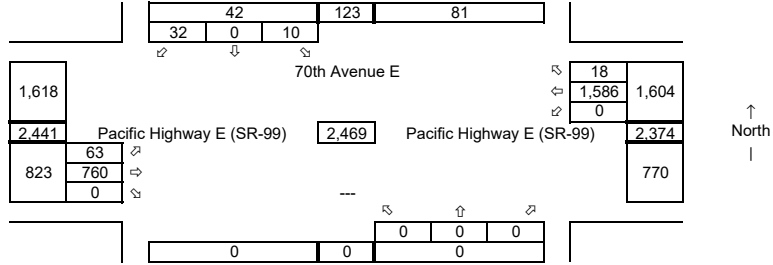
Data Source: IDAX

One (1) Eastbound U-turn
added to Eastbound left-turns

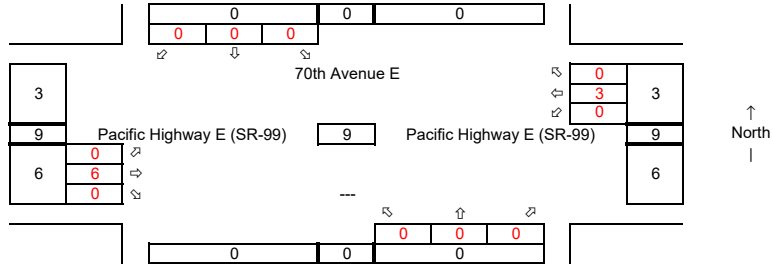


Future without Project
Average Weekday
PM Peak Hour

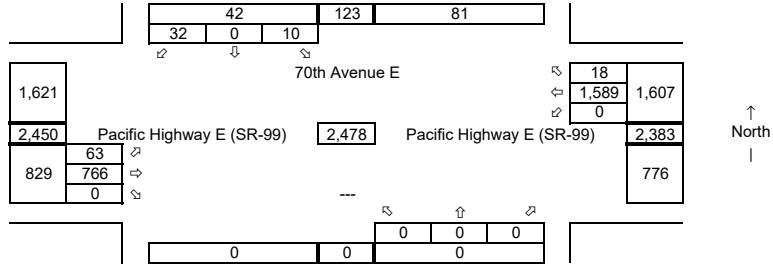
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



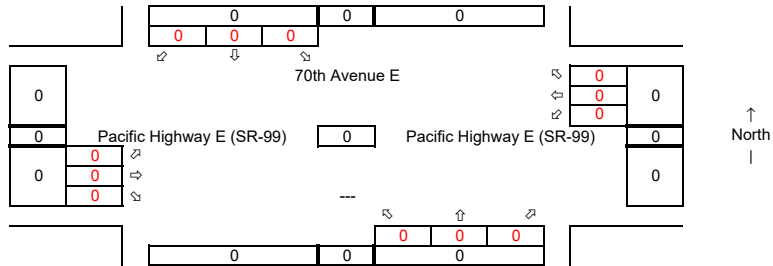
Total Development Trips
Average Weekday
PM Peak Hour



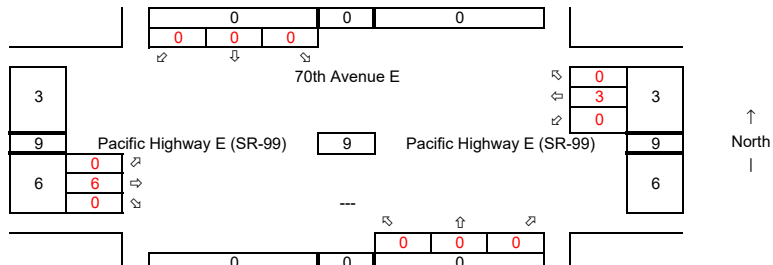
Future with Project
Average Weekday
PM Peak Hour



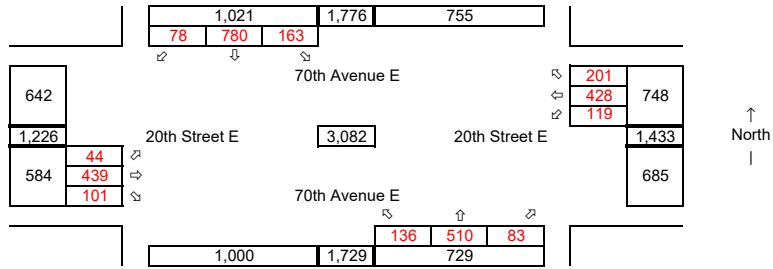
Development Truck Trips
Average Weekday
PM Peak Hour



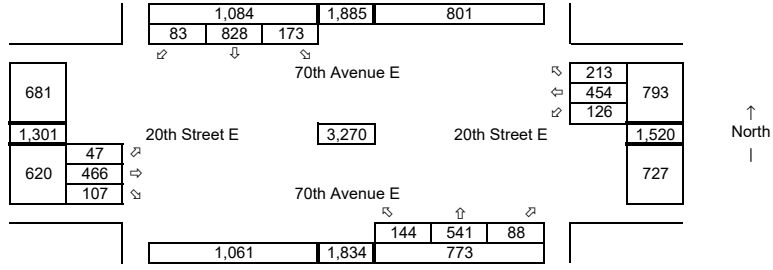
Development Car Trips
Average Weekday
PM Peak Hour



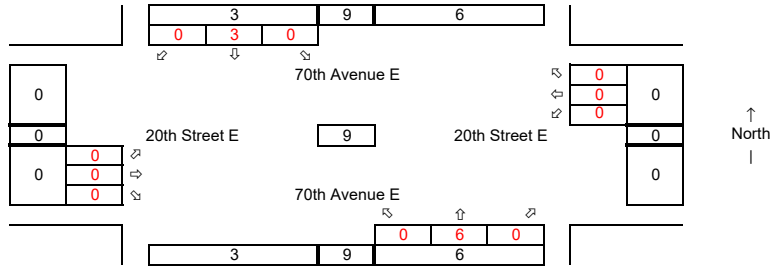
Synchro ID: 8
Existing
 Average Weekday
 PM Peak Hour
 Year: 6/8/2023
 Data Source: IDAX



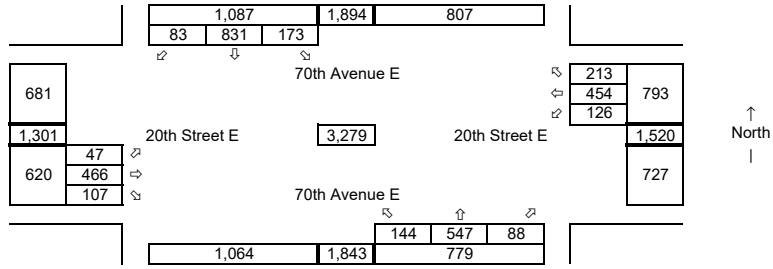
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



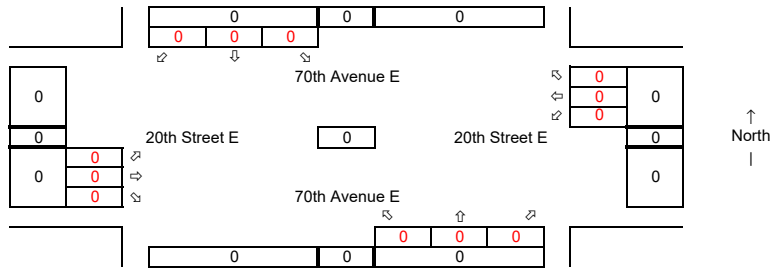
Total Development Trips
 Average Weekday
 PM Peak Hour



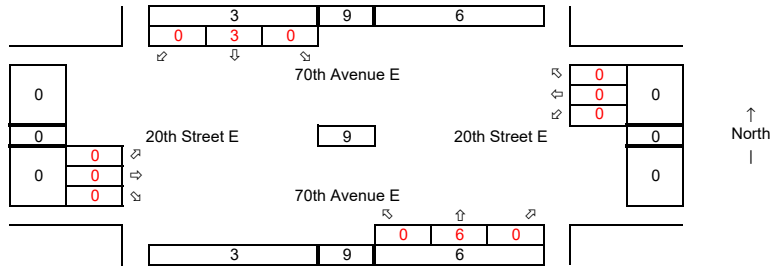
Future with Project
 Average Weekday
 PM Peak Hour



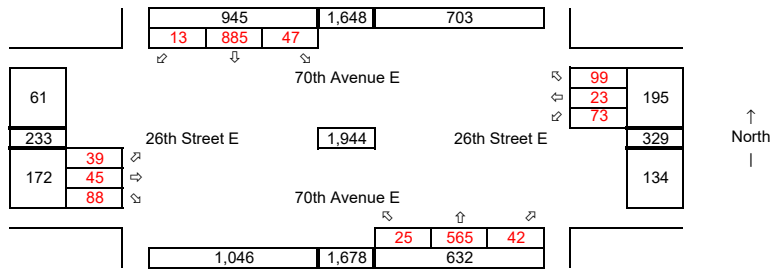
Development Truck Trips
 Average Weekday
 PM Peak Hour



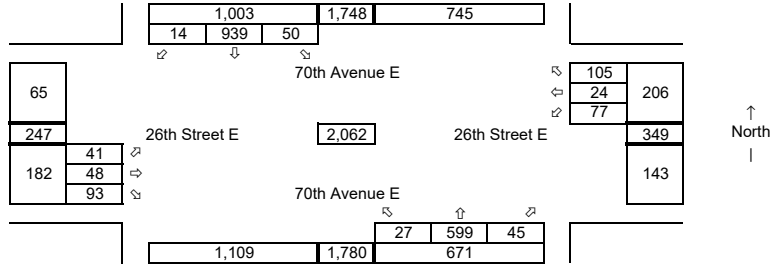
Development Car Trips
 Average Weekday
 PM Peak Hour



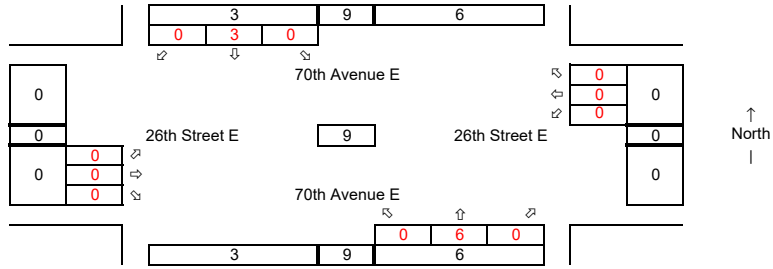
Synchro ID: 9
Existing
 Average Weekday
 PM Peak Hour
 Year: 6/8/2023
 Data Source: IDAX



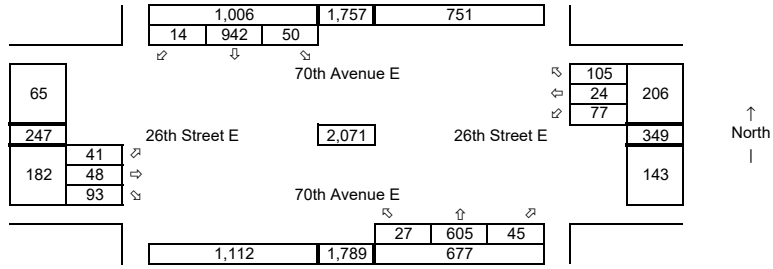
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



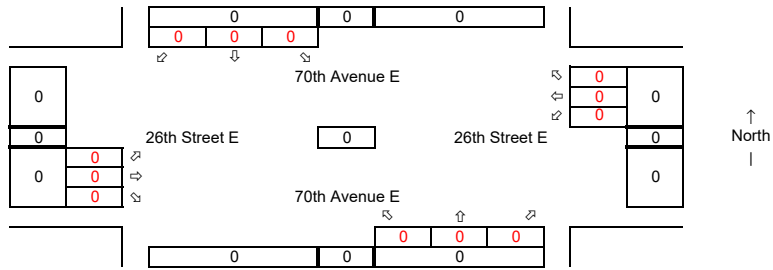
Total Development Trips
 Average Weekday
 PM Peak Hour



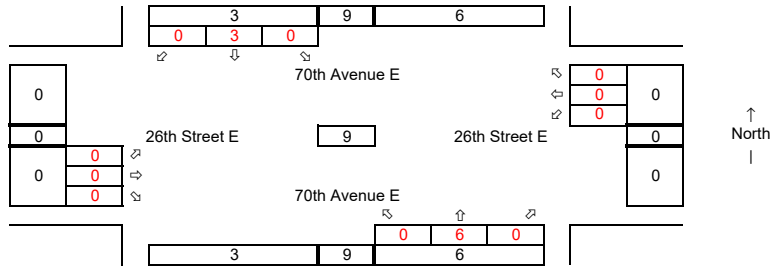
Future with Project
 Average Weekday
 PM Peak Hour



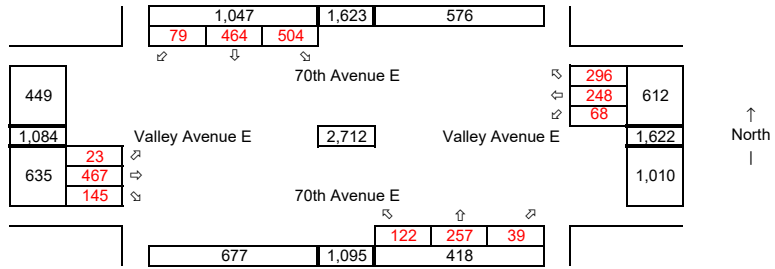
Development Truck Trips
 Average Weekday
 PM Peak Hour



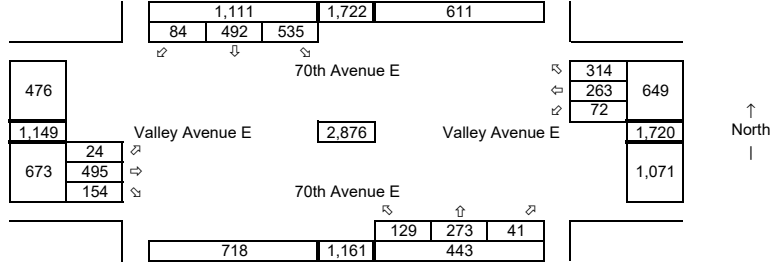
Development Car Trips
 Average Weekday
 PM Peak Hour



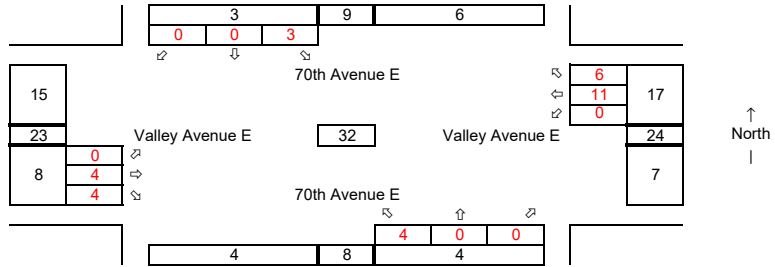
Synchro ID: 10
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



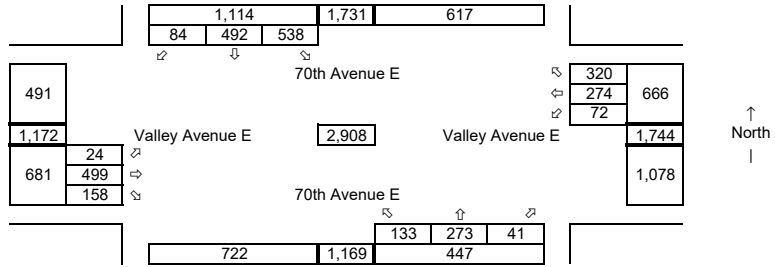
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



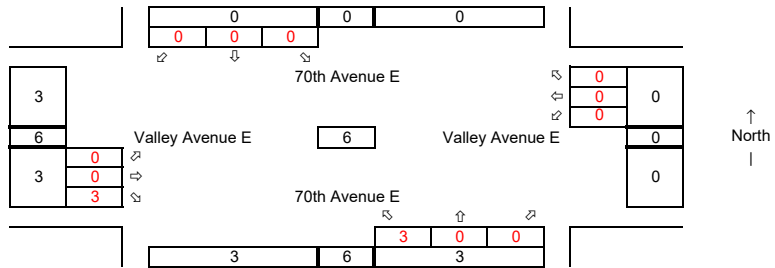
Total Development Trips
 Average Weekday
 PM Peak Hour



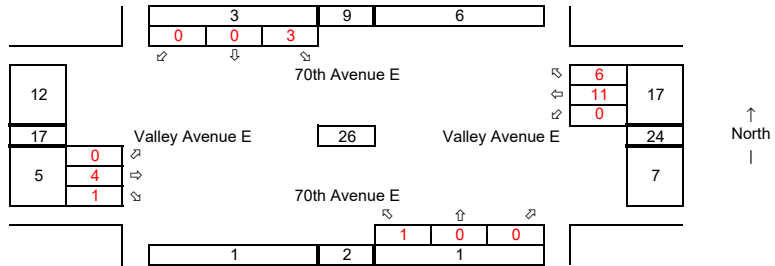
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



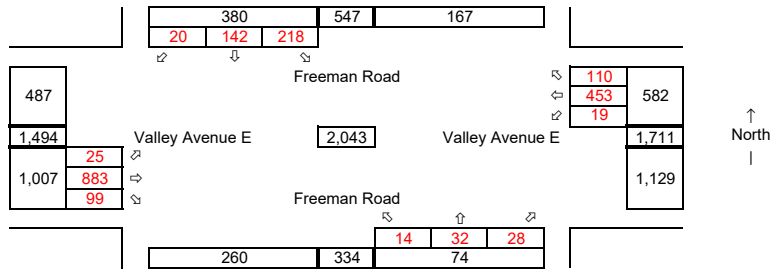
Development Car Trips
 Average Weekday
 PM Peak Hour



Synchro ID: 11
Existing
 Average Weekday
 PM Peak Hour

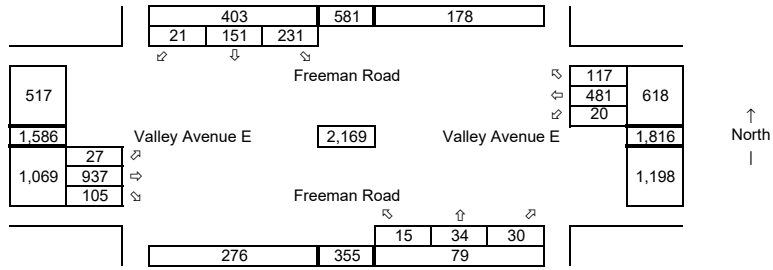
Year: **6/14/2023**

Data Source: **IDAX**

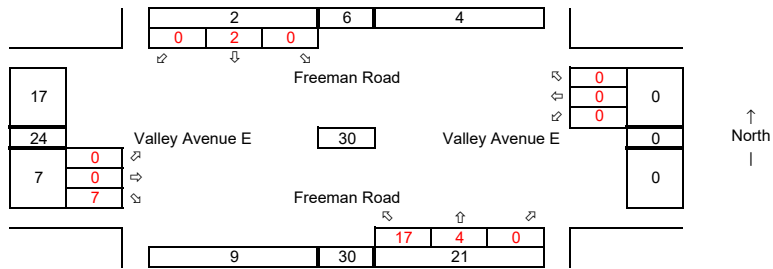


Future without Project
 Average Weekday
 PM Peak Hour

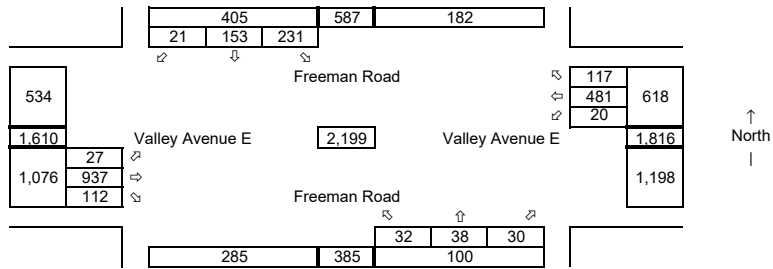
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



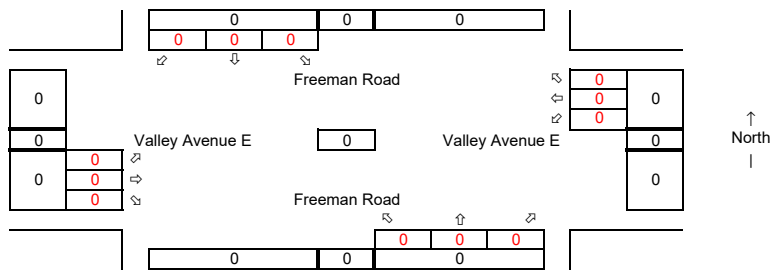
Total Development Trips
 Average Weekday
 PM Peak Hour



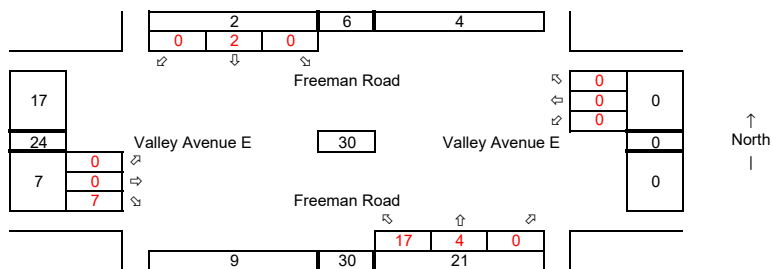
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



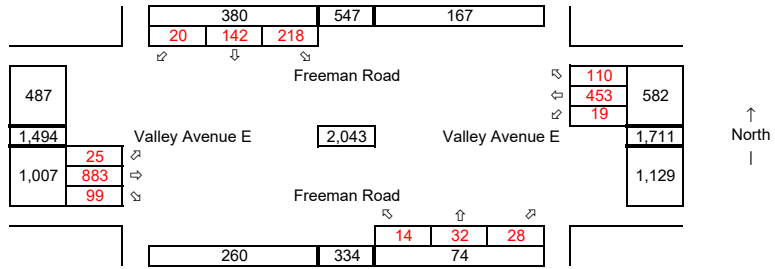
Development Car Trips
 Average Weekday
 PM Peak Hour



Synchro ID: 11
With SR-167 Extension **Existing**
Average Weekday
PM Peak Hour

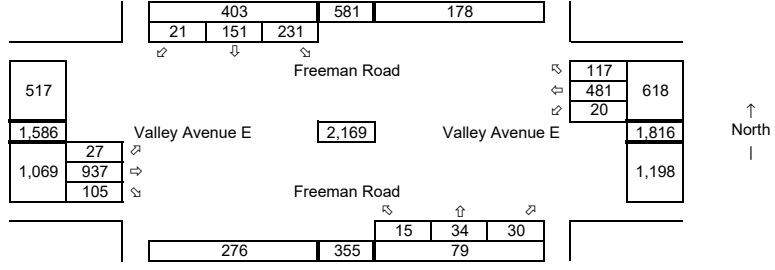
Year: **6/14/2023**

Data Source: **IDAX**

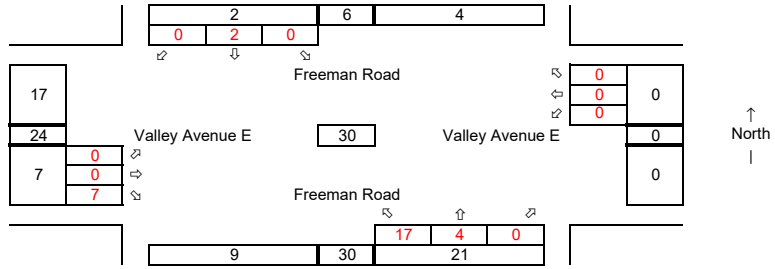


Future without Project
Average Weekday
PM Peak Hour

Year: **2025**
Growth Rate = **3.0%**
Years of Growth = **2**
Total Growth = **1.0609**

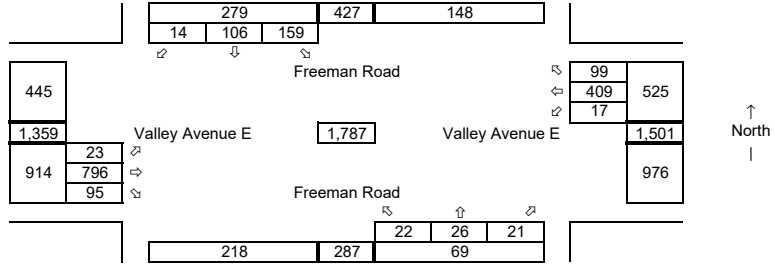


Total Development Trips
Average Weekday
PM Peak Hour

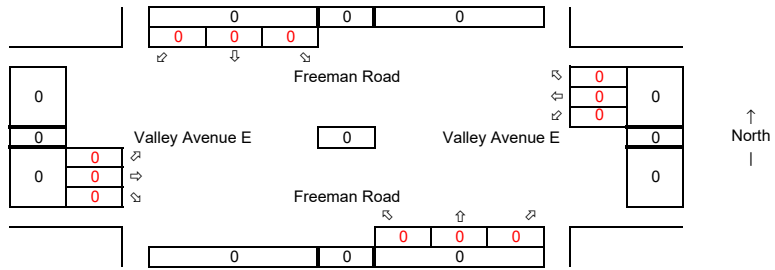


Future with Project
Average Weekday
PM Peak Hour

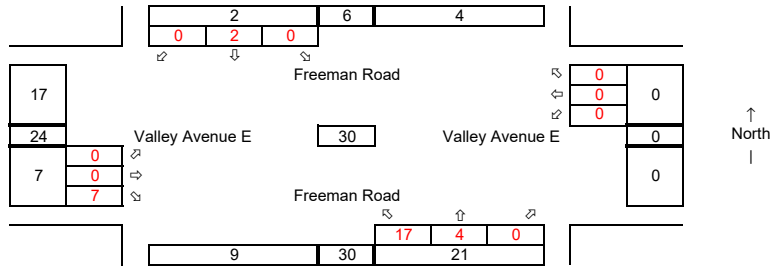
N/S Diversion % **31%**
E/W Diversion % **15%**



Development Truck Trips
Average Weekday
PM Peak Hour



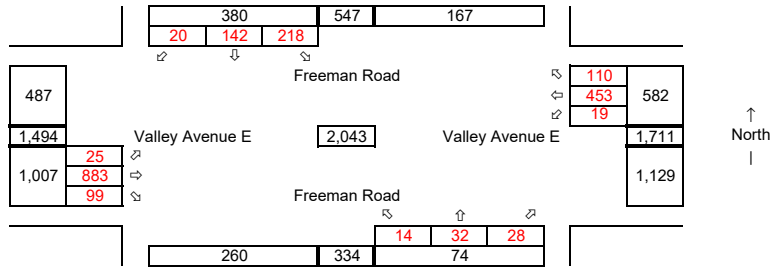
Development Car Trips
Average Weekday
PM Peak Hour



Synchro ID: 11
With SR-167 Extension **Existing**
Average Weekday
PM Peak Hour

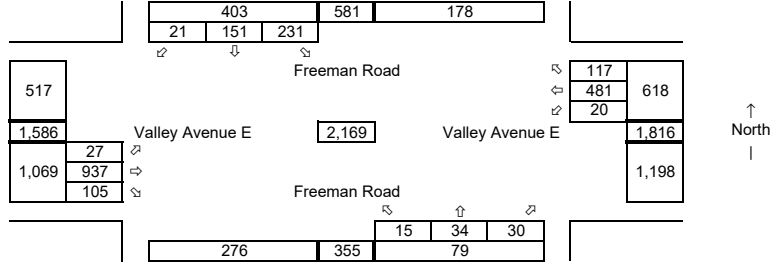
Year: **6/14/2023**

Data Source: **IDAX**

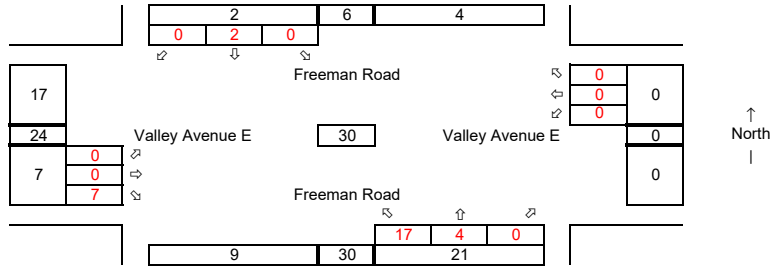


Future without Project
Average Weekday
PM Peak Hour

Year: **2025**
Growth Rate = **3.0%**
Years of Growth = **2**
Total Growth = **1.0609**

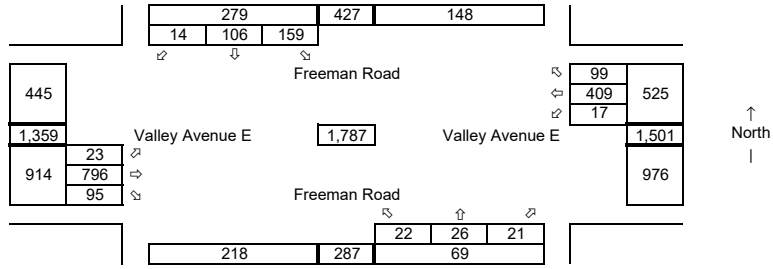


Total Development Trips
Average Weekday
PM Peak Hour

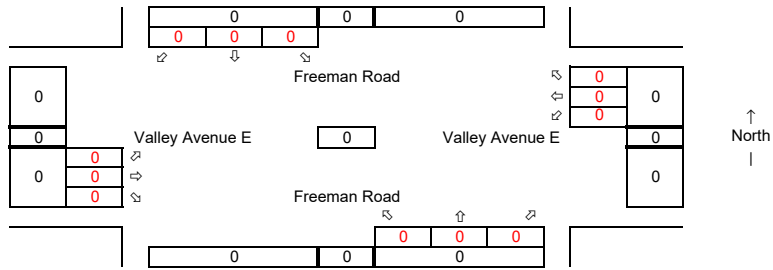


Future with Project
Average Weekday
PM Peak Hour

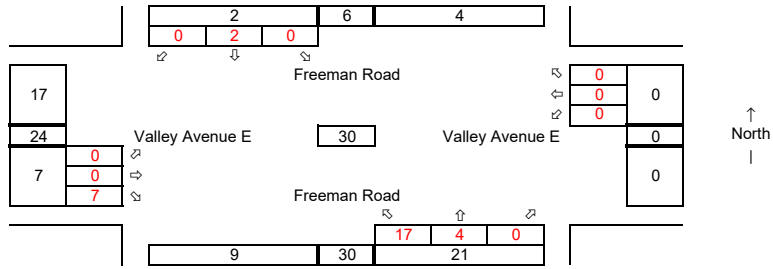
N/S Diversion % **31%**
E/W Diversion % **15%**



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



**Freeman Logistics
150 - Warehousing**

12 Freeman Rd E @ 48th St E

PM Peak-Hour

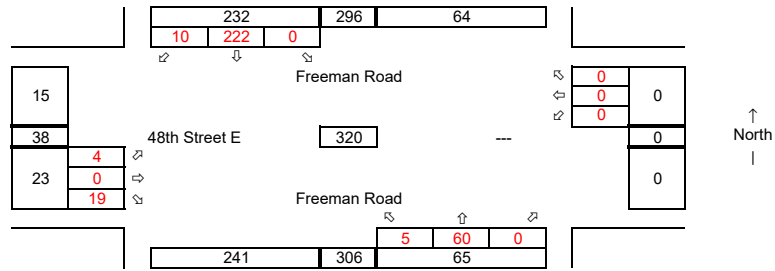
Synchro ID: 12

Existing

Average Weekday
PM Peak Hour

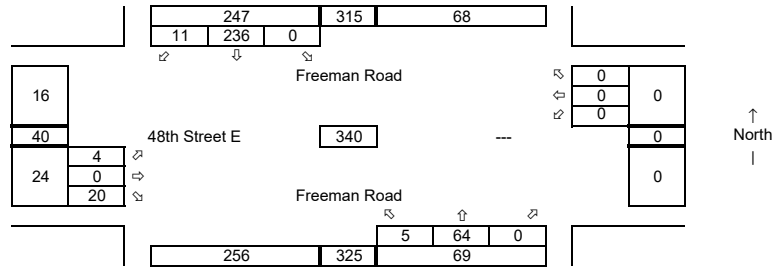
Year: **6/8/2023**

Data Source: **IDAX**

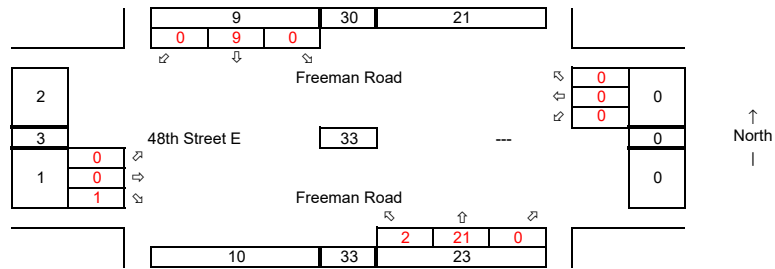


Future without Project
Average Weekday
PM Peak Hour

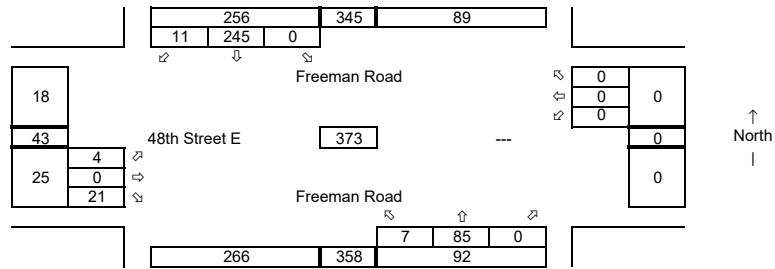
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



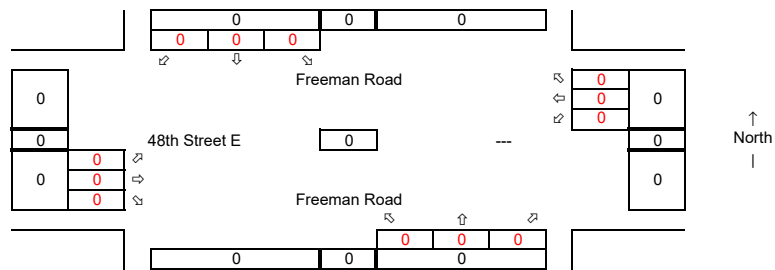
Total Development Trips
Average Weekday
PM Peak Hour



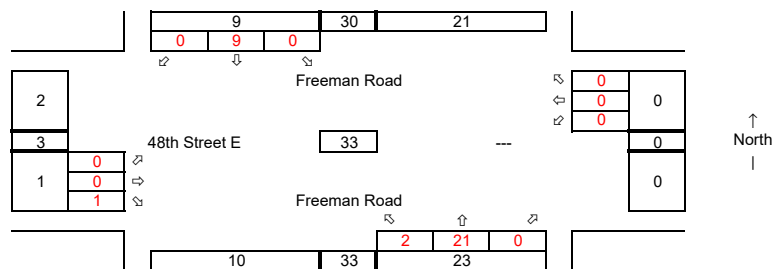
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



**Freeman Logistics
150 - Warehousing**

13 Freeman Rd @ 50th St E

PM Peak-Hour

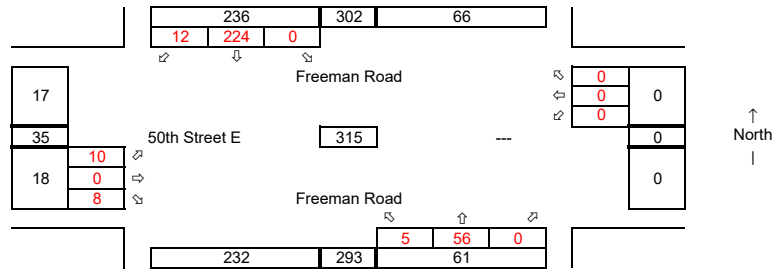
Synchro ID: 13

Existing

Average Weekday
PM Peak Hour

Year: **6/8/2023**

Data Source: **IDAX**



Future without Project

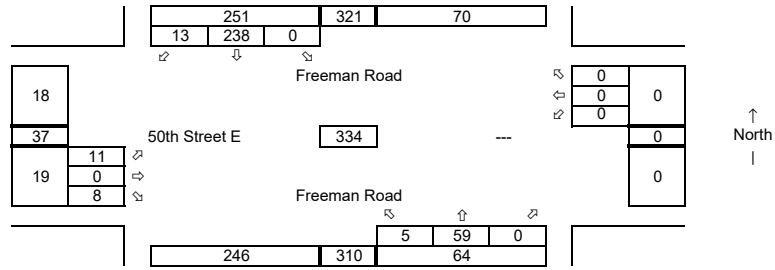
Average Weekday
PM Peak Hour

Year: 2025

Growth Rate = 3.0%

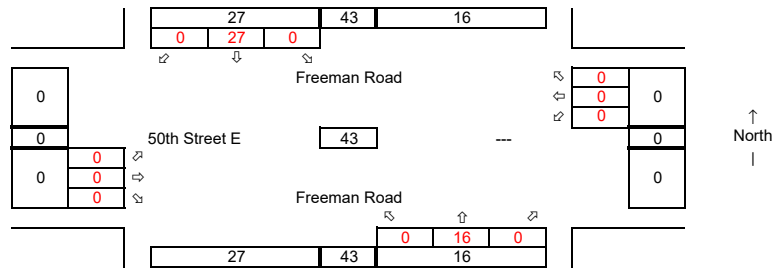
Years of Growth = 2

Total Growth = 1.0609



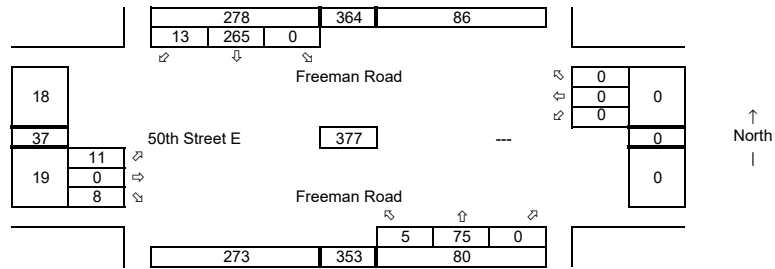
Total Development Trips

Average Weekday
PM Peak Hour



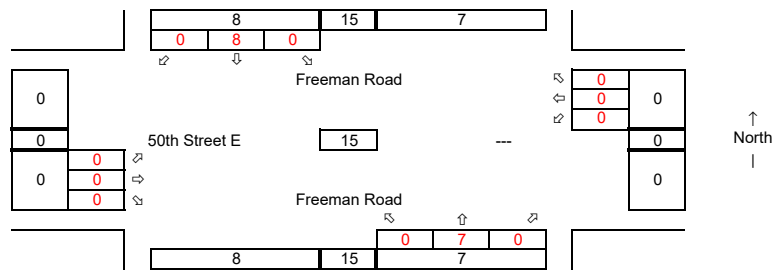
Future with Project

Average Weekday
PM Peak Hour



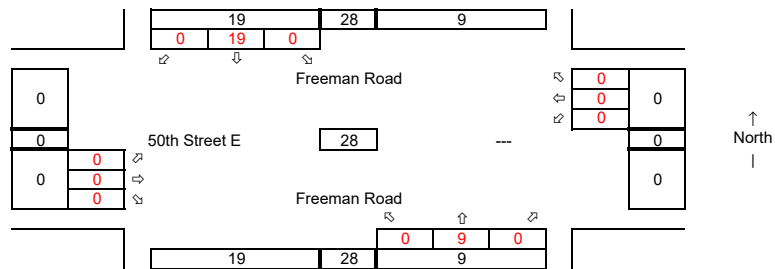
Development Truck Trips

Average Weekday
PM Peak Hour



Development Car Trips

Average Weekday
PM Peak Hour



**Freeman Logistics
150 - Warehousing**

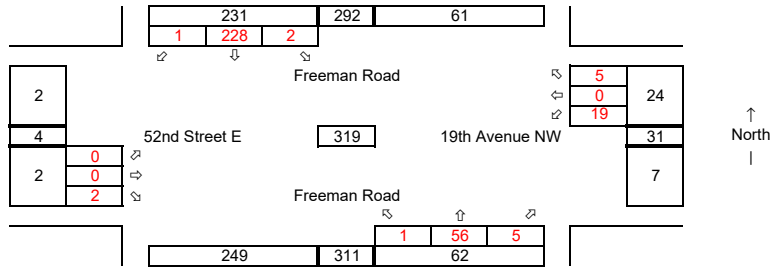
14 Freeman Rd @ 52nd St E

PM Peak-Hour

Synchro ID: 14
Existing
 Average Weekday
 PM Peak Hour

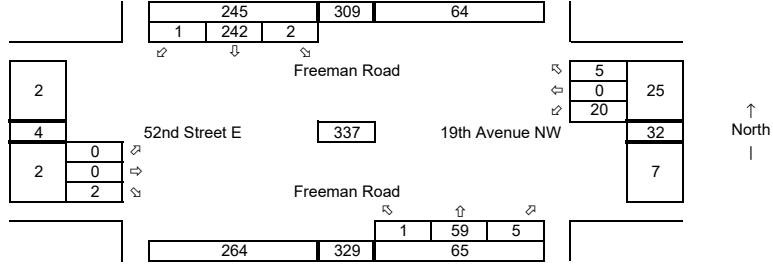
Year: **6/8/2023**

Data Source: **IDAX**

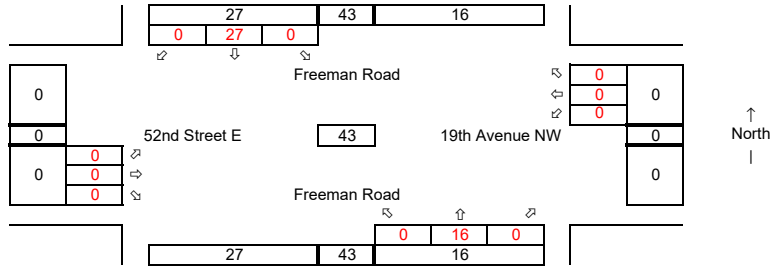


Future without Project
 Average Weekday
 PM Peak Hour

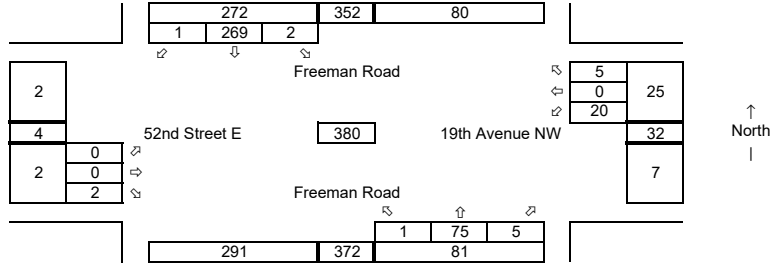
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



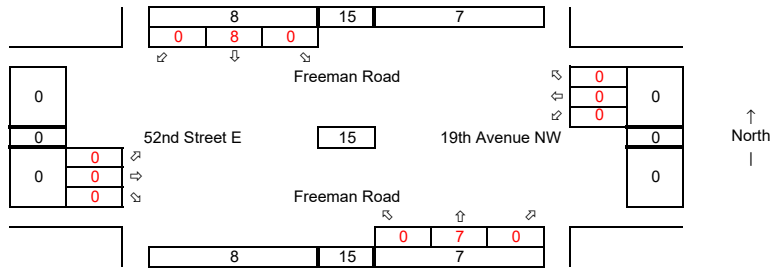
Total Development Trips
 Average Weekday
 PM Peak Hour



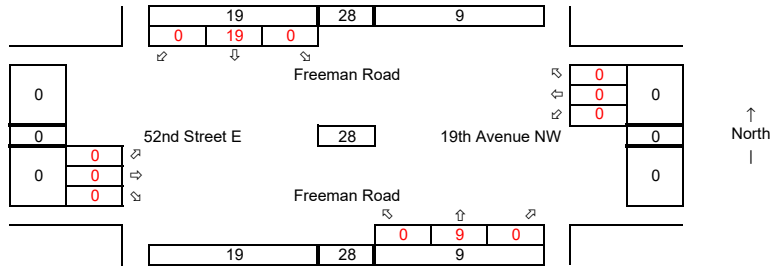
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

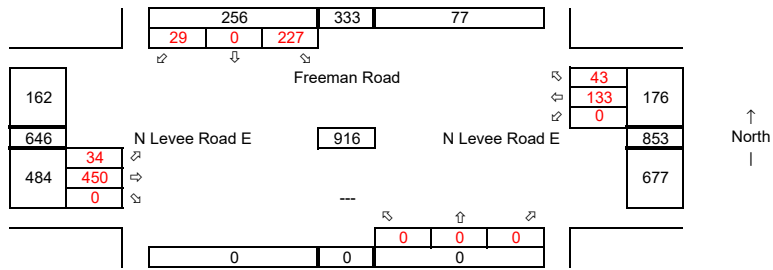


Synchro ID: 15

Existing
Average Weekday
PM Peak Hour

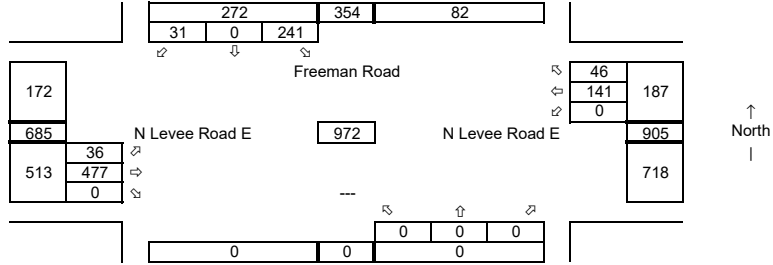
Year: 6/15/2023

Data Source: IDAX

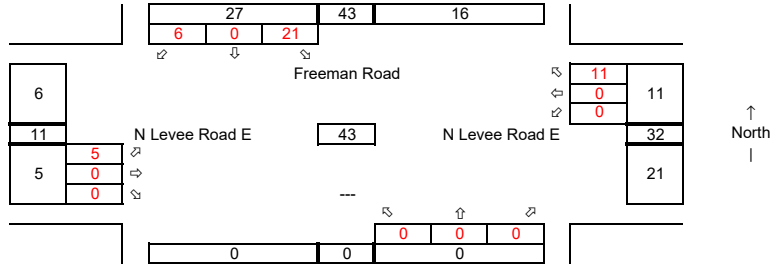


Future without Project
Average Weekday
PM Peak Hour

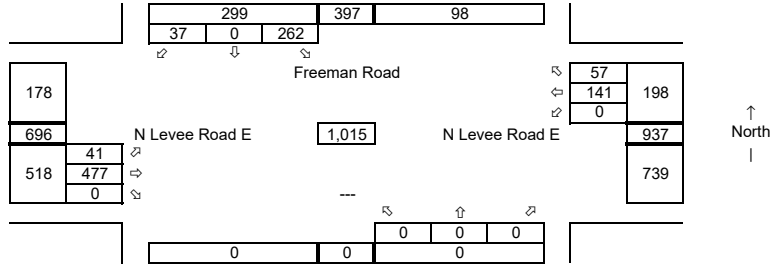
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



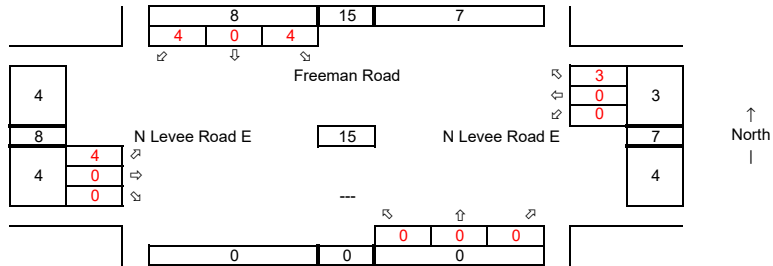
Total Development Trips
Average Weekday
PM Peak Hour



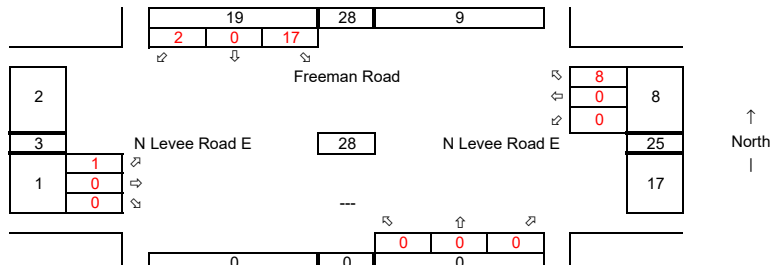
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



**LUC - 150
Warehousing**

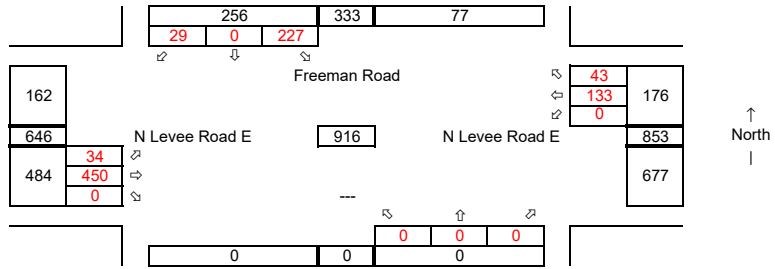
15 Freeman Rd E @ N Levee Rd

PM Peak-Hour

Synchro ID: 15
 With SR-167 Extension **Existing**
 Average Weekday
 PM Peak Hour

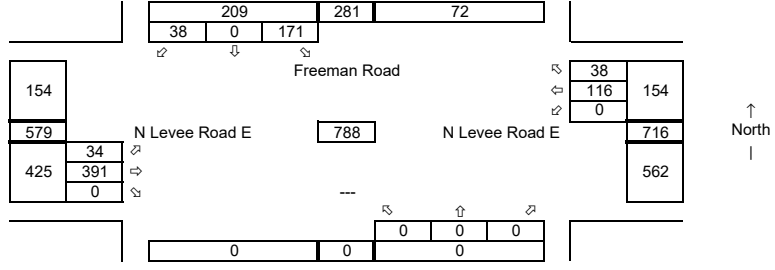
Year: **6/15/2023**

Data Source: **IDAX**

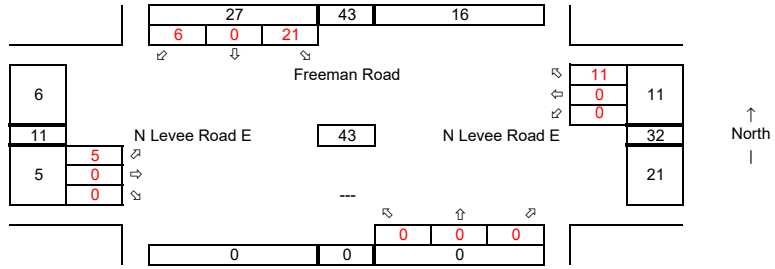


Future without Project
 Average Weekday
 PM Peak Hour

Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609

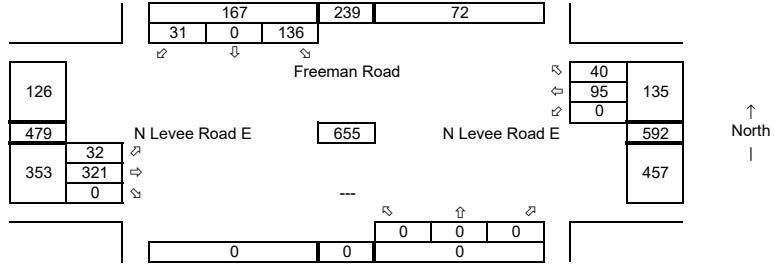


Total Development Trips
 Average Weekday
 PM Peak Hour

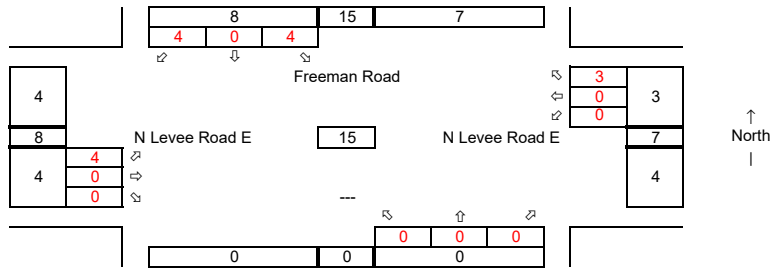


Future with Project
 Average Weekday
 PM Peak Hour

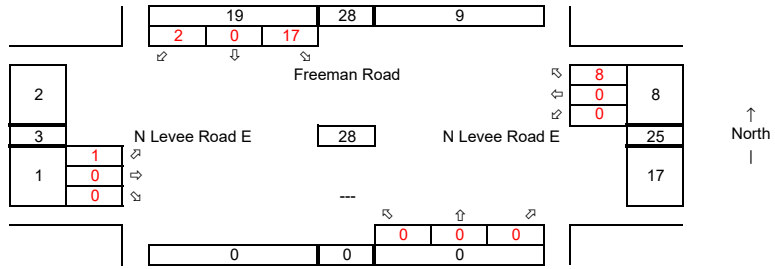
N/S Diversion % 29%
 E/W Diversion % 18%



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



LUC - 150
Warehousing

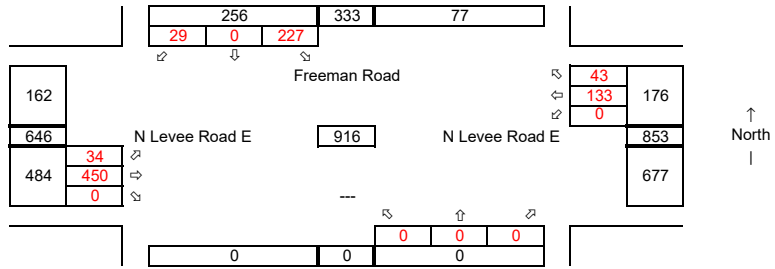
15 Freeman Rd E @ N Levee Rd

PM Peak-Hour

Synchro ID: 15
With SR-167 Extension Existing
Average Weekday
PM Peak Hour

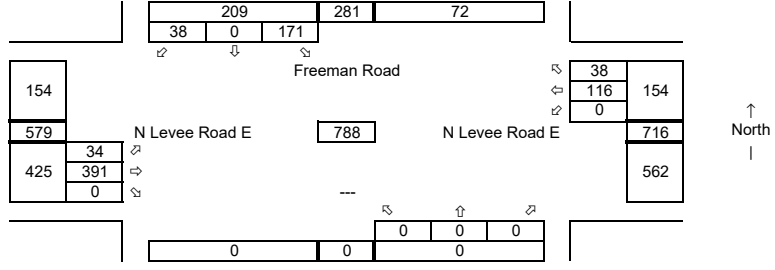
Year: 6/15/2023

Data Source: IDAX

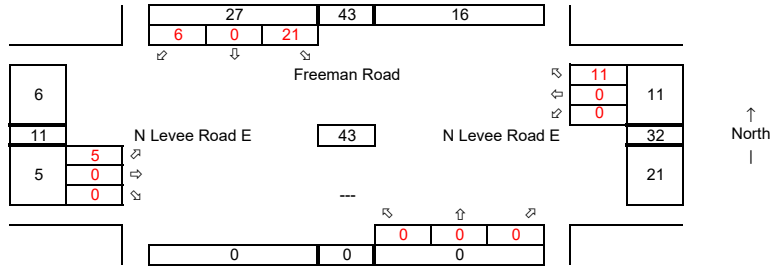


Future without Project
Average Weekday
PM Peak Hour

Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609

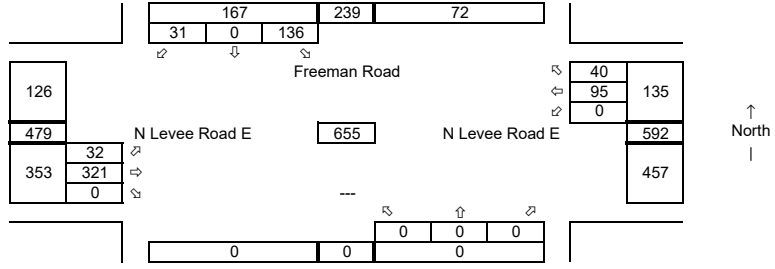


Total Development Trips
Average Weekday
PM Peak Hour

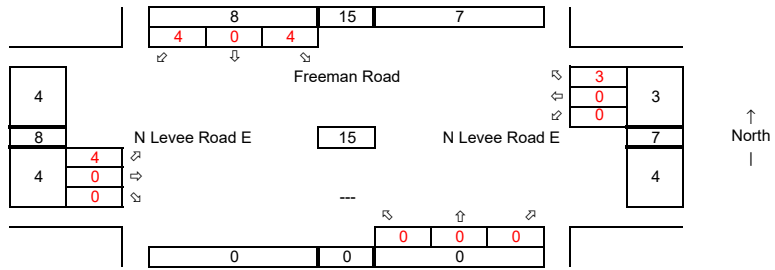


Future with Project
Average Weekday
PM Peak Hour

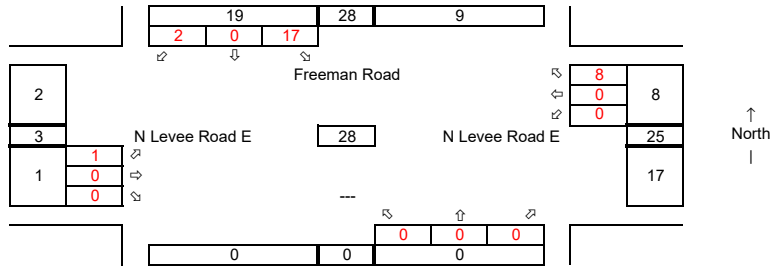
N/S Diversion % 29%
E/W Diversion % 18%



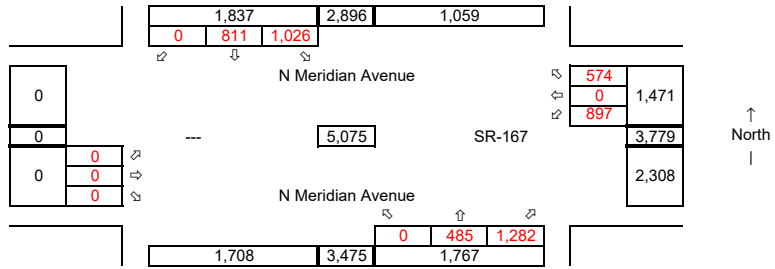
Development Truck Trips
Average Weekday
PM Peak Hour



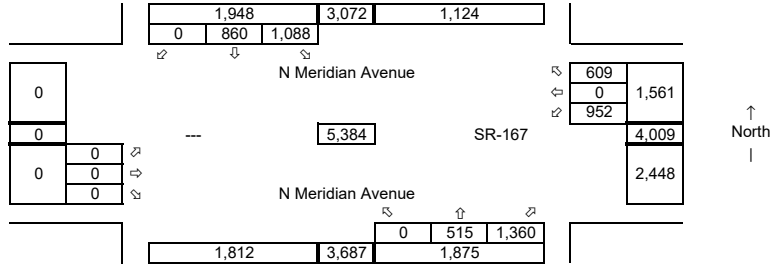
Development Car Trips
Average Weekday
PM Peak Hour



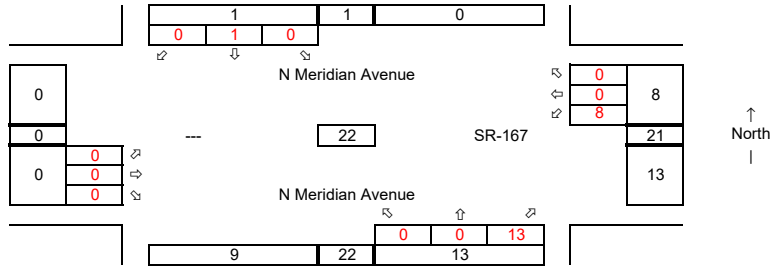
Synchro ID: 16
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/14/2023**
 Data Source: **IDAX**



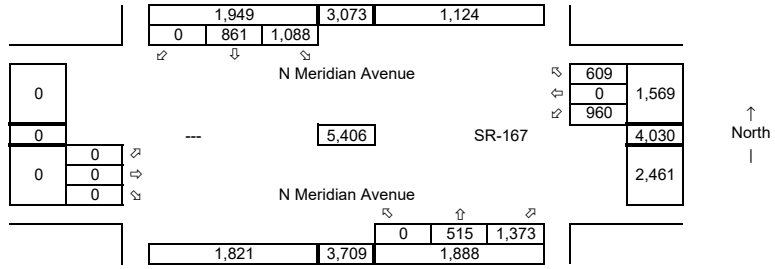
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



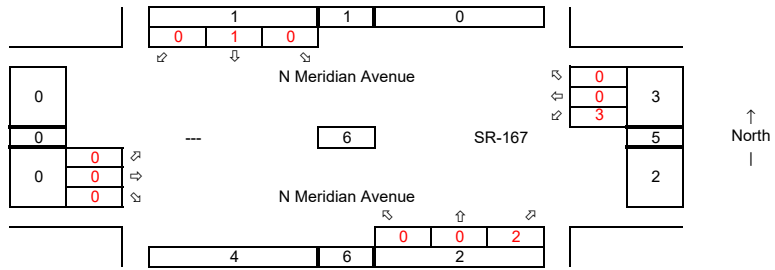
Total Development Trips
 Average Weekday
 PM Peak Hour



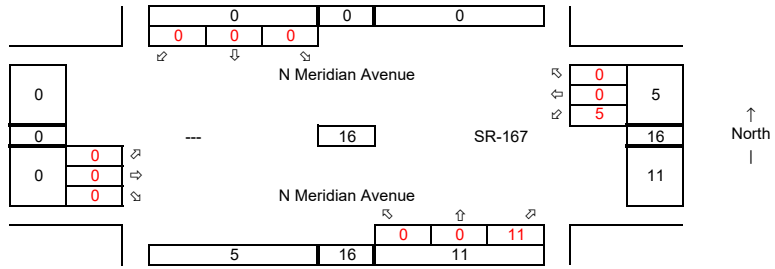
Future with Project
 Average Weekday
 PM Peak Hour



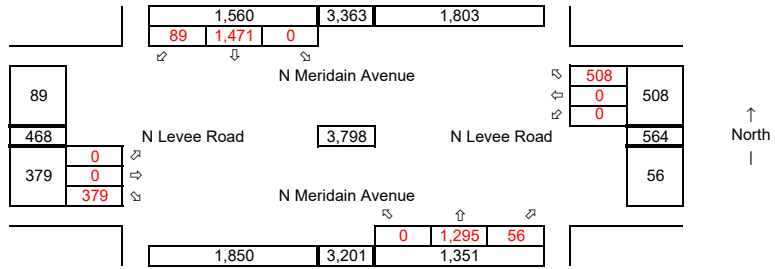
Development Truck Trips
 Average Weekday
 PM Peak Hour



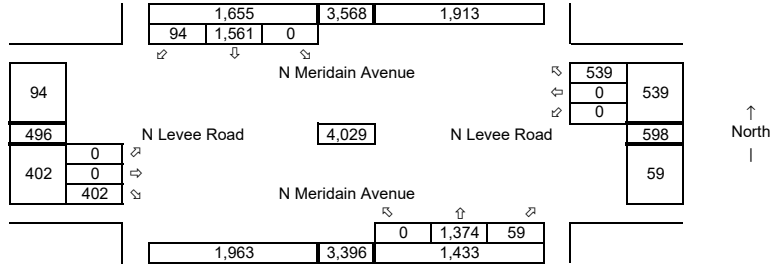
Development Car Trips
 Average Weekday
 PM Peak Hour



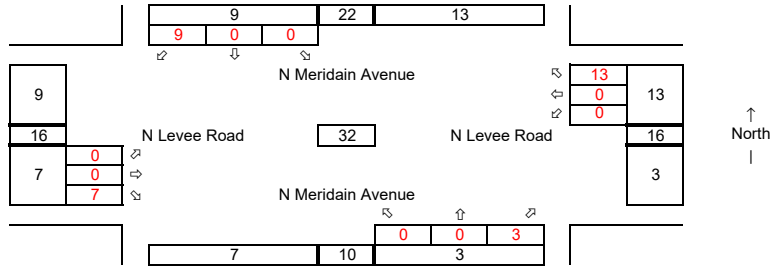
Synchro ID: 17
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/14/2023**
 Data Source: **IDAX**



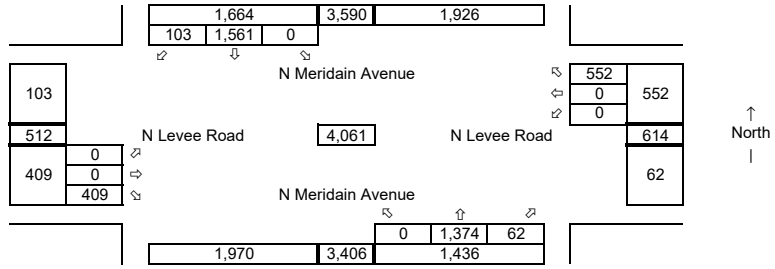
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



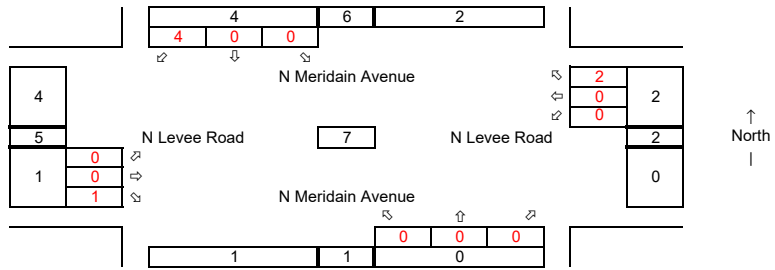
Total Development Trips
 Average Weekday
 PM Peak Hour



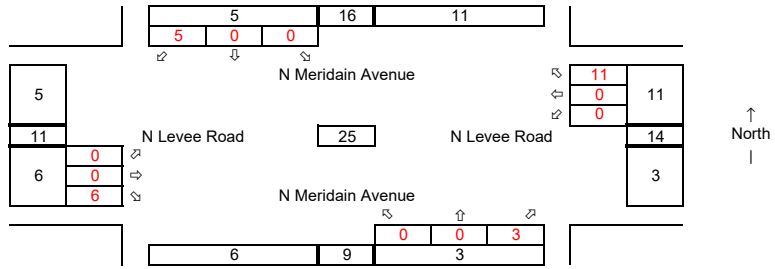
Future with Project
 Average Weekday
 PM Peak Hour



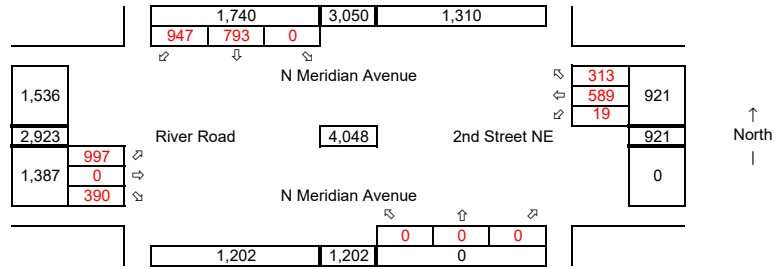
Development Truck Trips
 Average Weekday
 PM Peak Hour



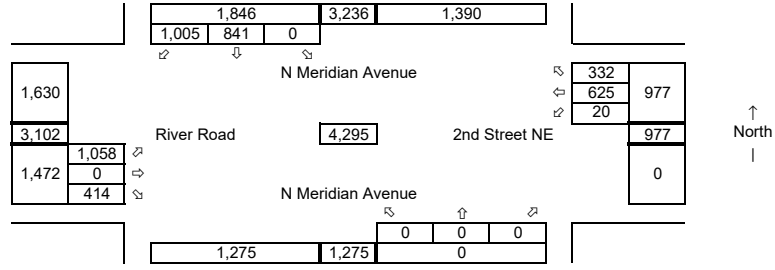
Development Car Trips
 Average Weekday
 PM Peak Hour



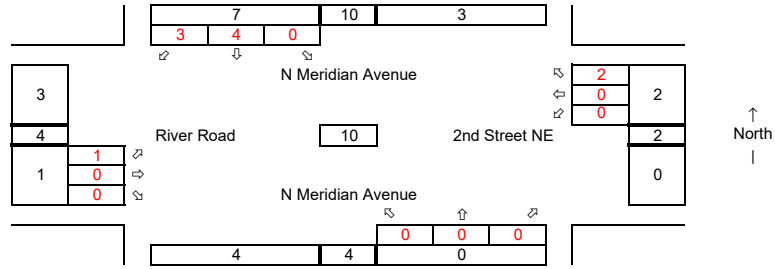
Synchro ID: 18
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/14/2023**
 Data Source: **IDAX**



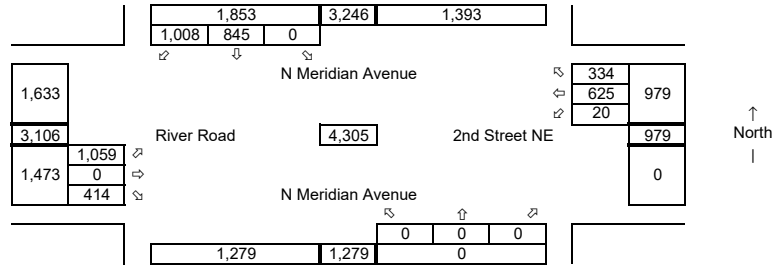
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



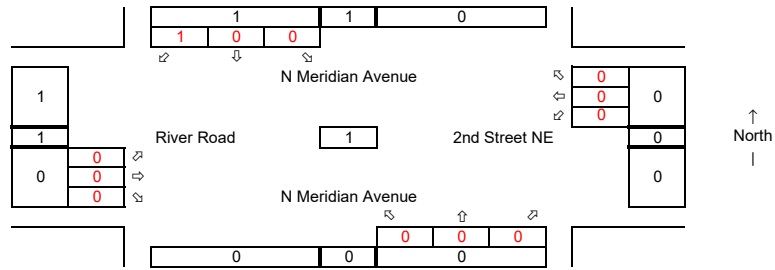
Total Development Trips
 Average Weekday
 PM Peak Hour



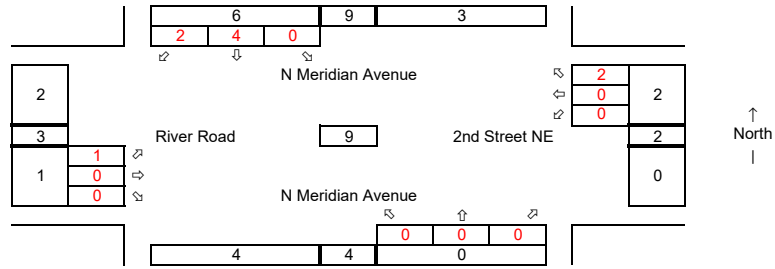
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



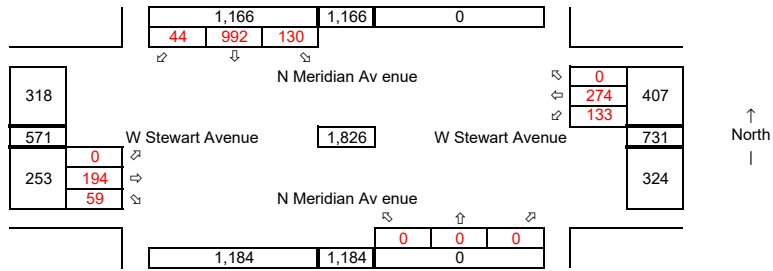
Synchro ID: 19

Existing
Average Weekday
PM Peak Hour

Year: 6/14/2023

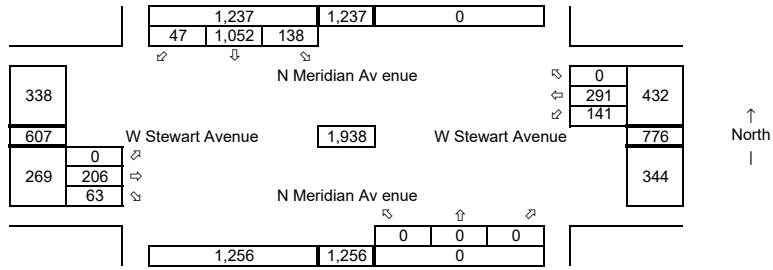
Data Source: IDAX

One (1) Westbound U-turn
added to Westbound left-turns

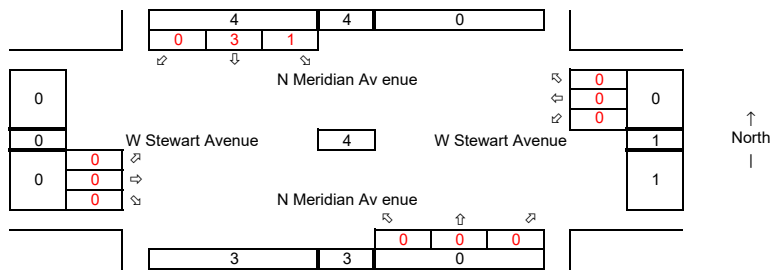


Future without Project
Average Weekday
PM Peak Hour

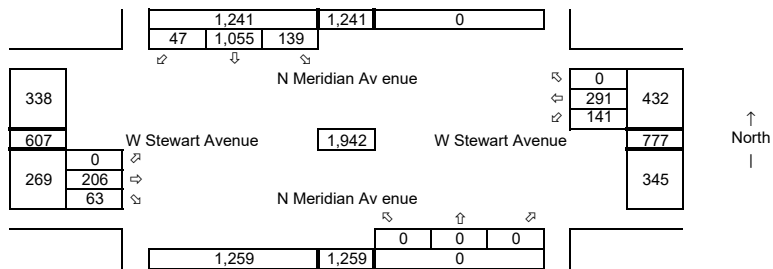
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



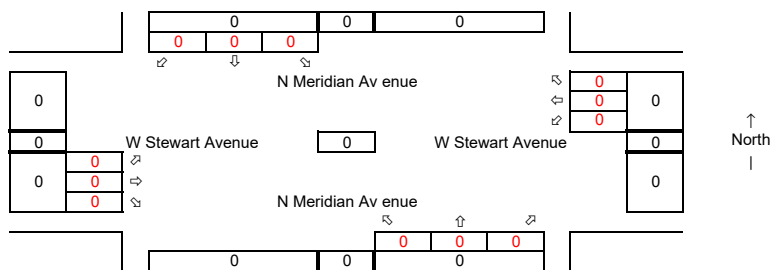
Total Development Trips
Average Weekday
PM Peak Hour



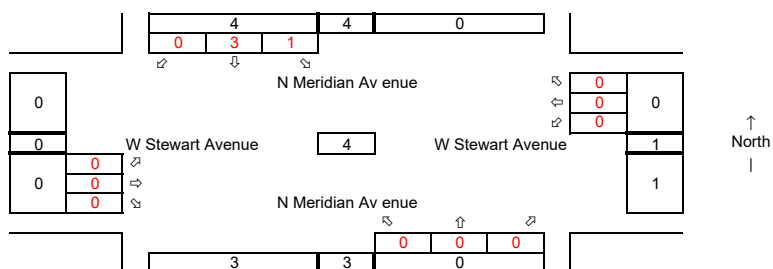
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



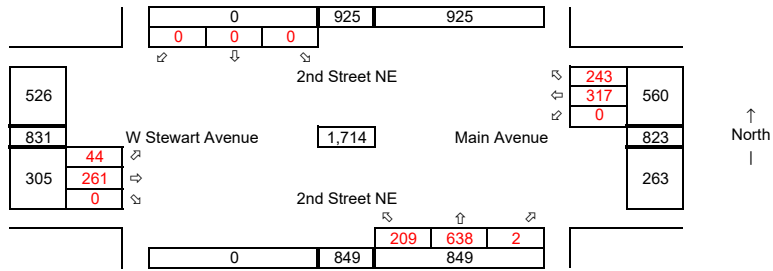
Development Car Trips
Average Weekday
PM Peak Hour



Synchro ID: 20
Existing
Average Weekday
PM Peak Hour

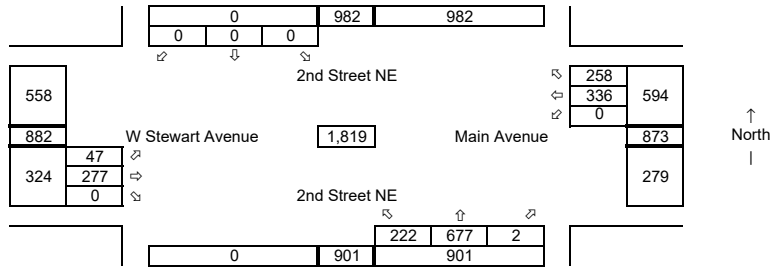
Year: 6/15/2023

Data Source: IDAX

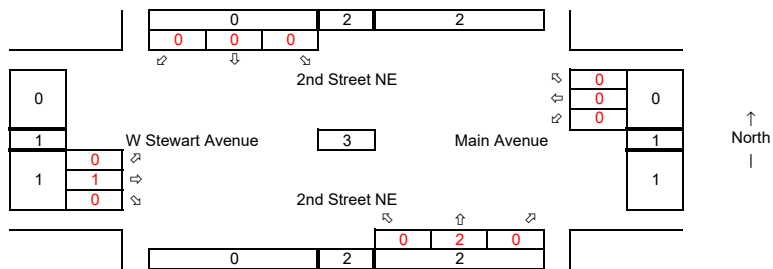


Future without Project
Average Weekday
PM Peak Hour

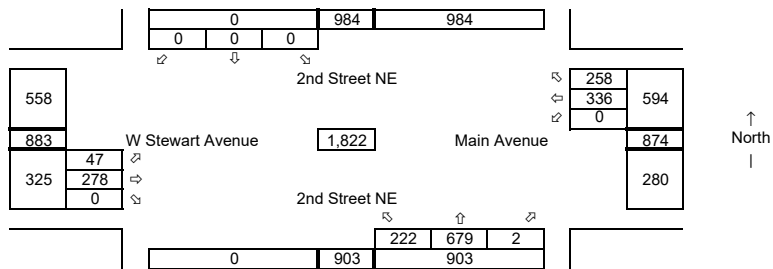
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



Total Development Trips
Average Weekday
PM Peak Hour



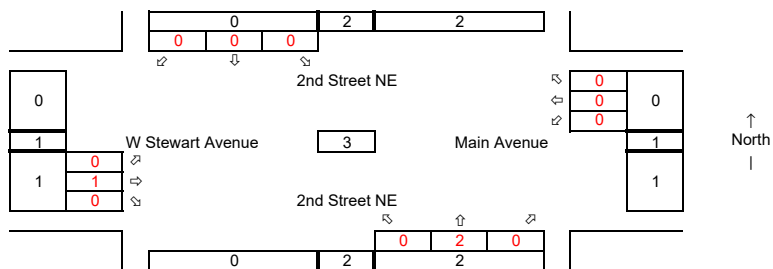
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



**Freeman Logistics
150 - Warehousing**

21 Freeman Rd @ Site Access

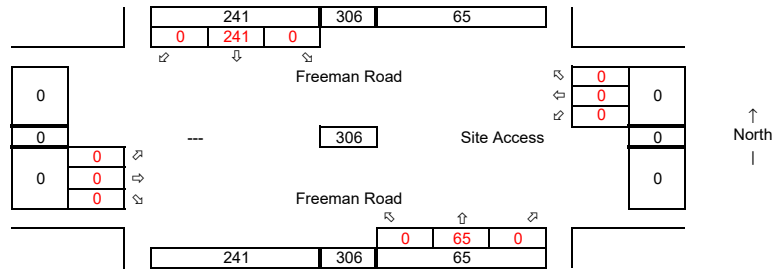
PM Peak-Hour

Synchro ID: 21
Existing
 Average Weekday
 PM Peak Hour

Year: **6/8/2023**

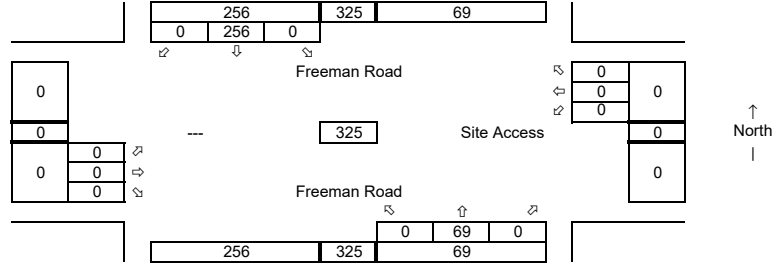
Data Source: **IDAX**

NB/SB volumes extrapolated
 from Freeman at 48th Street E

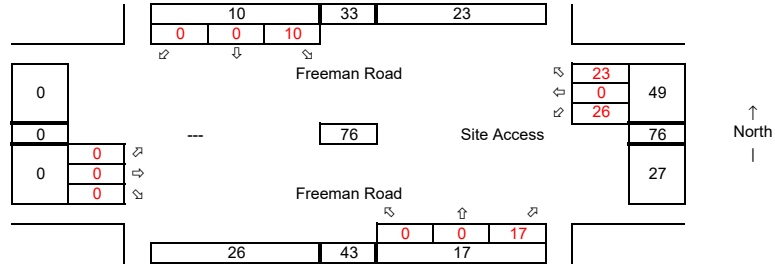


Future without Project
 Average Weekday
 PM Peak Hour

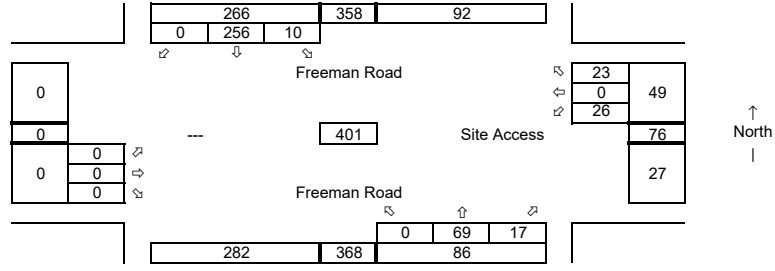
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



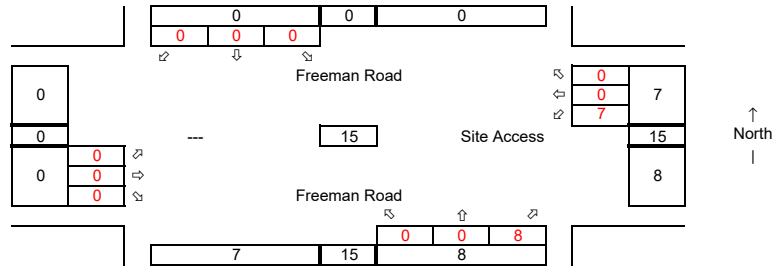
Total Development Trips
 Average Weekday
 PM Peak Hour



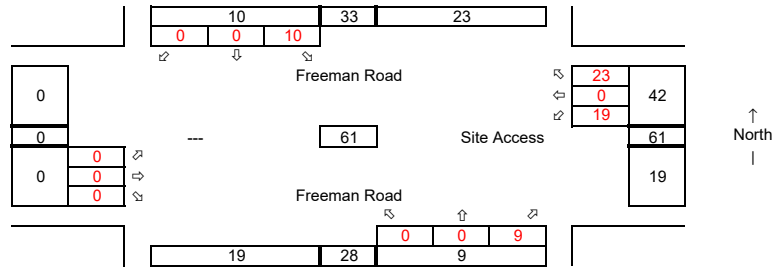
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour

























Development Car Trips
 Average Weekday
 PM Peak Hour



Lanes, Volumes, Timings
1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	137	41	76	214	175	35	302	45	140	455	47
Future Volume (vph)	17	137	41	76	214	175	35	302	45	140	455	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.966			0.933			0.981			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1765	0	1736	1705	0	1456	2856	0	1504	2966	0
Flt Permitted	0.360			0.640			0.425			0.534		
Satd. Flow (perm)	658	1765	0	1169	1705	0	651	2856	0	846	2966	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			46			24			16	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		727			778			1175			536	
Travel Time (s)		19.8			15.2			22.9			10.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	24%	24%	24%	20%	20%	20%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	187	0	80	409	0	37	365	0	147	528	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		10.0	19.0		10.0	17.0	
Total Split (s)	25.0	25.0		25.0	25.0		19.0	40.0		19.0	40.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		22.6%	47.6%		22.6%	47.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effct Green (s)	18.7	18.7		18.7	18.7		22.5	13.1		20.9	19.1	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.44	0.25		0.41	0.37	
v/c Ratio	0.07	0.28		0.18	0.63		0.09	0.49		0.32	0.47	
Control Delay (s/veh)	14.7	14.1		15.1	19.3		7.9	19.2		10.1	14.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	14.7	14.1		15.1	19.3		7.9	19.2		10.1	14.9	
LOS	B	B		B	B		A	B		B	B	
Approach Delay (s/veh)		14.2			18.6			18.2			13.9	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	4	37		17	91		6	51		26	54	
Queue Length 95th (ft)	18	93		51	#216		18	91		52	122	

FREEMAN LOGISTICS - WAREHOUSING
KIMLEY-HORN & ASSOCIATES, INC [JMM 090222083]

PM PEAK-HOUR
Synchro 12 Report

Lanes, Volumes, Timings
 1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		647			698			1095			456	
Turn Bay Length (ft)	100			200			100			100		
Base Capacity (vph)	276	750		490	742		566	2011		616	2086	
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	0.07	0.25		0.16	0.55		0.07	0.18		0.24	0.25	























Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	51.5
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay (s/veh):	16.2
Intersection LOS:	B
Intersection Capacity Utilization:	61.0%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 1: 54th Avenue E & 12th Street E



Lanes, Volumes, Timings
2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	466	369	722	721	123	353	261	430	179	432	80
Future Volume (vph)	105	466	369	722	721	123	353	261	430	179	432	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.978			0.907				0.977
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1626	3252	1455	3242	3269	0	3127	2923	0	1517	2964	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1626	3252	1455	3242	3269	0	3127	2923	0	1517	2964	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64		12			278			13	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1085			1070			320			1175	
Travel Time (s)		21.1			20.8			6.2			22.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	11%	11%	11%	8%	8%	8%	12%	12%	12%	19%	19%	19%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	496	393	768	898	0	376	735	0	190	545	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.0	40.0	47.0	22.0	44.0		47.0	47.0		41.0	41.0	
Total Split (%)	12.0%	26.7%	31.3%	14.7%	29.3%		31.3%	31.3%		27.3%	27.3%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	12.9	35.3	80.6	17.5	39.9		45.3	45.3		33.3	33.3	
Actuated g/C Ratio	0.09	0.24	0.54	0.12	0.27		0.30	0.30		0.22	0.22	
v/c Ratio	0.80	0.64	0.48	2.03	1.02		0.39	0.68		0.56	0.81	
Control Delay (s/veh)	104.1	56.3	11.9	504.5	88.7		45.3	35.2		58.3	64.4	
Queue Delay	0.0	0.0	0.1	4.1	0.0		1.6	5.5		0.0	0.0	
Total Delay (s/veh)	104.1	56.3	12.1	508.6	88.7		46.9	40.8		58.3	64.4	
LOS	F	E	B	F	F		D	D		E	E	
Approach Delay (s/veh)		44.4			282.3			42.9			62.9	
Approach LOS		D			F			D			E	
Queue Length 50th (ft)	109	232	118	~605	~492		160	241		164	258	
Queue Length 95th (ft)	#211	296	178	#735	#630		218	317		247	327	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

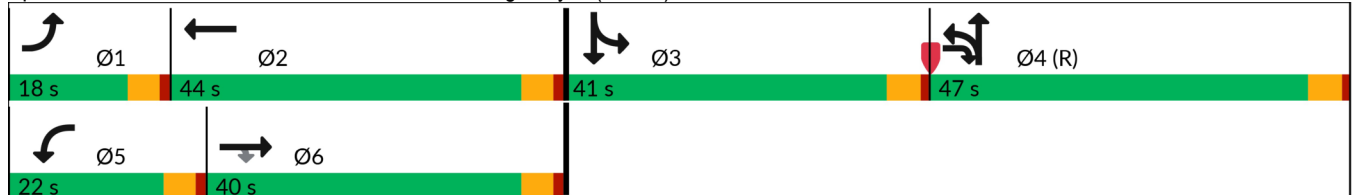
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	146	765	811	378	878		943	1076		367	727	
Starvation Cap Reductn	0	0	0	0	0		386	278		0	0	
Spillback Cap Reductn	0	0	65	114	0		0	0		0	1	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.77	0.65	0.53	2.91	1.02		0.68	0.92		0.52	0.75	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 138 (92%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.03
 Intersection Signal Delay (s/veh): 134.9 Intersection LOS: F
 Intersection Capacity Utilization 80.0% ICU Level of Service D
 Analysis Period (min) 15
 ~ 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.























Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	466	369	722	721	123	353	261	430	179	432	80
Future Volume (vph)	105	466	369	722	721	123	353	261	430	179	432	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.978			0.907				0.977
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1626	3252	1455	3242	3269	0	3127	2923	0	1517	2964	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1626	3252	1455	3242	3269	0	3127	2923	0	1517	2964	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			81		14			264			14	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1085			1070			320			1175	
Travel Time (s)		21.1			20.8			6.2			22.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	11%	11%	11%	8%	8%	8%	12%	12%	12%	19%	19%	19%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	496	393	768	898	0	376	735	0	190	545	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.7	38.7	36.6	31.0	51.0		36.6	36.6		38.7	38.7	
Total Split (%)	12.9%	26.7%	25.2%	21.4%	35.2%		25.2%	25.2%		26.7%	26.7%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	13.1	34.0	68.1	26.5	47.4		34.1	34.1		31.8	31.8	
Actuated g/C Ratio	0.09	0.23	0.47	0.18	0.33		0.24	0.24		0.22	0.22	
v/c Ratio	0.76	0.65	0.54	1.29	0.83		0.51	0.82		0.57	0.82	
Control Delay (s/veh)	94.6	54.7	14.0	191.7	52.6		51.6	42.4		57.5	63.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		1.7	11.8		0.0	0.0	
Total Delay (s/veh)	94.6	54.7	14.0	191.7	52.6		53.4	54.3		57.5	63.8	
LOS	F	D	B	F	D		D	D		E	E	
Approach Delay (s/veh)		43.2			116.8			54.0			62.2	
Approach LOS		D			F			D			E	
Queue Length 50th (ft)	104	224	106	~476	412		163	238		158	249	
Queue Length 95th (ft)	#195	288	161	#605	502		218	#332		243	320	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

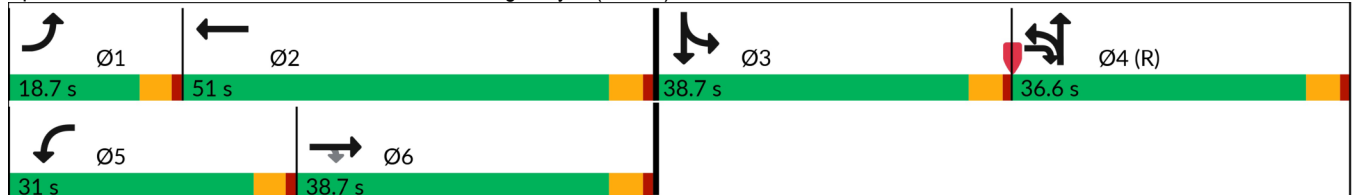
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Internal Link Dist (ft)		1005				990				240				1095		
Turn Bay Length (ft)	225			550			150			125						
Base Capacity (vph)	159	762	726	592	1077		735	889		355	705					
Starvation Cap Reductn	0	0	0	0	0		209	142		0	0					
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0					
Storage Cap Reductn	0	0	0	0	0		0	0		0	0					
Reduced v/c Ratio	0.70	0.65	0.54	1.30	0.83		0.71	0.98		0.54	0.77					

Intersection Summary

Area Type: Other
 Cycle Length: 145
 Actuated Cycle Length: 145
 Offset: 0 (0%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.30
 Intersection Signal Delay (s/veh): 76.1 Intersection LOS: E
 Intersection Capacity Utilization 80.0% ICU Level of Service D
 Analysis Period (min) 15
 ~ 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.

Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	287	0	302	0	756	490	0	715	700
Future Volume (vph)	0	0	0	287	0	302	0	756	490	0	715	700
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	1		1	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850		0.987	0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1626	0	1455	0	3438	1538	0	1681	1447
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1626	0	1455	0	3438	1538	0	1681	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						223			429		7	663
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1083			1080			827			320	
Travel Time (s)		24.6			24.5			18.8			7.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	11%	11%	11%	5%	5%	5%	6%	6%	6%
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	0	0	302	0	318	0	796	516	0	827	663
Turn Type				Prot		custom		NA	Perm		NA	custom
Protected Phases				3		34		6			2	24
Permitted Phases						4			6			Free
Detector Phase				3		34		6	6		2	24
Switch Phase												
Minimum Initial (s)				5.0				10.0	10.0		10.0	
Minimum Split (s)				9.5				14.7	14.7		14.5	
Total Split (s)				35.0				103.0	103.0		103.0	
Total Split (%)				23.3%				68.7%	68.7%		68.7%	
Yellow Time (s)				3.5				3.7	3.7		3.5	
All-Red Time (s)				1.0				1.0	1.0		1.0	
Lost Time Adjust (s)				0.0				0.0	0.0		0.0	
Total Lost Time (s)				4.5				4.7	4.7		4.5	
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Recall Mode				None				C-Max	C-Max		C-Max	
Act Effct Green (s)				29.6		39.4		101.4	101.4		101.6	150.0
Actuated g/C Ratio				0.20		0.26		0.68	0.68		0.68	1.00
v/c Ratio				0.94		0.58		0.34	0.43		0.72	0.45
Control Delay (s/veh)				96.0		18.5		10.9	3.0		19.4	4.6
Queue Delay				0.0		0.1		0.0	0.0		50.9	0.0
Total Delay (s/veh)				96.0		18.7		10.9	3.0		70.3	4.6
LOS				F		B		B	A		E	A
Approach Delay (s/veh)					56.4			7.9			41.1	
Approach LOS					E			A			D	
Queue Length 50th (ft)				292		76		162	28		561	202
Queue Length 95th (ft)				#472		180		205	75		m484	m114

Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	12.0
Total Split (%)	8%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

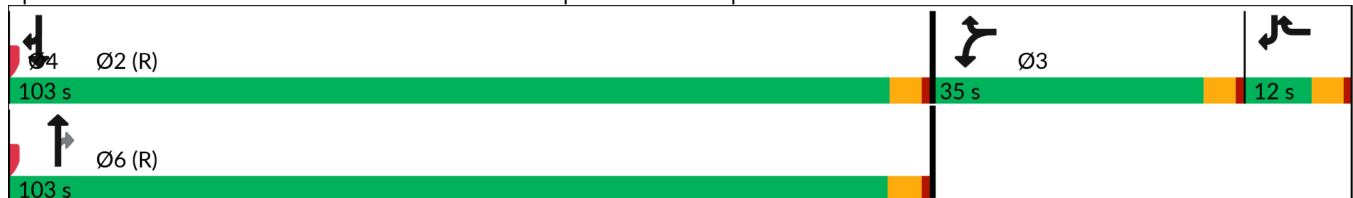
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1003			1000			747			240	
Turn Bay Length (ft)									100			
Base Capacity (vph)				330		565		2324	1178		1140	1447
Starvation Cap Reductn				0		0		0	0		427	0
Spillback Cap Reductn				0		24		378	0		0	0
Storage Cap Reductn				0		0		0	0		0	0
Reduced v/c Ratio				0.92		0.59		0.41	0.44		1.16	0.46

Intersection Summary

Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	60 (40%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay (s/veh):	31.1
Intersection LOS:	C
Intersection Capacity Utilization	74.8%
ICU Level of Service	D
Analysis Period (min)	15
#	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.

Splits and Phases: 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp



Lanes, Volumes, Timings























3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	308	195	24	182	535	150	438	23	356	660	280
Future Volume (vph)	313	308	195	24	182	535	150	438	23	356	660	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.946				0.850		0.993			0.957	
Flt Protected	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (prot)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2831	0
Flt Permitted	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (perm)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59				108		3			42	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)	12%									10%		
Lane Group Flow (vph)	281	551	0	0	210	546	153	470	0	327	995	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	38.0	38.0		26.0	26.0	60.0	26.0	26.0		60.0	60.0	
Total Split (%)	25.3%	25.3%		17.3%	17.3%	40.0%	17.3%	17.3%		40.0%	40.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	32.1	32.1			20.8	81.4	23.0	23.0		56.1	56.1	
Actuated g/C Ratio	0.21	0.21			0.14	0.54	0.15	0.15		0.37	0.37	
v/c Ratio	0.94	0.86			0.92	0.67	0.62	0.96		0.62	0.91	
Control Delay (s/veh)	96.9	64.9			107.1	24.3	72.5	94.5		44.7	56.6	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	96.9	64.9			107.1	24.3	72.5	94.5		44.7	56.6	
LOS	F	E			F	C	E	F		D	E	
Approach Delay (s/veh)		75.7			47.4			89.1			53.7	
Approach LOS		E			D			F			D	
Queue Length 50th (ft)	296	257			205	305	144	~257		287	495	
Queue Length 95th (ft)	#486	#336			#359	447	226	#377		412	#640	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	311	664			234	807	244	488		526	1085	
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	0.90	0.83			0.90	0.68	0.63	0.96		0.62	0.92	























Intersection Summary	
Area Type:	CBD
Cycle Length:	150
Actuated Cycle Length:	150
Offset: 0 (0%), Referenced to phase 6:, Start of Green	
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.96
Intersection Signal Delay (s/veh):	63.8
Intersection LOS:	E
Intersection Capacity Utilization	86.9%
ICU Level of Service	E
Analysis Period (min)	15
~ 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.	

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	308	195	24	182	535	150	438	23	356	660	280
Future Volume (vph)	313	308	195	24	182	535	150	438	23	356	660	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.946				0.850		0.993			0.957	
Flt Protected	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (prot)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2831	0
Flt Permitted	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (perm)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		72				88		4			50	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)	12%									10%		
Lane Group Flow (vph)	281	551	0	0	210	546	153	470	0	327	995	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	29.0	29.0		22.6	22.6	45.9	22.5	22.5		45.9	45.9	
Total Split (%)	24.2%	24.2%		18.8%	18.8%	38.3%	18.8%	18.8%		38.3%	38.3%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	24.7	24.7			17.3	63.2	18.6	18.6		41.4	41.4	
Actuated g/C Ratio	0.21	0.21			0.14	0.53	0.16	0.16		0.35	0.35	
v/c Ratio	0.97	0.87			0.89	0.70	0.62	0.95		0.67	0.98	
Control Delay (s/veh)	96.3	56.5			87.4	23.2	59.9	81.0		41.7	62.5	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	96.3	56.5			87.4	23.2	59.9	81.0		41.7	62.5	
LOS	F	E			F	C	E	F		D	E	
Approach Delay (s/veh)		70.0			41.1			75.8			57.4	
Approach LOS		E			D			E			E	
Queue Length 50th (ft)	240	202			161	255	113	192		236	402	
Queue Length 95th (ft)	#437	#306			#296	394	187	#305		356	#559	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	287	627			246	777	246	492		485	1009	
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	0.98	0.88			0.85	0.70	0.62	0.96		0.67	0.99	

Intersection Summary	
Area Type:	CBD
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.99
Intersection Signal Delay (s/veh):	60.1
Intersection LOS:	E
Intersection Capacity Utilization	86.9%
ICU Level of Service	E
Analysis Period (min)	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔		↔	↔	↔
Traffic Volume (vph)	1	0	3	6	0	111	1	420	5	88	641	0
Future Volume (vph)	1	0	3	6	0	111	1	420	5	88	641	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	210		0	100		0
Storage Lanes	0		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.899			0.850			0.998				
Flt Protected		0.988		0.950			0.950			0.950		
Satd. Flow (prot)	0	1350	0	1805	1615	0	1752	1841	0	1752	1845	1845
Flt Permitted		0.878		0.672			0.359			0.393		
Satd. Flow (perm)	0	1200	0	1277	1615	0	662	1841	0	725	1845	1845
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74			573			1				
Link Speed (mph)		25			25			30				30
Link Distance (ft)		362			838			575				783
Travel Time (s)		9.9			22.9			13.1				17.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	25%	25%	25%	0%	0%	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	6	117	0	1	447	0	93	675	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	6.0		4.0	6.0	6.0
Minimum Split (s)	8.0	24.5		8.0	24.0		8.0	14.5		8.0	14.5	14.5
Total Split (s)	14.0	16.5		14.0	16.0		14.0	34.5		16.0	34.5	34.5
Total Split (%)	17.3%	20.4%		17.3%	19.8%		17.3%	42.6%		19.8%	42.6%	42.6%
Yellow Time (s)	3.0	3.5		3.0	3.0		3.0	3.5		3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5		4.0	4.0		4.0	4.5		4.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effct Green (s)		5.6		7.7	7.7		39.4	35.2		43.6	42.7	
Actuated g/C Ratio		0.10		0.13	0.13		0.69	0.61		0.76	0.74	
v/c Ratio		0.02		0.02	0.16		0.00	0.39		0.13	0.49	
Control Delay (s/veh)		0.2		21.3	0.4		4.0	10.6		3.4	8.2	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		0.2		21.3	0.4		4.0	10.6		3.4	8.2	
LOS		A		C	A		A	B		A	A	
Approach Delay (s/veh)		0.3			1.5			10.6			7.6	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		0		2	0		0	81		5	63	
Queue Length 95th (ft)		0		10	0		2	212		27	345	

FREEMAN LOGISTICS - WAREHOUSING
 KIMLEY-HORN & ASSOCIATES, INC [JMM 090222083]

PM PEAK-HOUR
 Synchro 12 Report

Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

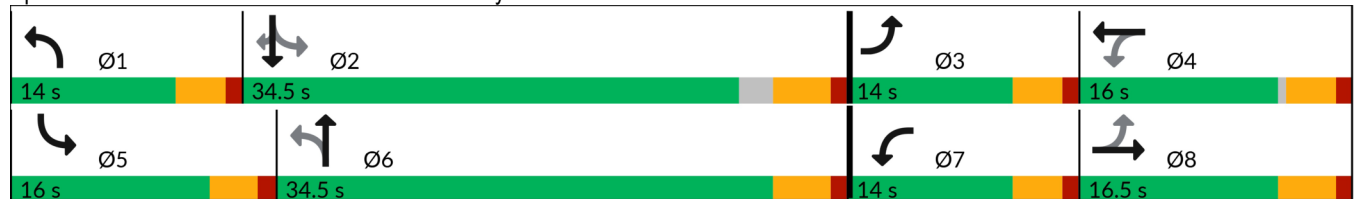


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR									
Internal Link Dist (ft)	282			758			495			703											
Turn Bay Length (ft)				100			210			100											
Base Capacity (vph)	311			341			814			681			1129			770			1371		
Starvation Cap Reductn	0			0			0			0			0			0					
Spillback Cap Reductn	0			0			0			0			0			0					
Storage Cap Reductn	0			0			0			0			0			0					
Reduced v/c Ratio	0.01			0.02			0.14			0.00			0.40			0.12			0.49		

Intersection Summary

Area Type:	Other
Cycle Length:	81
Actuated Cycle Length:	57.4
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay (s/veh):	8.0
Intersection LOS:	A
Intersection Capacity Utilization:	54.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: 54th Avenue E & Driveway/23rd Street E



Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	638	55	30	415	0	17	0	21	1	0	0
Future Volume (vph)	18	638	55	30	415	0	17	0	21	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988						0.924				
Flt Protected	0.950			0.950				0.979			0.950	
Satd. Flow (prot)	1752	1823	0	1787	1881	0	0	1719	0	0	1805	0
Flt Permitted	0.502			0.322								
Satd. Flow (perm)	926	1823	0	606	1881	0	0	1756	0	0	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13						31				
Link Speed (mph)		30			30			25				25
Link Distance (ft)		575			491			578				252
Travel Time (s)		13.1			11.2			15.8				6.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	753	0	33	451	0	0	41	0	0	1	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4				8
Permitted Phases	6			2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.5	30.5		22.5	22.5		32.0	32.0		32.0	32.0	
Total Split (s)	34.5	34.5		34.5	34.5		19.0	19.0		19.0	19.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)	23.7	23.7		23.7	23.7			7.2				7.2
Actuated g/C Ratio	0.86	0.86		0.86	0.86			0.26				0.26
v/c Ratio	0.02	0.48		0.06	0.27			0.08				0.00
Control Delay (s/veh)	2.5	4.1		2.8	2.7			9.1				15.0
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay (s/veh)	2.5	4.1		2.8	2.7			9.1				15.0
LOS	A	A		A	A			A				B
Approach Delay (s/veh)		4.1			2.8			9.1				15.0
Approach LOS		A			A			A				B
Queue Length 50th (ft)	0	0		0	0			1				0
Queue Length 95th (ft)	6	165		9	75			21				3

Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS

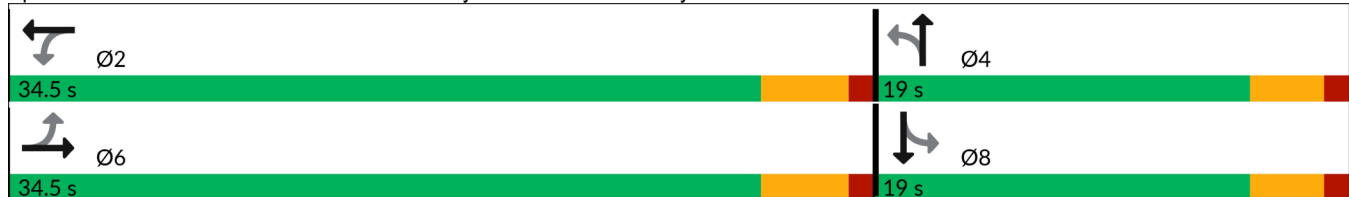


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		495			411			498			172	
Turn Bay Length (ft)	200			125								
Base Capacity (vph)	810	1597		530	1646			1189			1276	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.02	0.47		0.06	0.27			0.03			0.00	

Intersection Summary

Area Type:	Other
Cycle Length:	53.5
Actuated Cycle Length:	27.6
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay (s/veh):	3.8
Intersection LOS:	A
Intersection Capacity Utilization:	47.3%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 6: 54th Avenue E & Valley Avenue E & Driveway



Lanes, Volumes, Timings
7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	63	0	0	0	0	32
Future Volume (vph)	63	0	0	0	0	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	290			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.850	
Flt Protected	0.950					
Satd. Flow (prot)	1641	0	1776	3374	2950	0
Flt Permitted	0.950					
Satd. Flow (perm)	1641	0	1776	3374	2950	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1091	
Link Speed (mph)	30			30	30	
Link Distance (ft)	623			659	553	
Travel Time (s)	14.2			15.0	12.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	7%	7%	4%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	0	0	0	33	0
Turn Type	Prot		Prot		NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	5.0		6.0	10.0	10.0	
Minimum Split (s)	22.5		10.5	23.7	33.7	
Total Split (s)	35.0		15.0	60.0	60.0	
Total Split (%)	31.8%		13.6%	54.5%	54.5%	
Yellow Time (s)	3.5		3.5	4.7	4.7	
All-Red Time (s)	1.0		1.0	1.5	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	6.2	6.2	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	Max		None	Max	None	
Act Effct Green (s)	30.5				53.8	
Actuated g/C Ratio	0.32				0.57	
v/c Ratio	0.12				0.01	
Control Delay (s/veh)	23.7				0.0	
Queue Delay	0.0				0.0	
Total Delay (s/veh)	23.7				0.0	
LOS	C				A	
Approach Delay (s/veh)	23.7					
Approach LOS	C					
Queue Length 50th (ft)	28				0	
Queue Length 95th (ft)	59				0	

Lanes, Volumes, Timings
 7: Pacific Highway E & 70th Avenue E

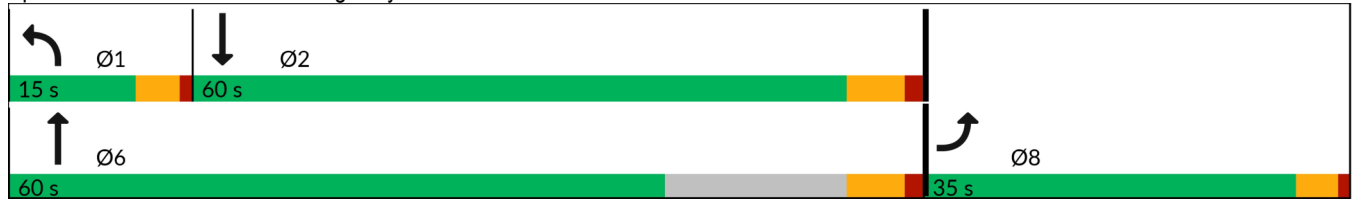
2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	543			579	473	
Turn Bay Length (ft)						
Base Capacity (vph)	526				2143	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.13				0.02	

























Intersection Summary	
Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	95
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.13
Intersection Signal Delay (s/veh):	15.8
Intersection LOS:	B
Intersection Capacity Utilization	21.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 7: Pacific Highway E & 70th Avenue E



Lanes, Volumes, Timings
8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	466	107	126	454	213	144	548	88	173	831	83
Future Volume (vph)	47	466	107	126	454	213	144	548	88	173	831	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	400		400	250		0	225		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.979			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1736	1827	1553	1612	3156	0	3019	3068	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	1845	1568	1736	1827	1553	1612	3156	0	3019	3068	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			189		16			9	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1295			1073			2009			522	
Travel Time (s)		25.2			20.9			39.1			10.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	12%	12%	12%	16%	16%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	480	110	130	468	220	148	656	0	178	943	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2						
Detector Phase	1	6	6	5	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	14.5	22.5	14.5	14.5	24.5		14.5	24.5	
Total Split (s)	14.5	44.5	44.5	14.5	44.5	19.5	19.5	44.5		19.5	44.5	
Total Split (%)	11.8%	36.2%	36.2%	11.8%	36.2%	15.9%	15.9%	36.2%		15.9%	36.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	None	None	None		None	None	
Act Effect Green (s)	8.6	40.0	40.0	10.0	43.7	60.7	14.2	40.9		12.6	39.3	
Actuated g/C Ratio	0.07	0.33	0.33	0.08	0.36	0.50	0.12	0.34		0.10	0.32	
v/c Ratio	0.38	0.78	0.19	0.90	0.71	0.25	0.78	0.61		0.57	0.94	
Control Delay (s/veh)	63.4	48.1	8.9	110.5	42.5	4.5	80.5	36.0		59.3	58.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	63.4	48.1	8.9	110.5	42.5	4.5	80.5	36.0		59.3	58.2	
LOS	E	D	A	F	D	A	F	D		E	E	
Approach Delay (s/veh)		42.5			43.2			44.2			58.4	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	37	347	9	104	333	13	116	221		70	379	
Queue Length 95th (ft)	78	#495	51	#227	#473	56	#218	293		106	#513	

FREEMAN LOGISTICS - WAREHOUSING
KIMLEY-HORN & ASSOCIATES, INC [JMM 090222083]

PM PEAK-HOUR
Synchro 12 Report

Lanes, Volumes, Timings
 8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1215			993			1929			442	
Turn Bay Length (ft)	250		200	400		400	250			225		
Base Capacity (vph)	144	608	578	143	656	898	199	1081		373	1016	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.33	0.79	0.19	0.91	0.71	0.24	0.74	0.61		0.48	0.93	

























Intersection Summary	
Area Type:	Other
Cycle Length:	123
Actuated Cycle Length:	121.5
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.95
Intersection Signal Delay (s/veh):	48.4
Intersection LOS:	D
Intersection Capacity Utilization:	80.1%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: 70th Avenue E & 20th Street E

	Ø1		Ø2		Ø3		Ø4
14.5 s		44.5 s		19.5 s		44.5 s	
	Ø5		Ø6		Ø7		Ø8
14.5 s		44.5 s		19.5 s		44.5 s	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	48	93	77	24	105	27	606	45	50	942	14
Future Volume (vph)	41	48	93	77	24	105	27	606	45	50	942	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	200		0	225		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.990			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	1597	1357	1656	1743	1482	1597	3163	0	1543	3079	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1517	1597	1357	1656	1743	1482	1597	3163	0	1543	3079	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			112		8			2	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1057			880			2032			2009	
Travel Time (s)		20.6			17.1			39.6			39.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	19%	19%	19%	9%	9%	9%	13%	13%	13%	17%	17%	17%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	51	99	82	26	112	29	693	0	53	1017	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4	4 5	3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.5	24.5		10.5	24.5		10.5	22.5		10.5	22.5	
Total Split (s)	20.0	24.5		20.0	24.5		20.0	60.0		20.0	60.0	
Total Split (%)	16.1%	19.7%		16.1%	19.7%		16.1%	48.2%		16.1%	48.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effect Green (s)	8.5	8.8	20.8	10.4	12.9	26.5	7.5	57.3		9.0	61.2	
Actuated g/C Ratio	0.08	0.09	0.21	0.10	0.13	0.26	0.07	0.57		0.09	0.61	
v/c Ratio	0.34	0.36	0.27	0.48	0.11	0.23	0.24	0.38		0.38	0.54	
Control Delay (s/veh)	53.4	53.4	9.2	54.0	43.1	7.1	52.0	14.6		53.8	15.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	53.4	53.4	9.2	54.0	43.1	7.1	52.0	14.6		53.8	15.9	
LOS	D	D	A	D	D	A	D	B		D	B	
Approach Delay (s/veh)		30.9			28.9			16.1			17.8	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	27	32	0	51	16	0	18	127		33	212	
Queue Length 95th (ft)	68	75	43	106	44	42	51	218		77	348	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	977			800			1952			1929		
Turn Bay Length (ft)	150		150	150		150	200			225		
Base Capacity (vph)	234	318	458	256	348	560	246	1797		238	1865	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.19	0.16	0.22	0.32	0.07	0.20	0.12	0.39		0.22	0.55	

























Intersection Summary	
Area Type:	Other
Cycle Length:	124.5
Actuated Cycle Length:	101.1
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay (s/veh):	19.5
Intersection LOS:	B
Intersection Capacity Utilization	53.7%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 9: 70th Avenue E & 26th Street E

Ø1 20 s	Ø2 60 s	Ø3 20 s	Ø4 24.5 s
Ø5 20 s	Ø6 60 s	Ø7 20 s	Ø8 24.5 s

Lanes, Volumes, Timings
10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	499	158	72	274	321	133	273	41	538	492	84
Future Volume (vph)	24	499	158	72	274	321	133	273	41	538	492	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	200		0	200		130	350		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1810	1538	1626	1712	1455	1687	3374	1509	3072	3097	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	1810	1538	1626	1712	1455	1687	3374	1509	3072	3097	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			132			334			164		15	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		831			1056			750			2032	
Travel Time (s)		18.9			24.0			14.6			39.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	11%	11%	11%	7%	7%	7%	14%	14%	14%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	520	165	75	285	334	139	284	43	560	601	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0	8.0	6.0	8.0	8.0	6.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	31.0	31.0	10.5	31.0	31.0	10.5	31.0	31.0	13.0	31.0	
Total Split (s)	30.0	40.0	40.0	20.0	40.0	40.0	20.0	30.0	30.0	40.0	40.0	
Total Split (%)	21.4%	28.6%	28.6%	14.3%	28.6%	28.6%	14.3%	21.4%	21.4%	28.6%	28.6%	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	9.1	59.1	59.1	12.3	66.8	66.8	14.7	18.2	18.2	30.9	34.9	
Actuated g/C Ratio	0.07	0.42	0.42	0.09	0.48	0.48	0.11	0.13	0.13	0.22	0.25	
v/c Ratio	0.22	0.68	0.22	0.52	0.34	0.38	0.78	0.64	0.12	0.82	0.76	
Control Delay (s/veh)	66.2	40.6	9.0	73.6	28.0	4.3	90.2	64.6	0.7	62.7	53.9	
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)	66.2	40.6	9.0	73.6	28.0	4.3	90.2	64.6	0.7	62.7	53.9	
LOS	E	D	A	E	C	A	F	E	A	E	D	
Approach Delay (s/veh)		34.2			21.6			66.4			58.2	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	22	380	18	66	172	0	125	131	0	251	264	
Queue Length 95th (ft)	53	#654	76	117	287	66	#226	174	0	310	307	

Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		751			976			670				1952
Turn Bay Length (ft)	150		250	200			200		130	350		
Base Capacity (vph)	306	764	725	183	816	868	186	602	404	768	1005	
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.68	0.23	0.41	0.35	0.38	0.75	0.47	0.11	0.73	0.60	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 30 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

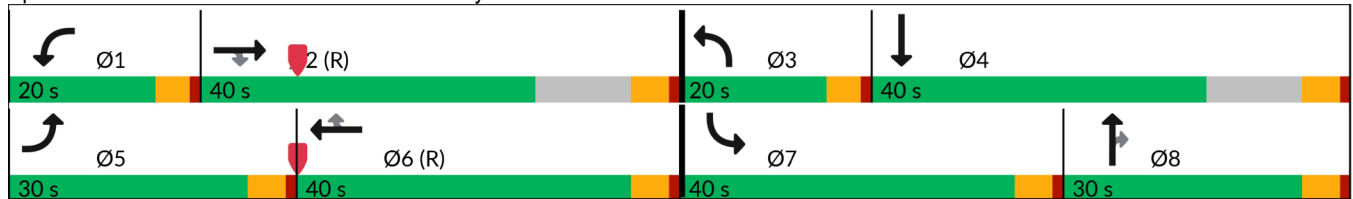
Intersection Signal Delay (s/veh): 45.4 Intersection LOS: D

Intersection Capacity Utilization 70.7% ICU Level of Service C

Analysis Period (min) 15





















95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 10: 70th Avenue E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	937	112	20	481	117	33	38	30	231	153	21
Future Volume (vph)	27	937	112	20	481	117	33	38	30	231	153	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.971			0.934				0.982
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3259	0	1612	3130	0	1671	1643	0	1736	1794	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1656	3259	0	1612	3130	0	1671	1643	0	1736	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			27			29				5
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	9%	9%	9%	12%	12%	12%	8%	8%	8%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	1179	0	22	671	0	37	77	0	260	196	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.8	41.6		7.5	38.9		8.9	8.9		18.5	18.5	
Actuated g/C Ratio	0.09	0.49		0.09	0.45		0.10	0.10		0.22	0.22	
v/c Ratio	0.19	0.74		0.15	0.46		0.21	0.39		0.69	0.50	
Control Delay (s/veh)	44.7	25.3		44.8	20.5		42.8	33.8		43.2	35.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	44.7	25.3		44.8	20.5		42.8	33.8		43.2	35.5	
LOS	D	C		D	C		D	C		D	D	
Approach Delay (s/veh)		25.8			21.4			36.8			40.0	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	15	243		11	144		18	23		121	85	
Queue Length 95th (ft)	48	#534		39	235		54	74		246	182	

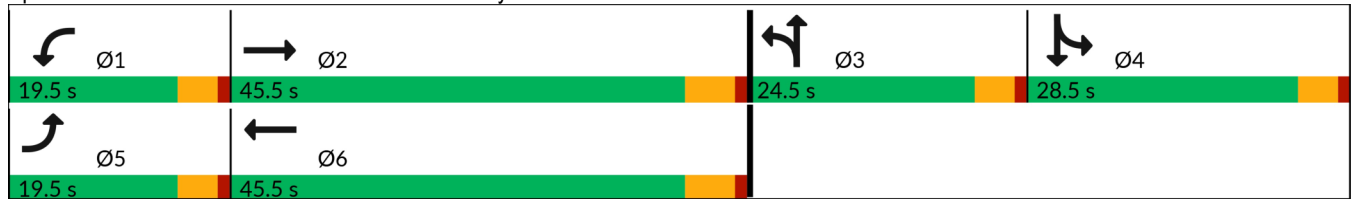
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454				414
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	301	1590		294	1535		406	421		506	526	
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	0.10	0.74		0.07	0.44		0.09	0.18		0.51	0.37	





















Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	85.5
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay (s/veh):	27.7
Intersection LOS:	C
Intersection Capacity Utilization	59.4%
ICU Level of Service	B
Analysis Period (min)	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 11: Freeman Road E & Valley Avenue E



Lanes, Volumes, Timings
11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	796	95	17	409	99	23	26	21	159	106	14
Future Volume (vph)	23	796	95	17	409	99	23	26	21	159	106	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.971			0.932				0.982
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3259	0	1612	3130	0	1671	1640	0	1736	1794	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1656	3259	0	1612	3130	0	1671	1640	0	1736	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			27			24				5
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	9%	9%	9%	12%	12%	12%	8%	8%	8%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1001	0	19	571	0	26	53	0	179	135	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.5	41.9		7.2	41.7		7.9	7.9		14.3	14.3	
Actuated g/C Ratio	0.09	0.52		0.09	0.52		0.10	0.10		0.18	0.18	
v/c Ratio	0.16	0.58		0.13	0.34		0.15	0.29		0.58	0.41	
Control Delay (s/veh)	41.5	18.6		41.7	14.9		40.5	29.1		40.3	34.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	41.5	18.6		41.7	14.9		40.5	29.1		40.3	34.4	
LOS	D	B		D	B		D	C		D	C	
Approach Delay (s/veh)		19.2			15.8			32.9			37.8	
Approach LOS		B			B			C			D	
Queue Length 50th (ft)	11	152		8	70		11	13		77	54	
Queue Length 95th (ft)	42	363		34	182		42	53		166	125	

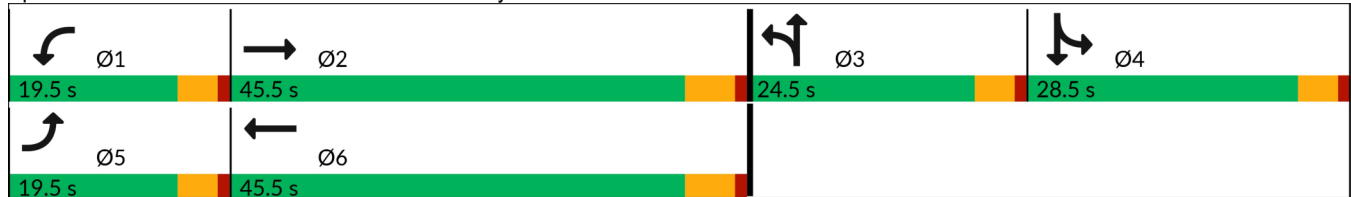
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	319	1701		310	1641		429	439		535	556	
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	0.08	0.59		0.06	0.35		0.06	0.12		0.33	0.24	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	80.5
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.59
Intersection Signal Delay (s/veh):	21.7
Intersection LOS:	C
Intersection Capacity Utilization	48.8%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 11: Freeman Road E & Valley Avenue E



HCM 6th TWSC
 12: Freeman Road E & 48th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	4	21	7	86	245	11
Future Vol, veh/h	4	21	7	86	245	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	8	4	4
Mvmt Flow	5	25	8	101	288	13

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	412	295	301	0	0
Stage 1	295	-	-	-	-
Stage 2	117	-	-	-	-
Critical Hdwy	6.4	6.2	4.18	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.272	-	-
Pot Cap-1 Maneuver	600	749	1227	-	-
Stage 1	760	-	-	-	-
Stage 2	913	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	596	749	1227	-	-
Mov Cap-2 Maneuver	596	-	-	-	-
Stage 1	755	-	-	-	-
Stage 2	913	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.2	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1227	-	719	-	-
HCM Lane V/C Ratio	0.007	-	0.041	-	-
HCM Control Delay (s/veh)	8	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC
 13: Freeman Road E & 50th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	11	8	5	76	265	13
Future Vol, veh/h	11	8	5	76	265	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	6	6	7	7	4	4
Mvmt Flow	13	9	6	89	312	15

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	421	320	327	0	-	0
Stage 1	320	-	-	-	-	-
Stage 2	101	-	-	-	-	-
Critical Hdwy	6.46	6.26	4.17	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	2.263	-	-	-
Pot Cap-1 Maneuver	582	712	1205	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	913	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	579	712	1205	-	-	-
Mov Cap-2 Maneuver	579	-	-	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	913	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.9	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1205	-	628	-	-
HCM Lane V/C Ratio	0.005	-	0.036	-	-
HCM Control Delay (s/veh)	8	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC

14: Freeman Road E & 52nd Street E/19th Avenue NW 2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	2	20	0	5	1	76	5	2	269	1
Future Vol, veh/h	0	0	2	20	0	5	1	76	5	2	269	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	17	17	17	10	10	10	4	4	4
Mvmt Flow	0	0	2	24	0	6	1	92	6	2	324	1

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	429	429	325	427	426	95	325	0	0	98	0	0
Stage 1	329	329	-	97	97	-	-	-	-	-	-	-
Stage 2	100	100	-	330	329	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.27	6.67	6.37	4.2	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.653	4.153	3.453	2.29	-	-	2.236	-	-
Pot Cap-1 Maneuver	540	521	721	513	498	922	1191	-	-	1483	-	-
Stage 1	688	650	-	874	786	-	-	-	-	-	-	-
Stage 2	911	816	-	653	620	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	535	519	721	510	497	922	1191	-	-	1483	-	-
Mov Cap-2 Maneuver	535	519	-	510	497	-	-	-	-	-	-	-
Stage 1	687	649	-	873	785	-	-	-	-	-	-	-
Stage 2	904	815	-	650	619	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10	11.8	0.1	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1191	-	-	721	560	1483	-	-
HCM Lane V/C Ratio	0.001	-	-	0.003	0.054	0.002	-	-
HCM Control Delay (s/veh)	8	0	-	10	11.8	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.2	0	-	-

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	13.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	↷
Traffic Vol, veh/h	41	477	141	58	262	37
Future Vol, veh/h	41	477	141	58	262	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	43	497	147	60	273	39

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	207	0	-	0	760 177
Stage 1	-	-	-	-	177 -
Stage 2	-	-	-	-	583 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1358	-	-	-	374 866
Stage 1	-	-	-	-	854 -
Stage 2	-	-	-	-	558 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1358	-	-	-	358 866
Mov Cap-2 Maneuver	-	-	-	-	358 -
Stage 1	-	-	-	-	816 -
Stage 2	-	-	-	-	558 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.6	0	43.5
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1358	-	-	-	386
HCM Lane V/C Ratio	0.031	-	-	-	0.807
HCM Control Delay (s/veh)	7.7	0	-	-	43.5
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q (veh)	0.1	-	-	-	7.1

HCM 6th AWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection	
Intersection Delay, s/veh	21
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	41	477	141	58	262	37
Future Vol, veh/h	41	477	141	58	262	37
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	43	497	147	60	273	39
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	27.1	11.8	16.5
HCM LOS	D	B	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	8%	0%	100%	0%
Vol Thru, %	92%	71%	0%	0%
Vol Right, %	0%	29%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	518	199	262	37
LT Vol	41	0	262	0
Through Vol	477	141	0	0
RT Vol	0	58	0	37
Lane Flow Rate	540	207	273	39
Geometry Grp	2	2	5	5
Degree of Util (X)	0.807	0.334	0.534	0.062
Departure Headway (Hd)	5.382	5.792	7.046	5.825
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	669	618	510	613
Service Time	3.427	3.852	4.798	3.577
HCM Lane V/C Ratio	0.807	0.335	0.535	0.064
HCM Control Delay, s/veh	27.1	11.8	17.6	9
HCM Lane LOS	D	B	C	A
HCM 95th-tile Q	8.3	1.5	3.1	0.2

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	4.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	32	321	95	41	136	31
Future Vol, veh/h	32	321	95	41	136	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	33	334	99	43	142	32


















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	142	0	-	0	521 121
Stage 1	-	-	-	-	121 -
Stage 2	-	-	-	-	400 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1435	-	-	-	516 930
Stage 1	-	-	-	-	904 -
Stage 2	-	-	-	-	677 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1435	-	-	-	502 930
Mov Cap-2 Maneuver	-	-	-	-	502 -
Stage 1	-	-	-	-	879 -
Stage 2	-	-	-	-	677 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.7	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1435	-	-	-	549
HCM Lane V/C Ratio	0.023	-	-	-	0.317
HCM Control Delay (s/veh)	7.6	0	-	-	14.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q (veh)	0.1	-	-	-	1.4

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 		 	 
Traffic Volume (vph)	960	609	515	1373	1088	861
Future Volume (vph)	960	609	515	1373	1088	861
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	2		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.88	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3303	2682	3505	1568	3335	3438
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	2682	3505	1568	3335	3438
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		319		431		
Link Speed (mph)	35		35			35
Link Distance (ft)	522		278			1175
Travel Time (s)	10.2		5.4			22.9
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	3%	3%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	980	621	526	1401	1110	879
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	10.0	6.0	10.0
Minimum Split (s)	36.6	10.6	38.9	38.9	10.6	36.9
Total Split (s)	36.6	54.6	64.9	64.9	54.6	64.9
Total Split (%)	23.4%	35.0%	41.6%	41.6%	35.0%	41.6%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9	4.9	4.6	4.9
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	32.0	86.6	60.0	60.0	50.0	114.6
Actuated g/C Ratio	0.20	0.55	0.38	0.38	0.32	0.73
v/c Ratio	1.44	0.38	0.39	1.61	1.03	0.34
Control Delay (s/veh)	252.0	9.4	35.8	305.0	89.0	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	252.0	9.4	35.8	305.0	89.0	7.8
LOS	F	A	D	F	F	A
Approach Delay (s/veh)	158.0		231.6			53.2
Approach LOS	F		F			D
Queue Length 50th (ft)	~698	88	203	~1770	~627	153
Queue Length 95th (ft)	#834	133	255	#2040	#764	183

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

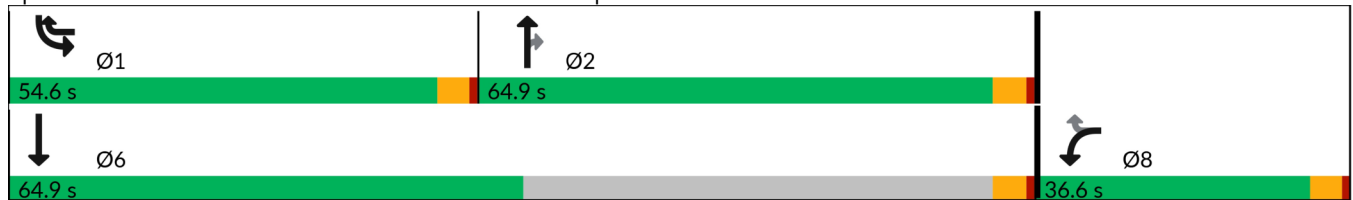


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	442		198			1095
Turn Bay Length (ft)					250	
Base Capacity (vph)	677	1629	1347	868	1068	2523
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.45	0.38	0.39	1.61	1.04	0.35

Intersection Summary

Area Type:	Other
Cycle Length:	156.1
Actuated Cycle Length:	156.1
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.61
Intersection Signal Delay (s/veh):	145.9
Intersection LOS:	F
Intersection Capacity Utilization	124.0%
ICU Level of Service	H
Analysis Period (min)	15
~ 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.	

Splits and Phases: 16: N Meridian Avenue & SR-167 Ramps



HCM 6th TWSC
 17: N Meridian Avenue & N Levee Road

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	65.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↔			↕↔	
Traffic Vol, veh/h	0	0	410	0	0	552	0	1374	62	0	1561	103
Future Vol, veh/h	0	0	410	0	0	552	0	1374	62	0	1561	103
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	427	0	0	575	0	1431	65	0	1626	107

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	867	-	-	716	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.96	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.33	-	-
Pot Cap-1 Maneuver	0	0	~ 296	0	0	~ 370	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %								
Mov Cap-1 Maneuver	-	-	~ 296	-	-	~ 370	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v250.3		288.9	0	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	296	370	-	-
HCM Lane V/C Ratio	-	1.443	1.554	-	-
HCM Control Delay (s/veh)	-	250.3	288.9	-	-
HCM Lane LOS	-	F	F	-	-
HCM 95th %tile Q (veh)	-	23.3	32.3	-	-

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

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1059	0	414	20	625	334	0	0	0	0	846	1008
Future Volume (vph)	1059	0	414	20	625	334	0	0	0	0	846	1008
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				72		348						671
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1103	0	431	21	651	348	0	0	0	0	881	1050
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2						4	
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2					4	4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	42.0		42.0	29.0	29.0	29.0					34.0	34.0
Total Split (%)	40.0%		40.0%	27.6%	27.6%	27.6%					32.4%	32.4%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	36.0		36.0	30.0	30.0	30.0					29.2	29.2
Actuated g/C Ratio	0.33		0.33	0.27	0.27	0.27					0.26	0.26
v/c Ratio	1.00		0.85	0.03	0.67	0.50					0.94	1.15
Control Delay (s/veh)	65.7		51.9	0.1	40.0	6.2					59.8	97.8
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	65.7		51.9	0.1	40.0	6.2					59.8	97.8
LOS	E		D	A	D	A					E	F
Approach Delay (s/veh)		61.9			27.7						80.5	
Approach LOS		E			C						F	
Queue Length 50th (ft)	400		283	0	218	0					326	~510
Queue Length 95th (ft)	#547		#454	0	284	71					#456	#765

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

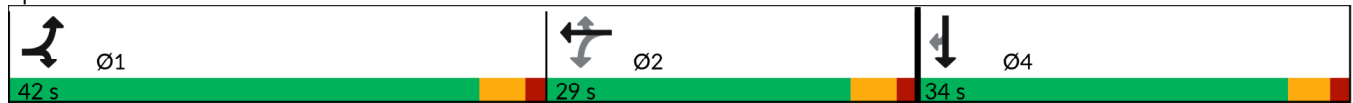


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	1128		520	534	963	684					929	908
Starvation Cap Reductn	0		0	0	0	0					0	0
Spillback Cap Reductn	0		0	0	0	0					0	0
Storage Cap Reductn	0		0	0	0	0					0	0
Reduced v/c Ratio	0.98		0.83	0.04	0.68	0.51					0.95	1.16

Intersection Summary

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 110.2
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay (s/veh): 62.1 Intersection LOS: E
 Intersection Capacity Utilization 87.9% ICU Level of Service E
 Analysis Period (min) 15
 ~ 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.

Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1059	0	414	20	625	334	0	0	0	0	846	1008
Future Volume (vph)	1059	0	414	20	625	334	0	0	0	0	846	1008
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				50		339						666
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1103	0	431	21	651	348	0	0	0	0	881	1050
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2							4
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2						4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	53.1		53.1	36.5	36.5	36.5					60.4	60.4
Total Split (%)	35.4%		35.4%	24.3%	24.3%	24.3%					40.3%	40.3%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	48.0		48.0	31.4	31.4	31.4					55.6	55.6
Actuated g/C Ratio	0.32		0.32	0.21	0.21	0.21					0.37	0.37
v/c Ratio	1.02		0.86	0.05	0.87	0.58					0.67	1.05
Control Delay (s/veh)	83.2		66.8	0.2	71.6	9.7					42.8	59.4
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	83.2		66.8	0.2	71.6	9.7					42.8	59.4
LOS	F		E	A	E	A					D	E
Approach Delay (s/veh)		78.6			49.0						51.9	
Approach LOS		E			D						D	
Queue Length 50th (ft)	~590		398	0	328	7					380	~680
Queue Length 95th (ft)	#726		#587	2	#427	99					457	#947

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	1077		496	410	740	599					1299	1000
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	1.02		0.87	0.05	0.88	0.58					0.68	1.05

Intersection Summary













Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.05
Intersection Signal Delay (s/veh):	60.4
Intersection LOS:	E
Intersection Capacity Utilization:	87.9%
ICU Level of Service:	E
Analysis Period (min):	15
~ 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.	

Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↖	↗
Traffic Volume (vph)	0	206	63	141	291	0	0	0	0	139	1056	47
Future Volume (vph)	0	206	63	141	291	0	0	0	0	139	1056	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	125		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt			0.850									0.994
Flt Protected				0.950								0.994
Satd. Flow (prot)	0	1792	1524	1770	1863	0	0	0	0	0	3531	0
Flt Permitted				0.259								0.994
Satd. Flow (perm)	0	1792	1524	482	1863	0	0	0	0	0	3531	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51									6
Link Speed (mph)		25			25			25				25
Link Distance (ft)		393			385			1349				2133
Travel Time (s)		10.7			10.5			36.8				58.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	0%	0%	0%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	217	66	148	306	0	0	0	0	0	1307	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		8		7	4							2
Permitted Phases			8	4						2		
Detector Phase		8	8	7	4					2	2	
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					10.0	10.0	
Minimum Split (s)		21.0	21.0	9.0	21.0					23.0	23.0	
Total Split (s)		31.0	31.0	11.0	41.0					66.0	66.0	
Total Split (%)		28.7%	28.7%	10.2%	38.0%					61.1%	61.1%	
Yellow Time (s)		3.0	3.0	3.0	3.0					3.0	3.0	
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0							0.0
Total Lost Time (s)		4.0	4.0	4.0	4.0							4.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		None	None	None	None					Max	Max	
Act Effct Green (s)		15.0	15.0	25.8	25.8							62.2
Actuated g/C Ratio		0.16	0.16	0.27	0.27							0.65
v/c Ratio		0.77	0.23	0.66	0.61							0.57
Control Delay (s/veh)		57.8	15.7	43.7	36.1							11.3
Queue Delay		0.0	0.0	0.0	0.1							0.0
Total Delay (s/veh)		57.8	15.7	43.7	36.3							11.3
LOS		E	B	D	D							B
Approach Delay (s/veh)		48.1			38.8							11.3
Approach LOS		D			D							B
Queue Length 50th (ft)		129	8	72	163							211
Queue Length 95th (ft)		206	44	123	247							329

Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		313			305			1269			2053	
Turn Bay Length (ft)			50	125								
Base Capacity (vph)		505	466	223	739						2289	
Starvation Cap Reductn		0	0	0	76						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.43	0.14	0.66	0.46						0.57	

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	96
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay (s/veh):	22.5
Intersection LOS:	C
Intersection Capacity Utilization:	63.4%
ICU Level of Service:	B
Analysis Period (min):	15



















Splits and Phases: 19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue



Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	278	0	0	336	258	222	679	2	0	0	0
Future Volume (vph)	47	278	0	0	336	258	222	679	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	0		125	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850						
Flt Protected	0.950							0.988				
Satd. Flow (prot)	1752	1845	0	0	1845	1568	0	3531	0	0	0	0
Flt Permitted	0.174							0.988				
Satd. Flow (perm)	321	1845	0	0	1845	1568	0	3531	0	0	0	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		385			615			394				343
Travel Time (s)		10.5			16.8			10.7				9.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	293	0	0	354	272	0	951	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	3	8			4			2				
Permitted Phases	8					4	2					
Detector Phase	3	8			4	4	2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	10.0	10.0				
Minimum Split (s)	9.5	28.0			28.0	28.0	26.0	26.0				
Total Split (s)	10.0	45.0			29.0	29.0	53.0	53.0				
Total Split (%)	10.2%	45.9%			29.6%	29.6%	54.1%	54.1%				
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0				
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	None			None	None	Max	Max				
Act Effct Green (s)	24.3	24.3			19.0	19.0		49.7				
Actuated g/C Ratio	0.30	0.30			0.23	0.23		0.61				
v/c Ratio	0.25	0.53			0.83	0.75		0.44				
Control Delay (s/veh)	22.4	27.0			47.8	43.6		11.2				
Queue Delay	0.0	0.1			0.0	0.0		0.0				
Total Delay (s/veh)	22.4	27.1			47.8	43.6		11.2				
LOS	C	C			D	D		B				
Approach Delay (s/veh)		26.5			46.0			11.3				
Approach LOS		C			D			B				
Queue Length 50th (ft)	18	123			183	137		146				
Queue Length 95th (ft)	41	194			285	226		228				

Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

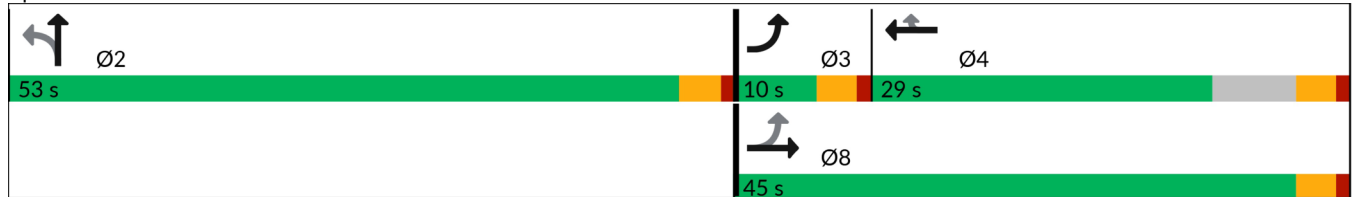


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		305			535			314			263	
Turn Bay Length (ft)	50					125						
Base Capacity (vph)	200	934			706	600		2138				
Starvation Cap Reductn	0	124			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.25	0.36			0.50	0.45		0.44				

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	82.1
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay (s/veh):	25.3
Intersection LOS:	C
Intersection Capacity Utilization:	63.4%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 20: 2nd Street NE & E Stewart Avenue/E Main Avenue



HCM 6th TWSC
 21: Freeman Road E & Site Access

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	Y		T		T	T
Traffic Vol, veh/h	27	23	69	17	10	256
Future Vol, veh/h	27	23	69	17	10	256
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	29	25	75	18	11	278

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	384	84	0	0	93
Stage 1	84	-	-	-	-
Stage 2	300	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	619	975	-	-	1501
Stage 1	939	-	-	-	-
Stage 2	752	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	615	975	-	-	1501
Mov Cap-2 Maneuver	615	-	-	-	-
Stage 1	939	-	-	-	-
Stage 2	747	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	10.2	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	741	1501
HCM Lane V/C Ratio	-	-	0.073	0.007
HCM Control Delay (s/veh)	-	-	10.2	7.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q (veh)	-	-	0.2	0

APPENDIX F

LUC 130 – INDUSTRIAL PARK ANALYSIS

Trip Generation for: Development Peak Weekday
(a.k.a.): Average Weekday Daily Trips (AWDT)

NET EXTERNAL TRIPS BY TYPE																					
										IN BOTH DIRECTIONS					DIRECTIONAL ASSIGNMENTS						
			Gross Trips				Internal Crossover			TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out	
Industrial Park Building A (Total)	238.525 KSF	130	3.37	50%	50%	803.83	0%	0.00	803.83	0%	0.00	0%	0.00	803.83	0.00	0.00	0.00	0.00	401.92	401.91	
Industrial Park Building B (Total)	266.911 KSF	130	3.37	50%	50%	899.49	0%	0.00	899.49	0%	0.00	0%	0.00	899.49	0.00	0.00	0.00	0.00	449.75	449.74	
Single-Family Detached	-14 Units	210	9.43	50%	50%	-132.02	0%	0.00	-132.02	0%	0.00	0%	0.00	-132.02	0.00	0.00	0.00	0.00	-66.01	-66.01	
Industrial						1,571.30		0.00	1,571.30		0.00		0.00	1,571.30	0.00	0.00	0.00	0.00	785.66	785.64	

			Gross Truck Trips				Internal Crossover			TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Truck Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out	
Industrial Park Building A (Truck)	238.525 KSF	130	0.57	50%	50%	135.96	0%	0.00	135.96	0%	0.00	0%	0.00	135.96	0.00	0.00	0.00	0.00	67.98	67.98	
Industrial Park Building B (Truck)	266.911 KSF	130	0.57	50%	50%	152.14	0%	0.00	152.14	0%	0.00	0%	0.00	152.14	0.00	0.00	0.00	0.00	76.07	76.07	
Total Truck Trips						288.10		0.00	288.10		0.00		0.00	288.10	0.00	0.00	0.00	0.00	144.05	144.05	

Total Passenger Car Trips:	1,283.20	641.61	641.59
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Freeman Road Logistics
KH 090222083

Trip Generation for: Development Peak Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 7 and 9 AM
(a.k.a.): Weekday AM Peak Hour

NET EXTERNAL TRIPS BY TYPE																				
											IN BOTH DIRECTIONS				DIRECTIONAL ASSIGNMENTS					
			Gross Trips				Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
Industrial Park Building A (Total)	238.525 KSF	130	0.34	81%	19%	81.10	0%	0.00	81.10	0%	0.00	0%	0.00	81.10	0.00	0.00	0.00	0.00	65.69	15.41
Industrial Park Building B (Total)	266.911 KSF	130	0.34	81%	19%	90.75	0%	0.00	90.75	0%	0.00	0%	0.00	90.75	0.00	0.00	0.00	0.00	73.51	17.24
Single-Family Detached	-14 Units	210	0.70	26%	74%	-9.80	0%	0.00	-9.80	0%	0.00	0%	0.00	-9.80	0.00	0.00	0.00	0.00	-2.55	-7.25
Total Vehicle Trips						162.05		0.00	162.05		0.00		0.00	162.05	0.00	0.00	0.00	0.00	136.65	25.40

											Gross Truck Trips				Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Truck Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out								
Industrial Park Building A (Truck)	238.525 KSF	130	0.04	45%	55%	9.54	0%	0.00	9.54	0%	0.00	0%	0.00	9.54	0.00	0.00	0.00	0.00	4.29	5.25								
Industrial Park Building B (Truck)	266.911 KSF	130	0.04	45%	55%	10.68	0%	0.00	10.68	0%	0.00	0%	0.00	10.68	0.00	0.00	0.00	0.00	4.81	5.87								
Total Truck Trips						20.22		0.00	20.22		0.00		0.00	20.22	0.00	0.00	0.00	0.00	9.10	11.12								

Total Passenger Car Trips:	141.83	127.55	14.28
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Freeman Road Logistics
KH 090222083

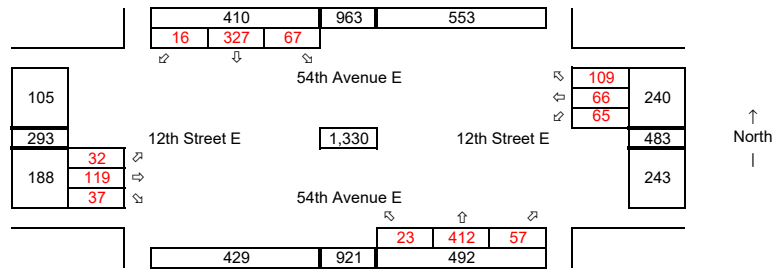
Trip Generation for: Development Peak Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 4 and 6 PM
(a.k.a.): Weekday PM Peak Hour

NET EXTERNAL TRIPS BY TYPE																						
LAND USES		VARIABLE	ITE LU code	Gross Trips					Internal Crossover		TOTAL In+Out (Total)	PASS-BY		DIVERTED LINK		NEW In+Out (Total)	PASS-BY		DIVERTED LINK		NEW	
				Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	% of Ext. Trips		In+Out (Total)	% of Ext. Trips	In+Out (Total)	In		Out	In	Out	In	Out	
Industrial Park Building A (Total)		238.525 KSF	130	0.34	22%	78%	81.10	0%	0.00	81.10	0%	0.00	0%	0.00	81.10	0.00	0.00	0.00	0.00	17.84	63.26	
Industrial Park Building B (Total)		266.911 KSF	130	0.34	22%	78%	90.75	0%	0.00	90.75	0%	0.00	0%	0.00	90.75	0.00	0.00	0.00	0.00	19.97	70.78	
Single-Family Detached		-14 Units	210	0.94	63%	37%	-13.16	0%	0.00	-13.16	0%	0.00	0%	0.00	-13.16	0.00	0.00	0.00	0.00	-8.29	-4.87	
Total Vehicle Trips							158.69		0.00	158.69		0.00		0.00	158.69	0.00	0.00	0.00	0.00	29.52	129.17	

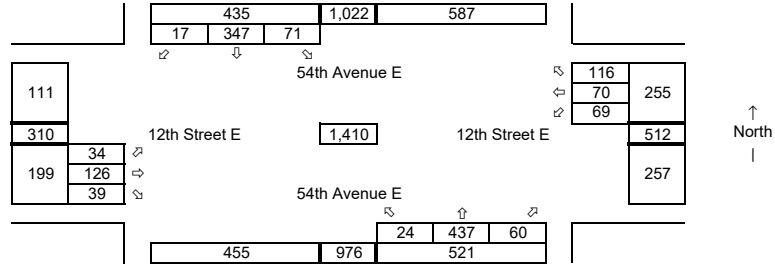
LAND USES		VARIABLE	ITE LU code	Gross Truck Trips					Internal Crossover		TOTAL In+Out (Total)	PASS-BY		DIVERTED LINK		NEW In+Out (Total)	PASS-BY		DIVERTED LINK		NEW	
				Truck Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	% of Ext. Trips		In+Out (Total)	% of Ext. Trips	In+Out (Total)	In		Out	In	Out	In	Out	
Industrial Park Building A (Truck)		238.525 KSF	130	0.04	38%	62%	9.54	0%	0.00	9.54	0%	0.00	0%	0.00	9.54	0.00	0.00	0.00	0.00	3.63	5.91	
Industrial Park Building B (Truck)		266.911 KSF	130	0.04	38%	62%	10.68	0%	0.00	10.68	0%	0.00	0%	0.00	10.68	0.00	0.00	0.00	0.00	4.06	6.62	
Total Truck Trips							20.22		0.00	20.22		0.00		0.00	20.22	0.00	0.00	0.00	0.00	7.69	12.53	

Total Passenger Car Trips:	138.47	21.83	116.64
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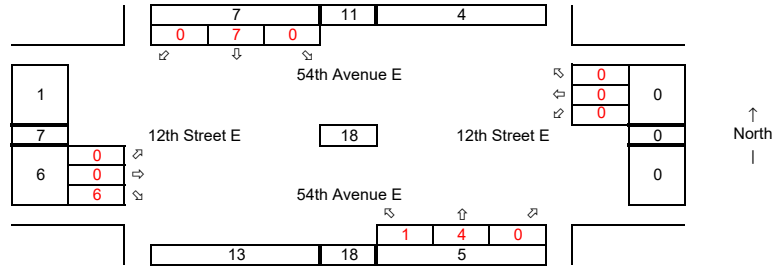
Synchro ID: 1
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



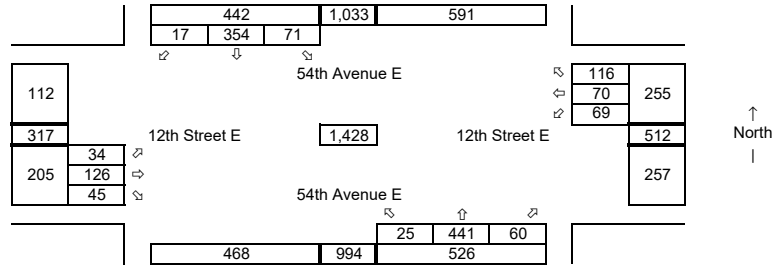
Future without Project
 Average Weekday
 AM Peak Hour
 Year: **2025**
 Growth Rate = **3.0%**
 Years of Growth = **2**
 Total Growth = **1.0609**



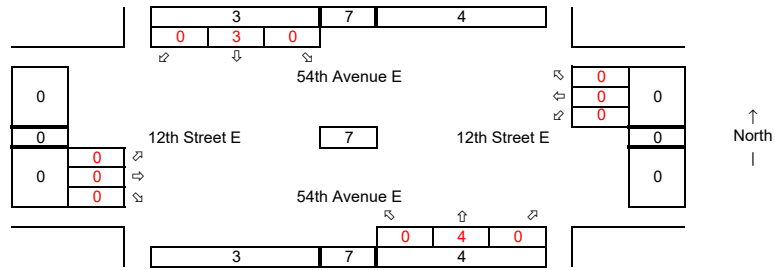
Total Development Trips
 Average Weekday
 AM Peak Hour



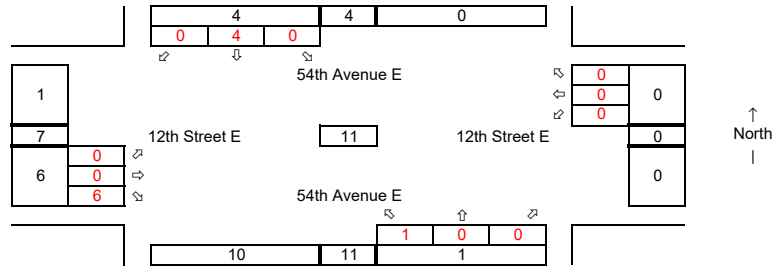
Future with Project
 Average Weekday
 AM Peak Hour

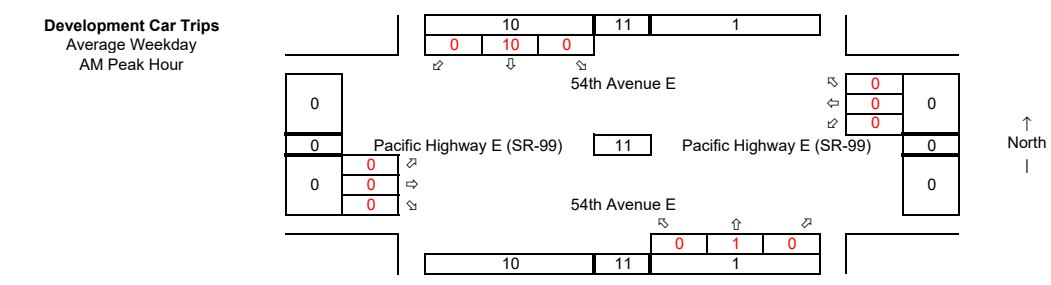
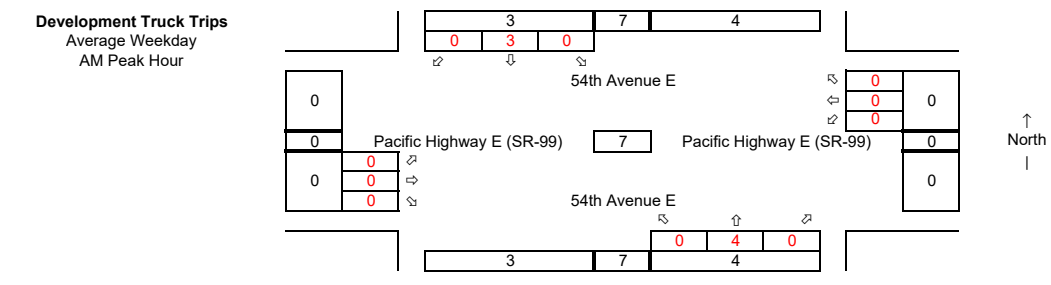
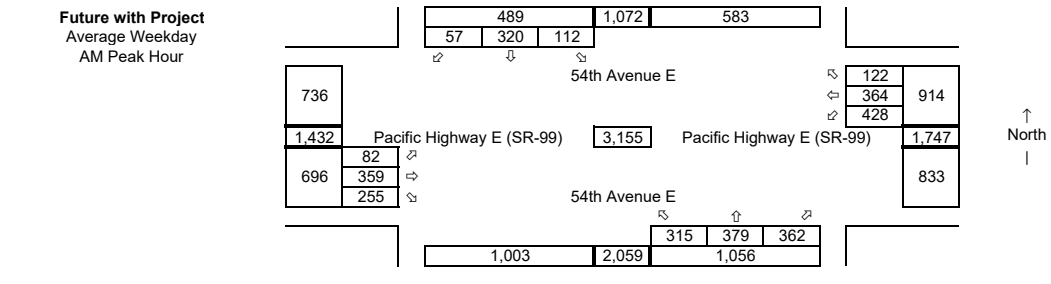
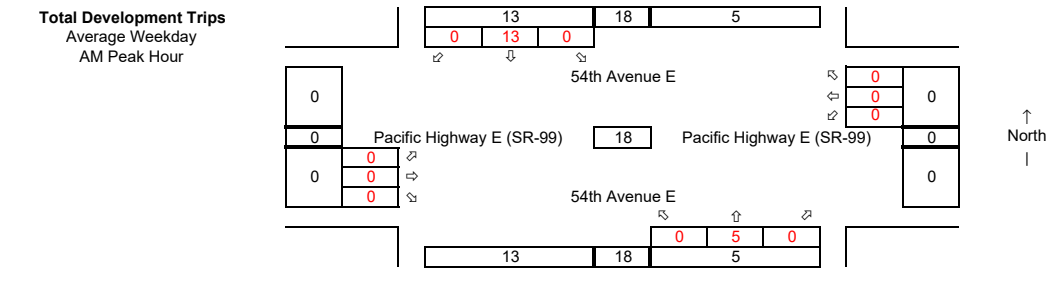
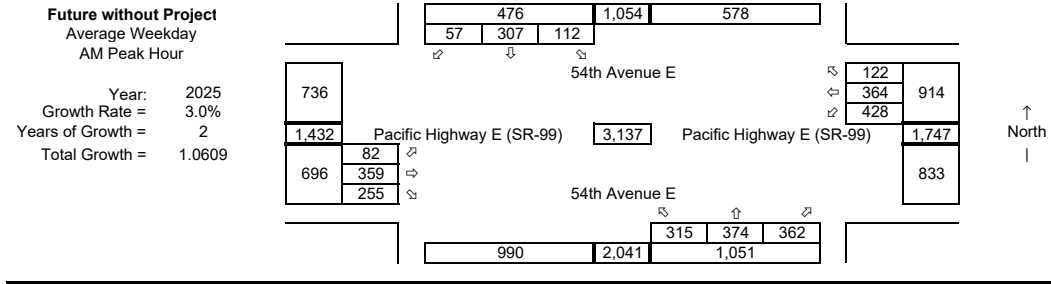
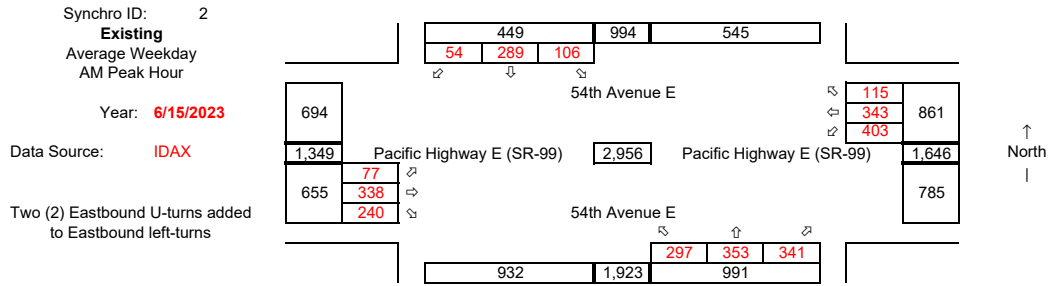


Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



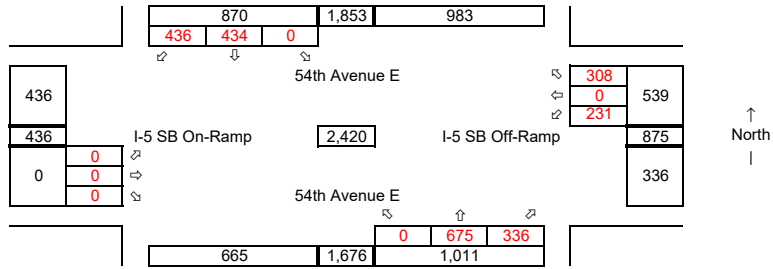


Synchro ID: 3
Existing
 Average Weekday
 AM Peak Hour

 Year: 6/15/2023

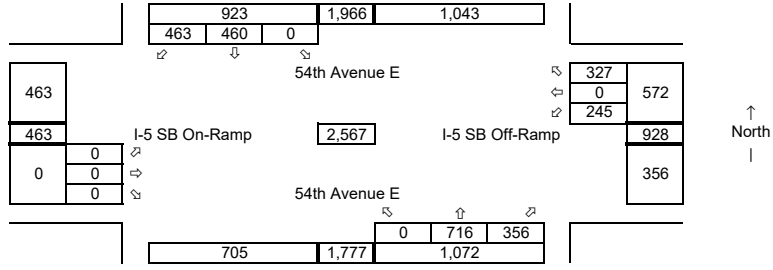
 Data Source: IDAX

 One (1) Northbound U-turn added
 to Northbound Thru

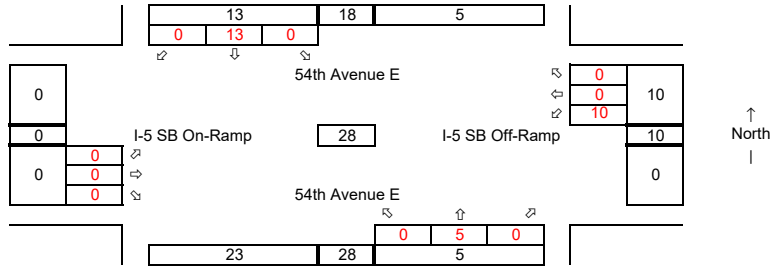


Future without Project
 Average Weekday
 AM Peak Hour

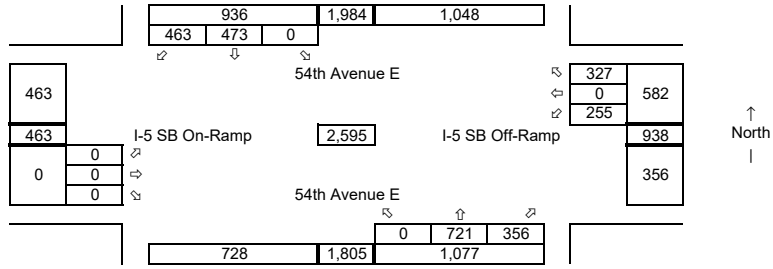
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



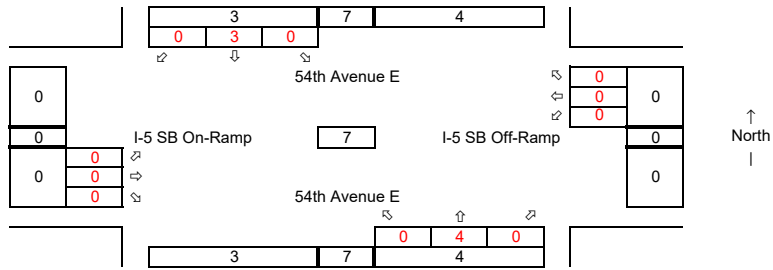
Total Development Trips
 Average Weekday
 AM Peak Hour



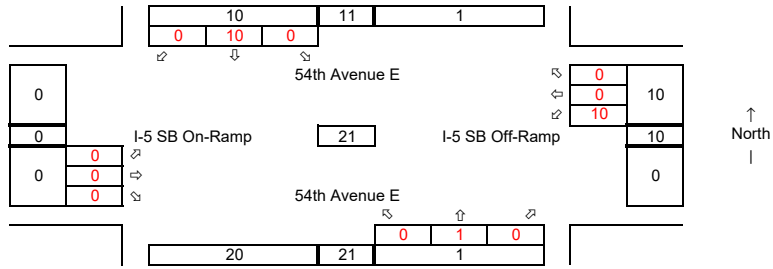
Future with Project
 Average Weekday
 AM Peak Hour



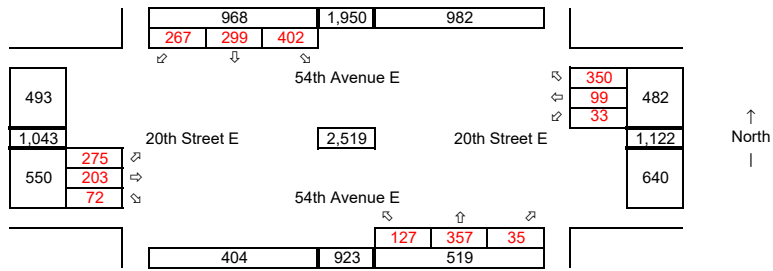
Development Truck Trips
 Average Weekday
 AM Peak Hour



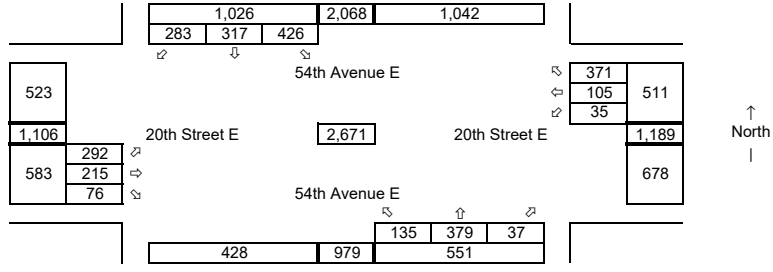
Development Car Trips
 Average Weekday
 AM Peak Hour



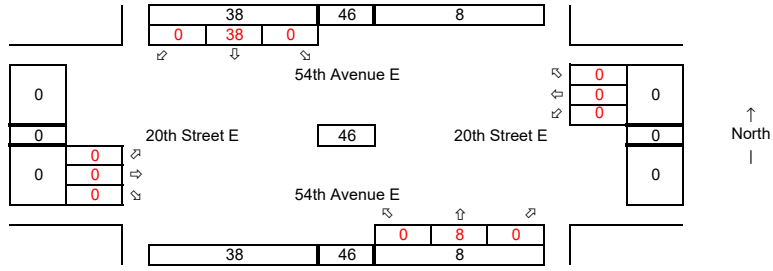
Synchro ID: 4
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/15/2023**
 Data Source: **IDAX**



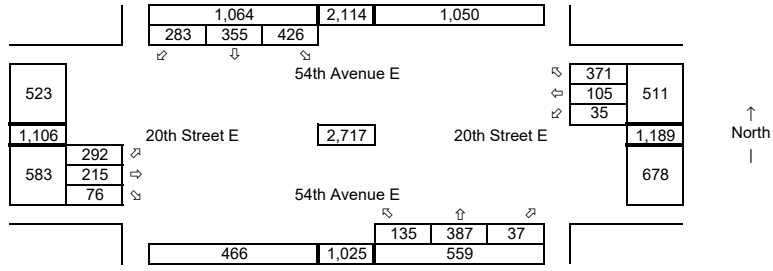
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



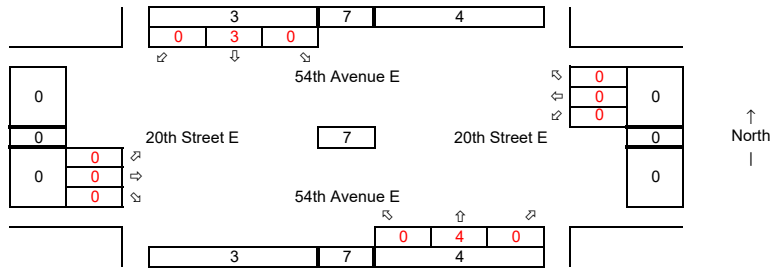
Total Development Trips
 Average Weekday
 AM Peak Hour



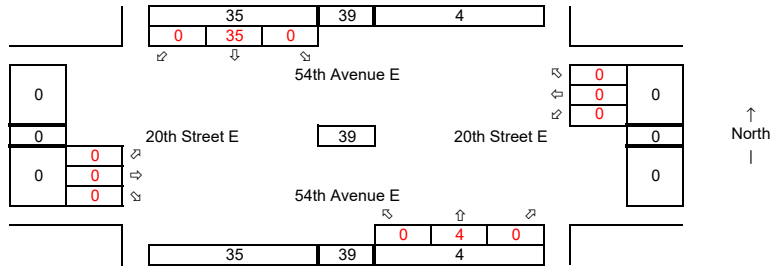
Future with Project
 Average Weekday
 AM Peak Hour



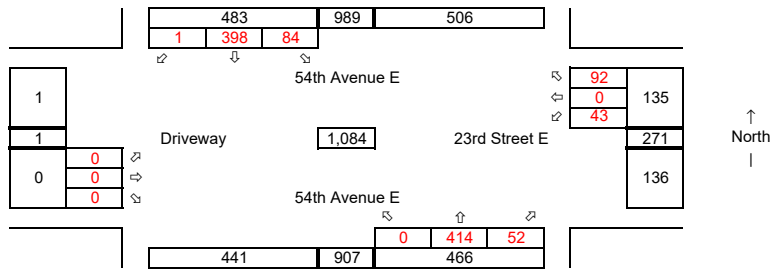
Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour

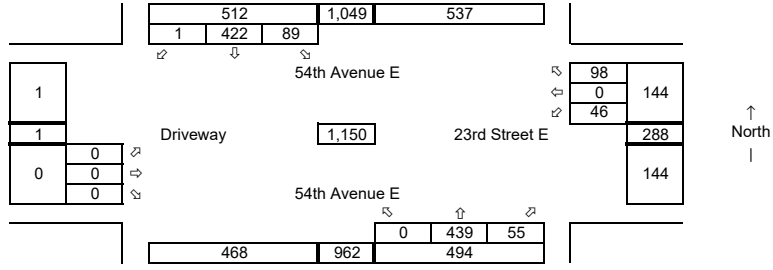


Synchro ID: 5
Existing
 Average Weekday
 AM Peak Hour
 Year: 6/8/2023
 Data Source: IDAX

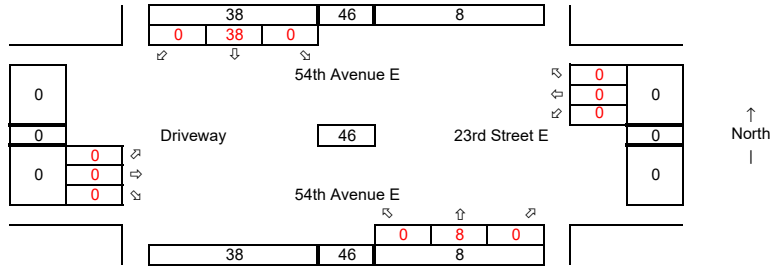


Future without Project
 Average Weekday
 AM Peak Hour

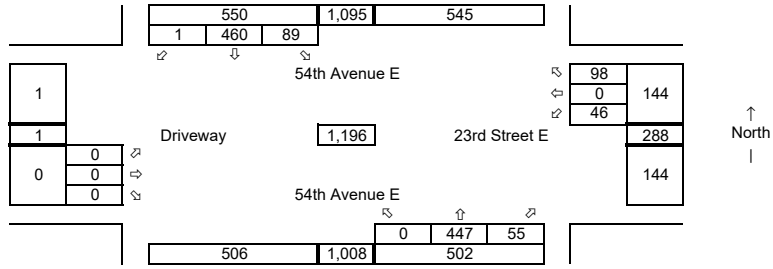
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



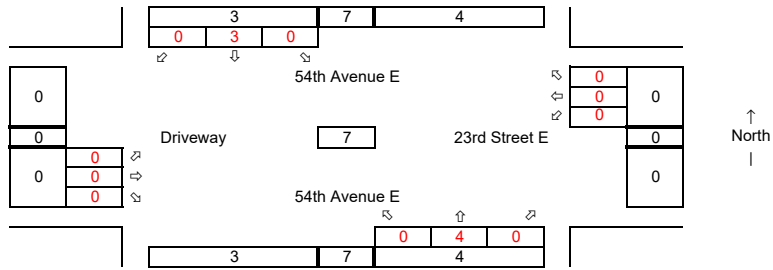
Total Development Trips
 Average Weekday
 AM Peak Hour



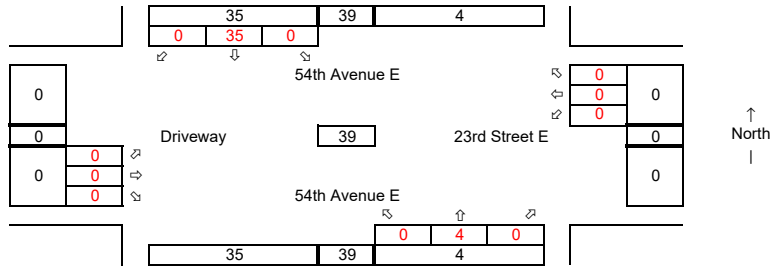
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



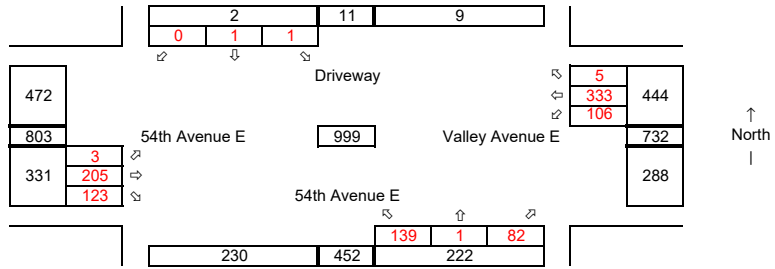
Development Car Trips
 Average Weekday
 AM Peak Hour



Synchro ID: 6
Existing
Average Weekday
AM Peak Hour

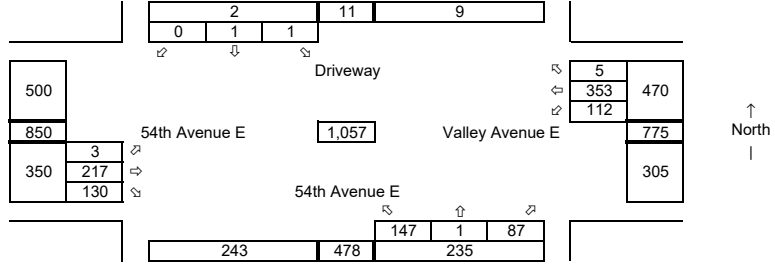
Year: 6/15/2023

Data Source: IDAX

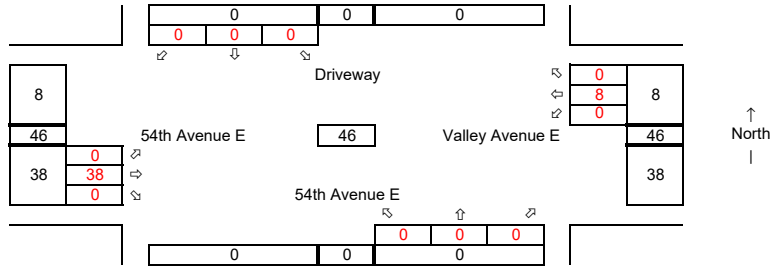


Future without Project
Average Weekday
AM Peak Hour

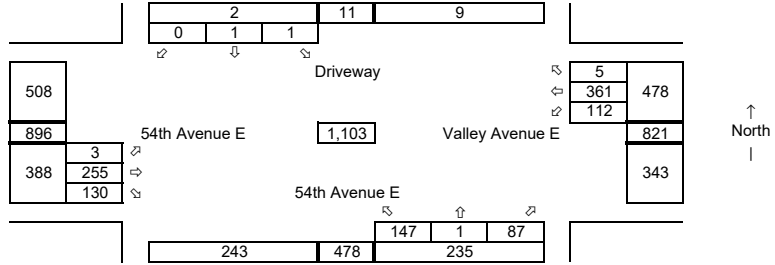
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



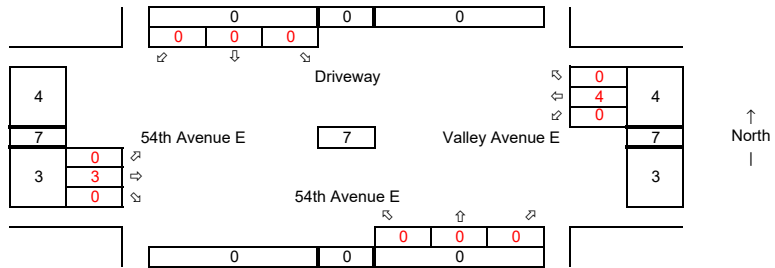
Total Development Trips
Average Weekday
AM Peak Hour



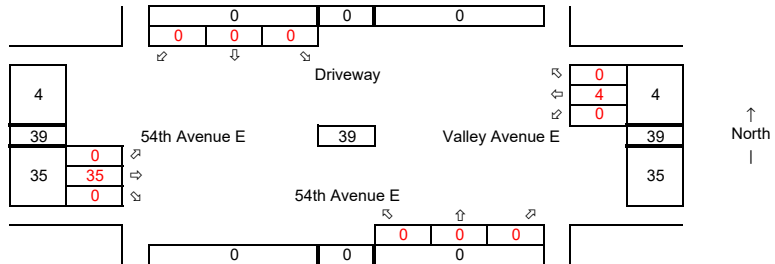
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour

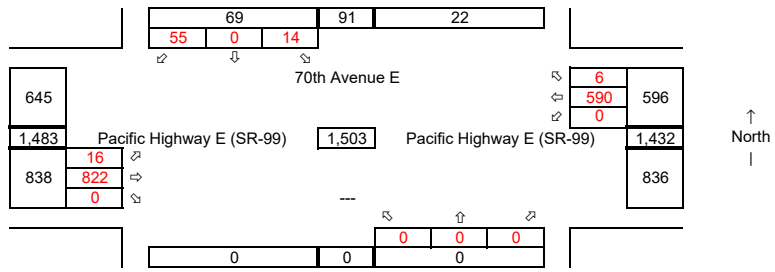


Synchro ID: 7

Existing
Average Weekday
AM Peak Hour

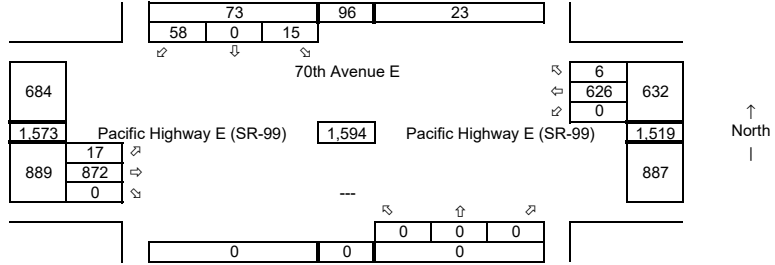
Year: 6/15/2023

Data Source: IDAX

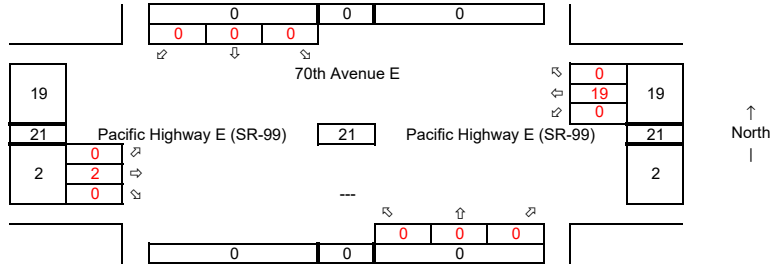


Future without Project
Average Weekday
AM Peak Hour

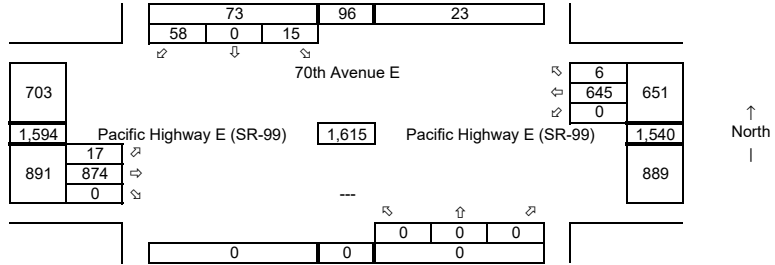
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



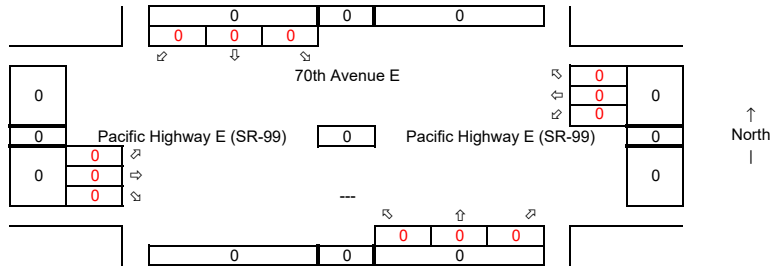
Total Development Trips
Average Weekday
AM Peak Hour



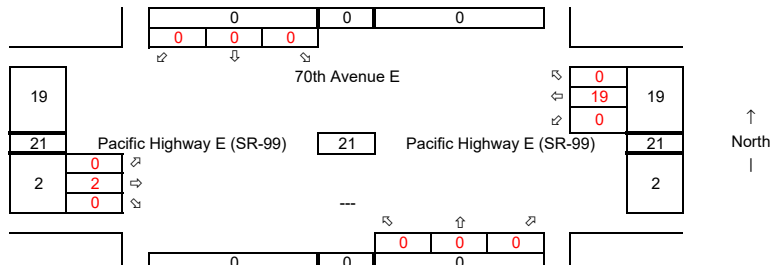
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour

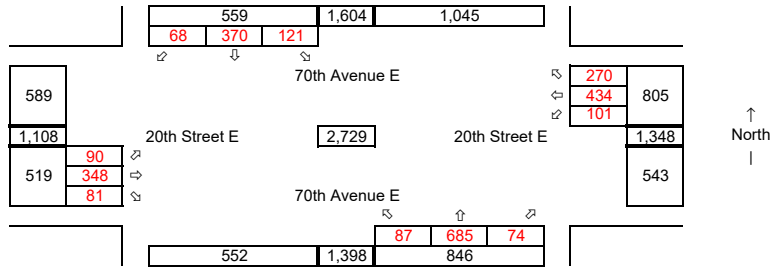


Development Car Trips
Average Weekday
AM Peak Hour



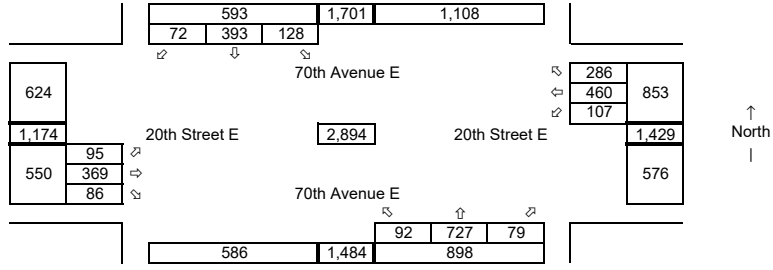
Synchro ID: 8
Existing
 Average Weekday
 AM Peak Hour

 Year: **6/8/2023**
 Data Source: **IDAX**

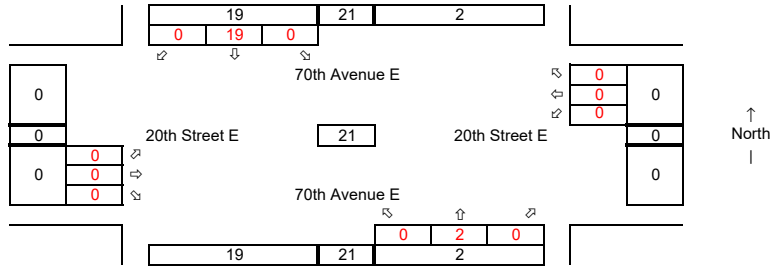


Future without Project
 Average Weekday
 AM Peak Hour

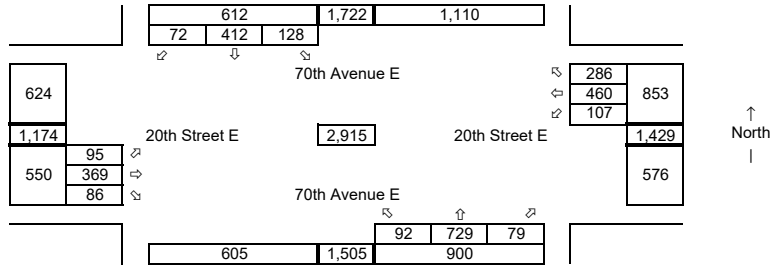
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



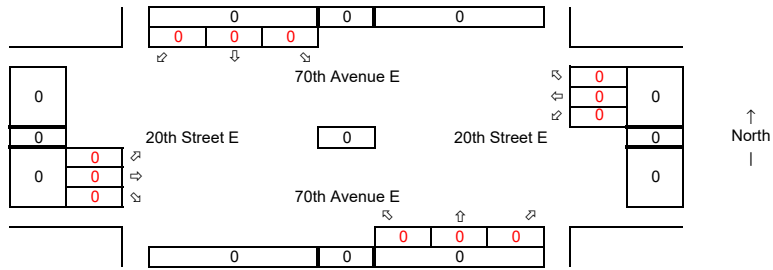
Total Development Trips
 Average Weekday
 AM Peak Hour



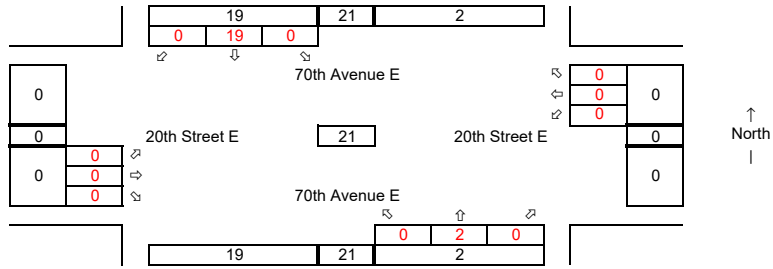
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour

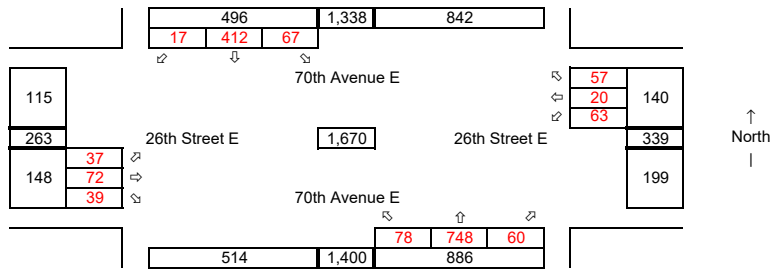


Development Car Trips
 Average Weekday
 AM Peak Hour



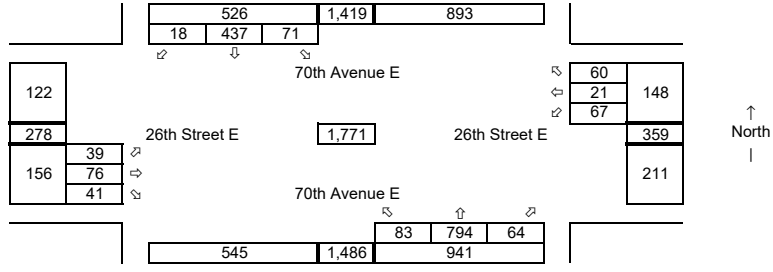
Synchro ID: 9
Existing
 Average Weekday
 AM Peak Hour

 Year: **6/8/2023**
 Data Source: **IDAX**

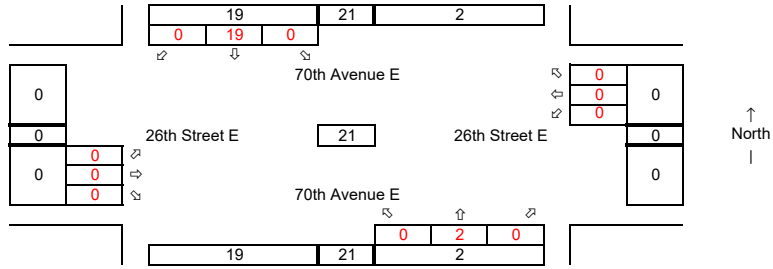


Future without Project
 Average Weekday
 AM Peak Hour

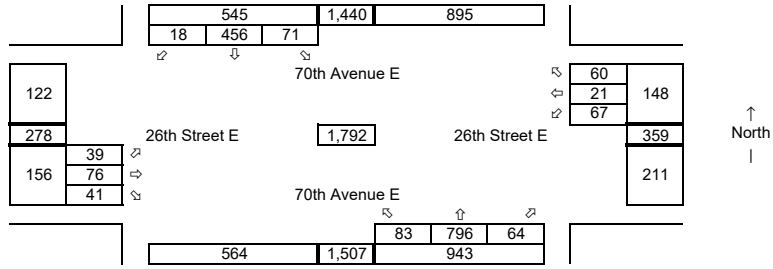
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



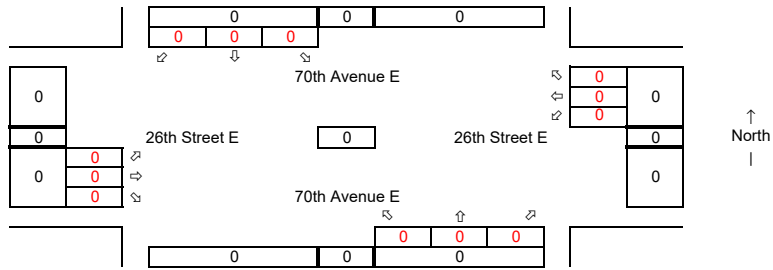
Total Development Trips
 Average Weekday
 AM Peak Hour



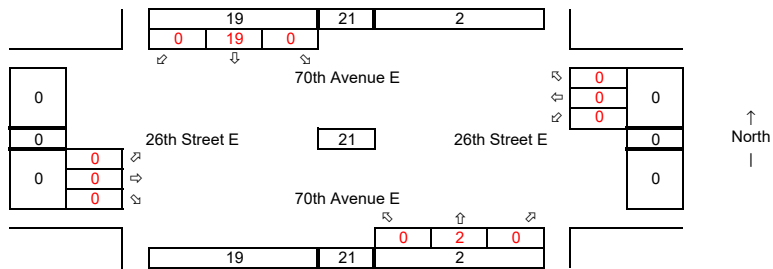
Future with Project
 Average Weekday
 AM Peak Hour



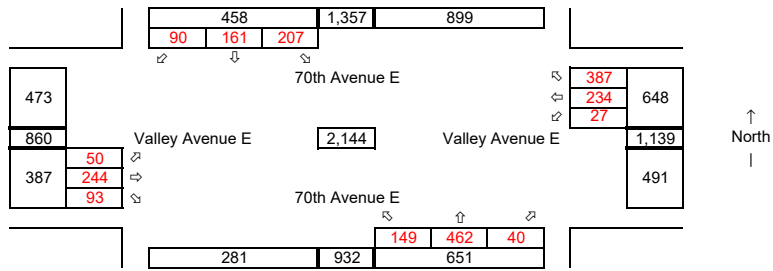
Development Truck Trips
 Average Weekday
 AM Peak Hour



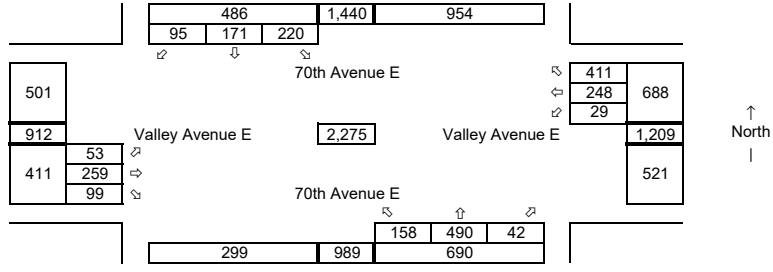
Development Car Trips
 Average Weekday
 AM Peak Hour



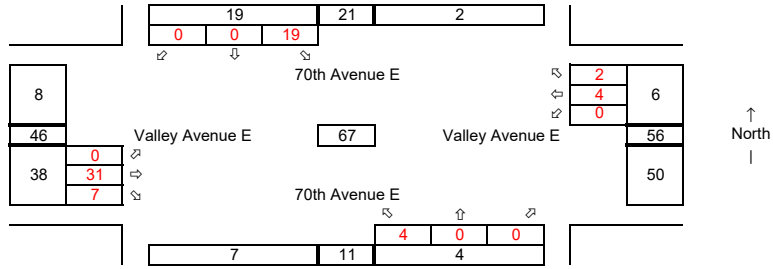
Synchro ID: 10
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



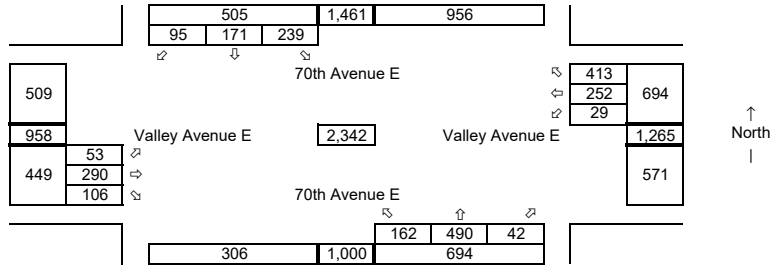
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



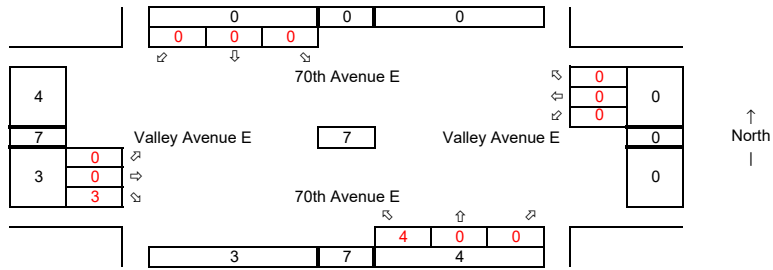
Total Development Trips
 Average Weekday
 AM Peak Hour



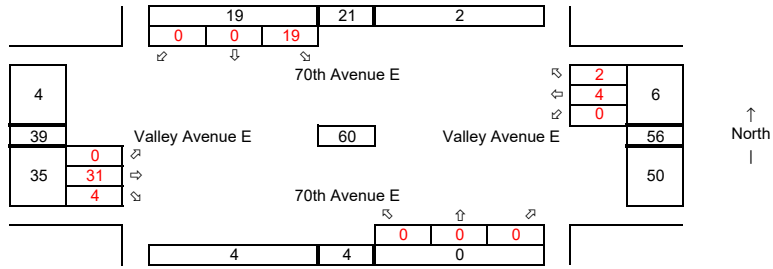
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



**Freeman Logistics
130 - Industrial Park**

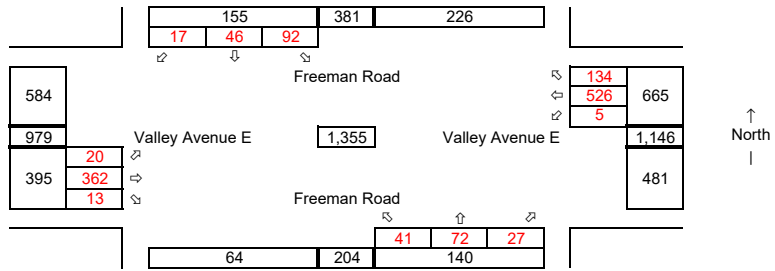
11 Freeman Rd @ Valley Ave E

AM Peak-Hour

Synchro ID: 11
Existing
 Average Weekday
 AM Peak Hour

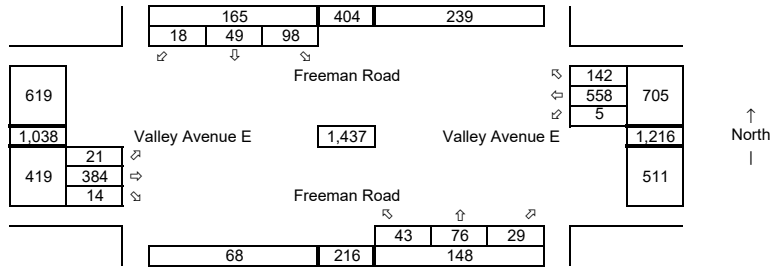
Year: **6/14/2023**

Data Source: **IDAX**

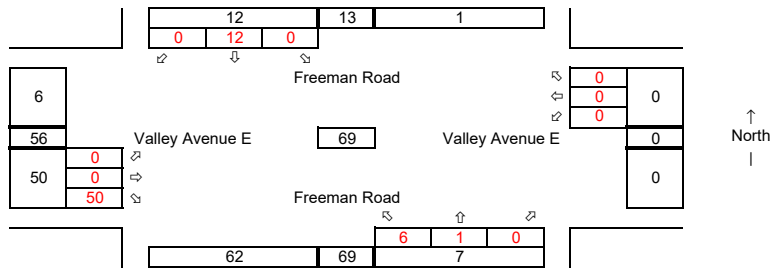


Future without Project
 Average Weekday
 AM Peak Hour

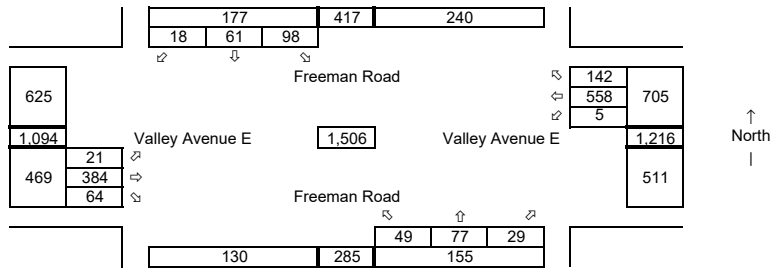
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



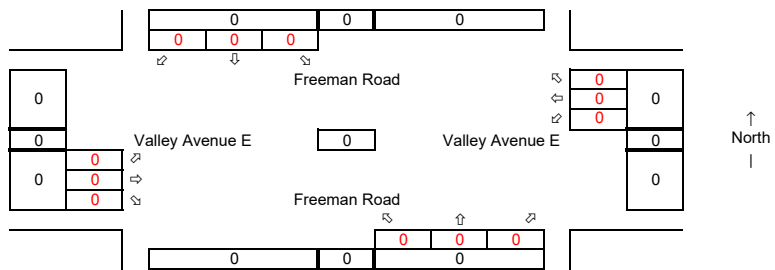
Total Development Trips
 Average Weekday
 AM Peak Hour



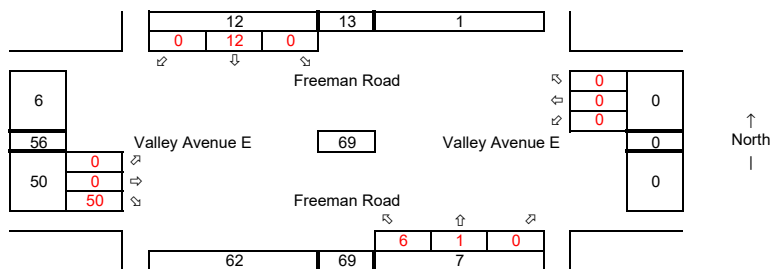
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



**Freeman Logistics
130 - Industrial Park**

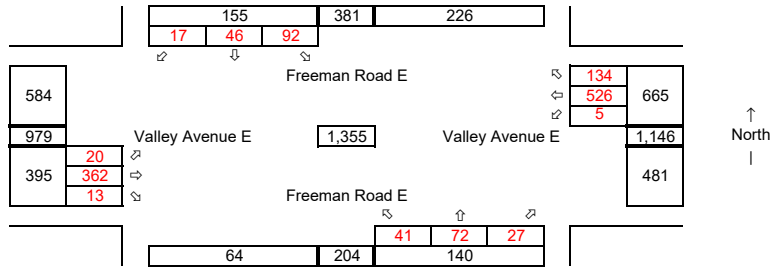
11 Freeman Rd E @ Valley Ave E

AM Peak-Hour

Synchro ID: 11
With SR-167 Extension **Existing**
Average Weekday
AM Peak Hour

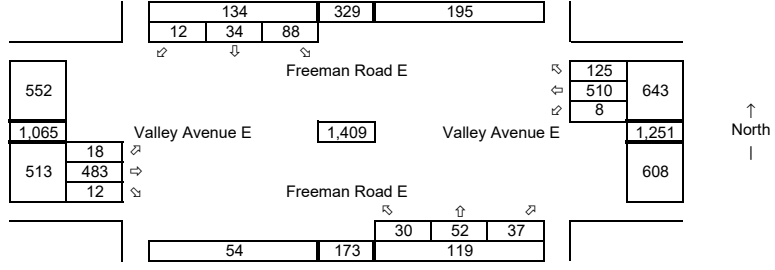
Year: **6/14/23**

Data Source: **IDAX**

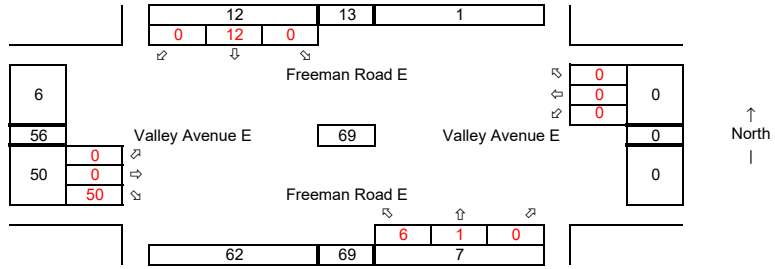


Future without Project
Average Weekday
AM Peak Hour

Year: **2025**
Growth Rate = **3.0%**
Years of Growth = **2**
Total Growth = **1.0609**

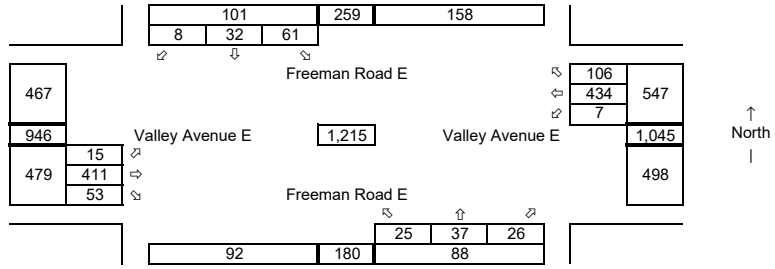


Total Development Trips
Average Weekday
AM Peak Hour

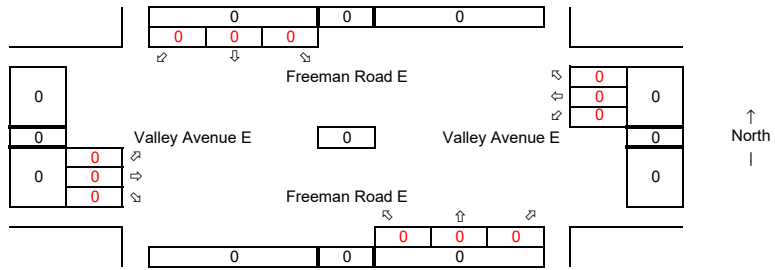


Future with Project
Average Weekday
AM Peak Hour

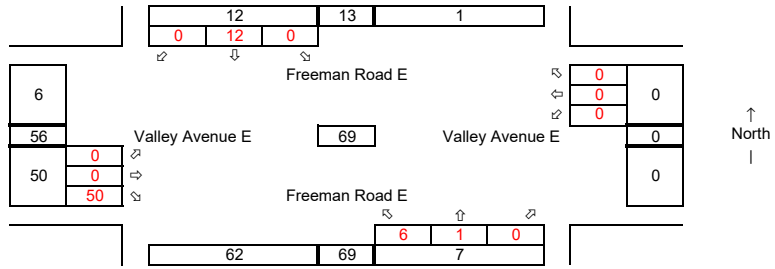
N/S Diversion % **31%**
E/W Diversion % **15%**



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour



**Freeman Logistics
130 - Industrial Park**

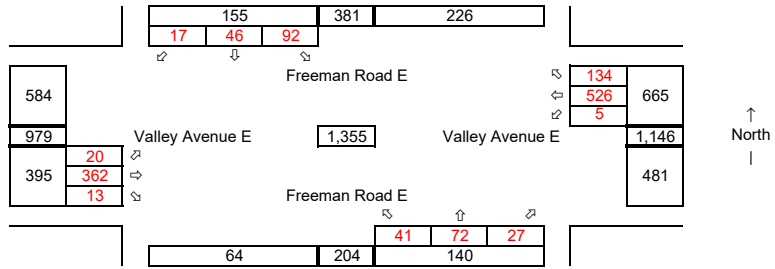
11 Freeman Rd E @ Valley Ave E

AM Peak-Hour

Synchro ID: 11
 With SR-167 Extension **Existing**
 Average Weekday
 AM Peak Hour

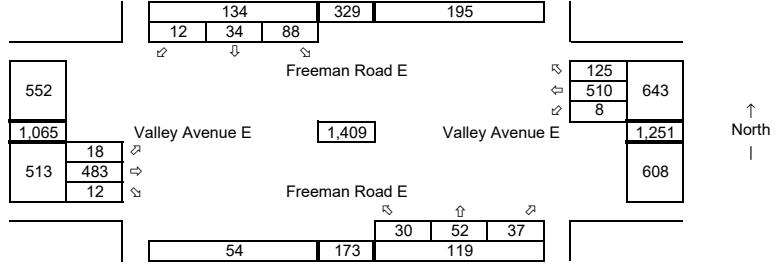
Year: **6/14/23**

Data Source: **IDAX**

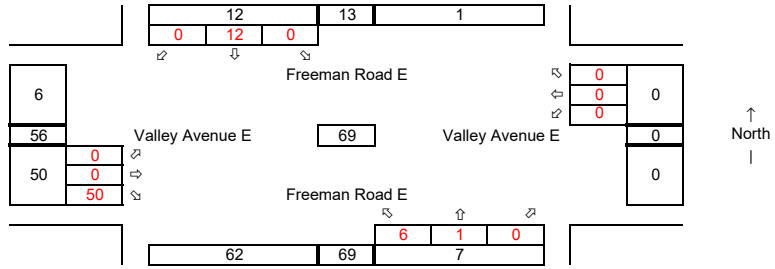


Future without Project
 Average Weekday
 AM Peak Hour

Year: **2025**
 Growth Rate = **3.0%**
 Years of Growth = **2**
 Total Growth = **1.0609**

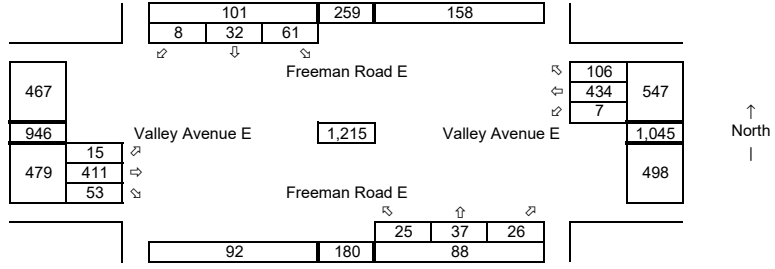


Total Development Trips
 Average Weekday
 AM Peak Hour

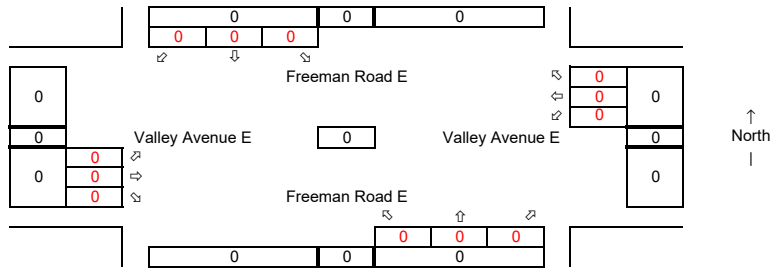


Future with Project
 Average Weekday
 AM Peak Hour

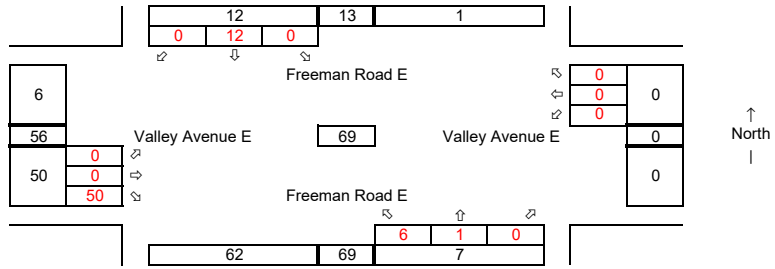
N/S Diversion % **31%**
 E/W Diversion % **15%**



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



**Freeman Logistics
130 - Industrial Park**

12 Freeman Rd E @ 48th St E

AM Peak-Hour

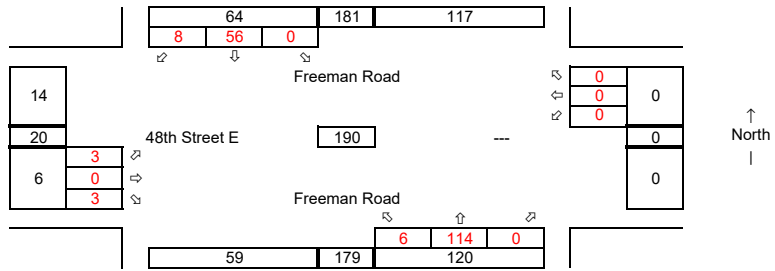
Synchro ID: 12

Existing

Average Weekday
AM Peak Hour

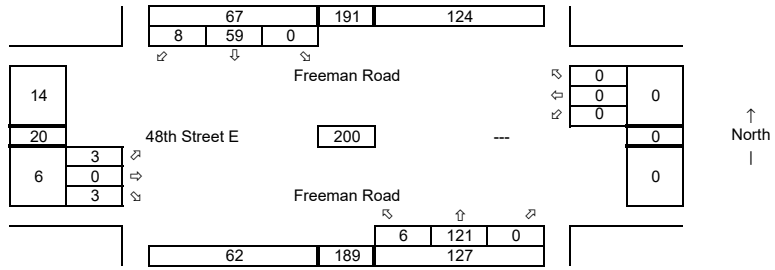
Year: **6/8/2023**

Data Source: **IDAX**

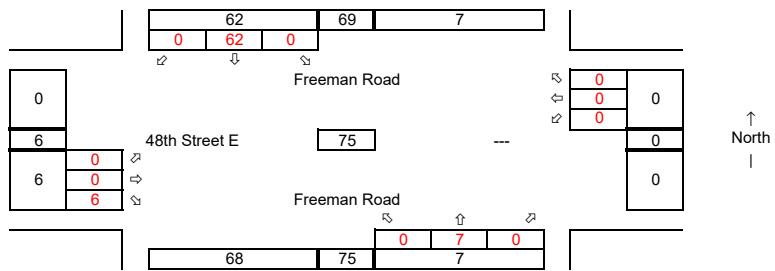


Future without Project
Average Weekday
AM Peak Hour

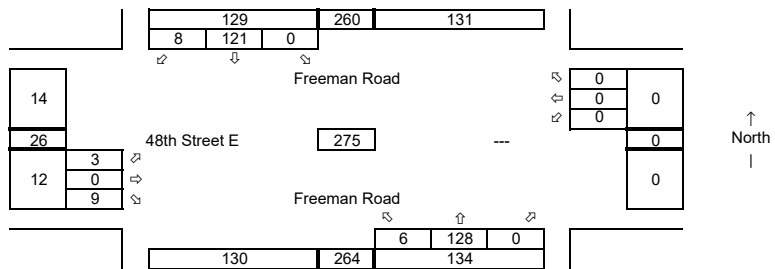
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



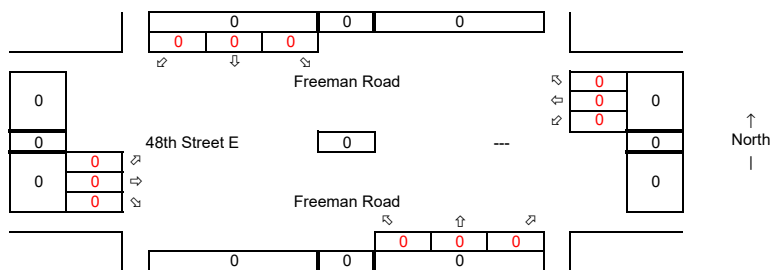
Total Development Trips
Average Weekday
AM Peak Hour



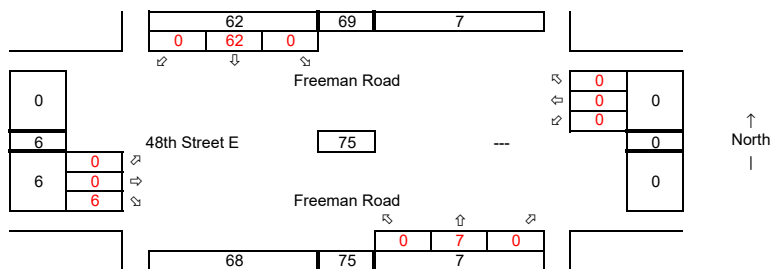
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour



**Freeman Logistics
130 - Industrial Park**

13 Freeman Rd @ 50th St E

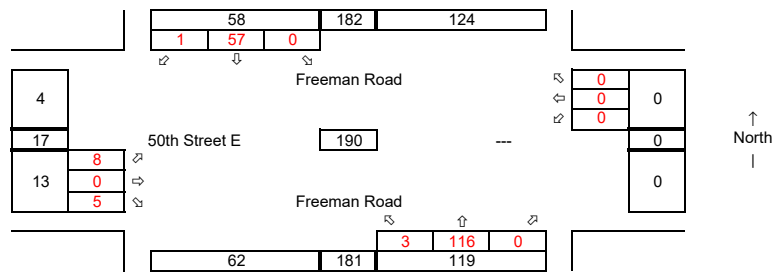
AM Peak-Hour

Synchro ID: 13

Existing
Average Weekday
AM Peak Hour

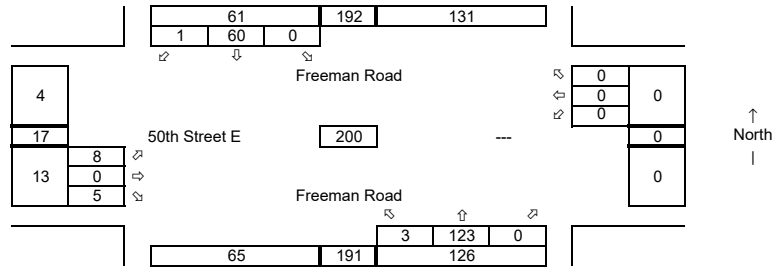
Year: **6/8/2023**

Data Source: **IDAX**

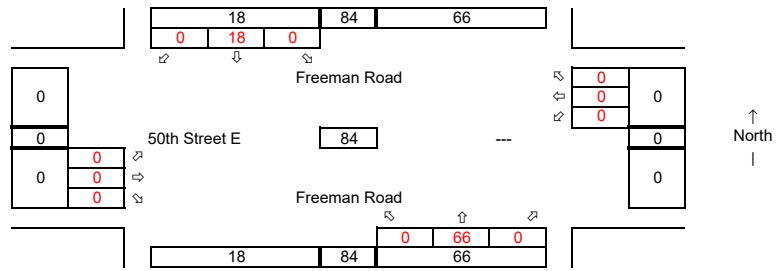


Future without Project
Average Weekday
AM Peak Hour

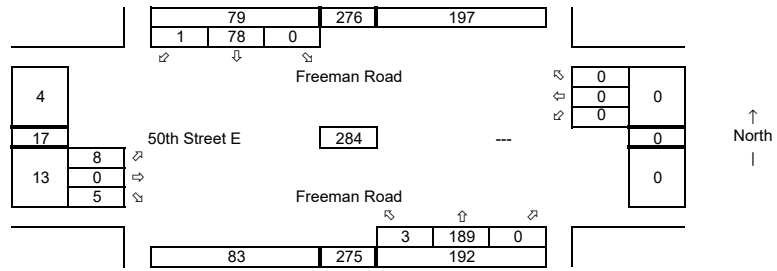
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



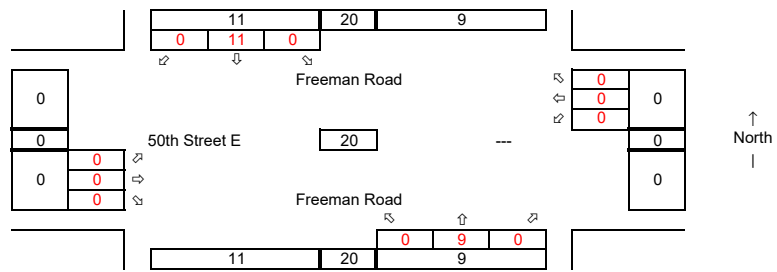
Total Development Trips
Average Weekday
AM Peak Hour



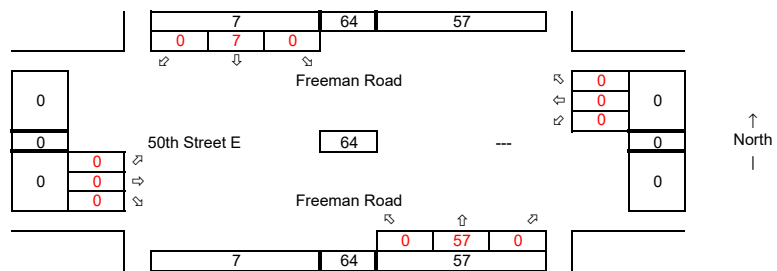
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour



**Freeman Logistics
130 - Industrial Park**

14 Freeman Rd @ 52nd St E

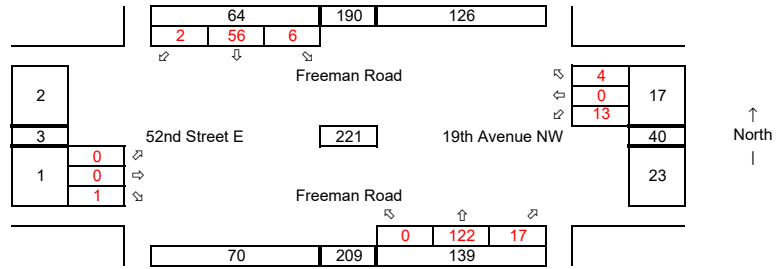
AM Peak-Hour

Synchro ID: 14
Existing
 Average Weekday
 AM Peak Hour

Year: **6/8/2023**

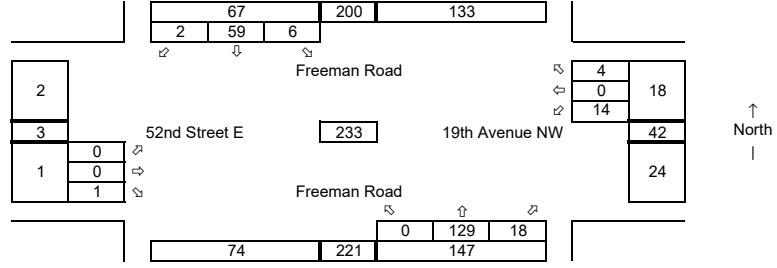
Data Source: **IDAX**

Two (2) Westbound U-turns
 added to Westbound Left-turns

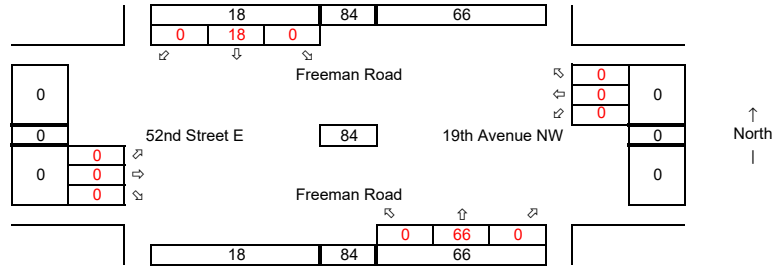


Future without Project
 Average Weekday
 AM Peak Hour

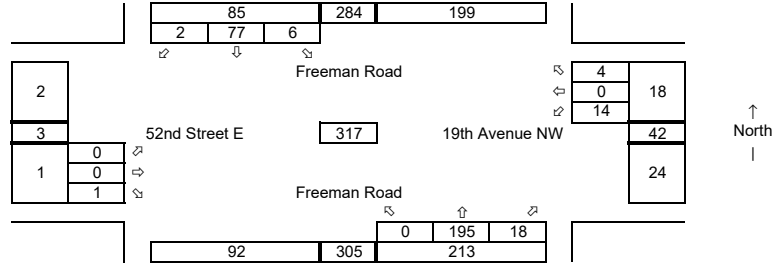
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



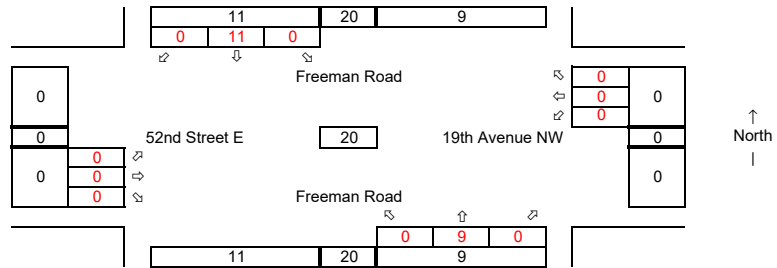
Total Development Trips
 Average Weekday
 AM Peak Hour



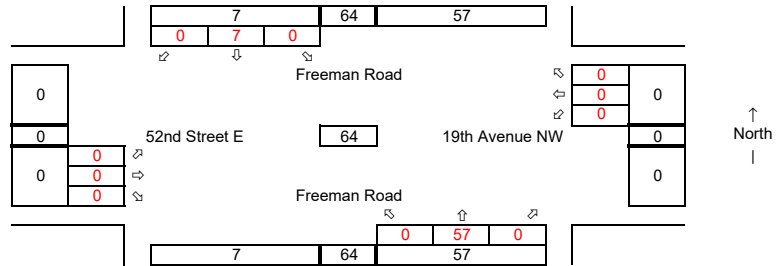
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



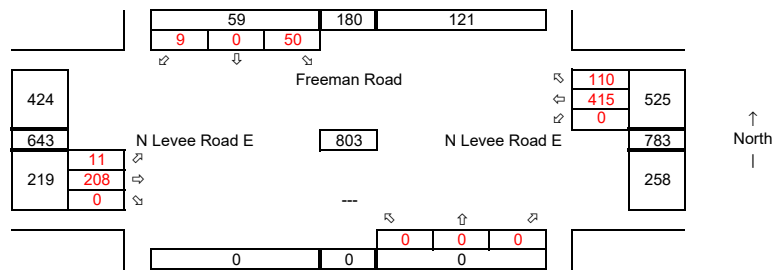
Synchro ID: 15

Existing
Average Weekday
AM Peak Hour

Year: **6/15/2023**

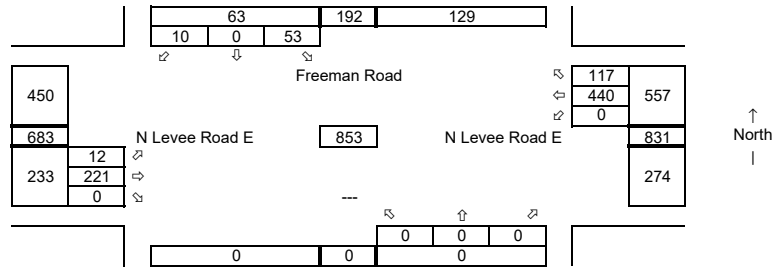
Data Source: **IDAX**

One (1) Westbound U-turn added
to Southbound Left-turns

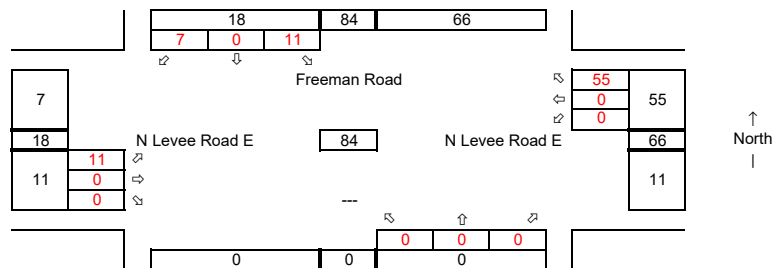


Future without Project
Average Weekday
AM Peak Hour

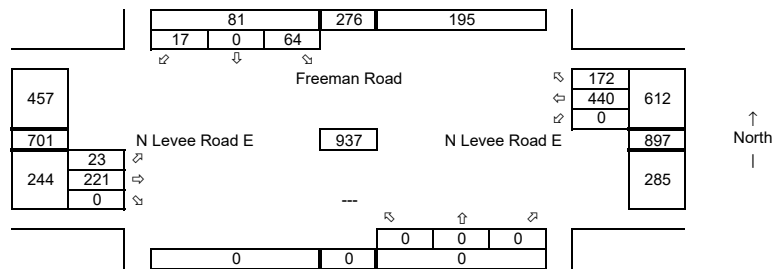
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



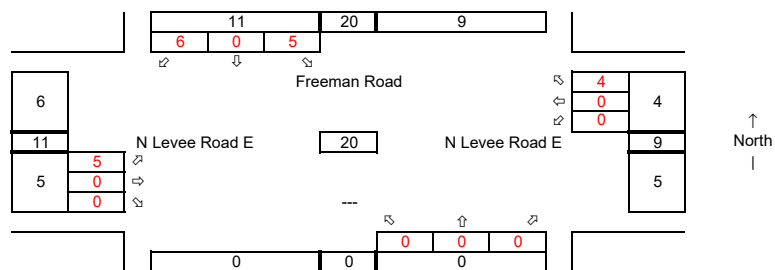
Total Development Trips
Average Weekday
AM Peak Hour



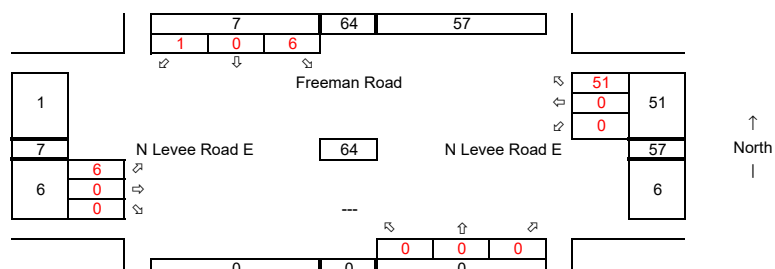
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour



**Freeman Logistics
130 - Industrial Park**

15 Freeman Rd E @ N Levee Rd

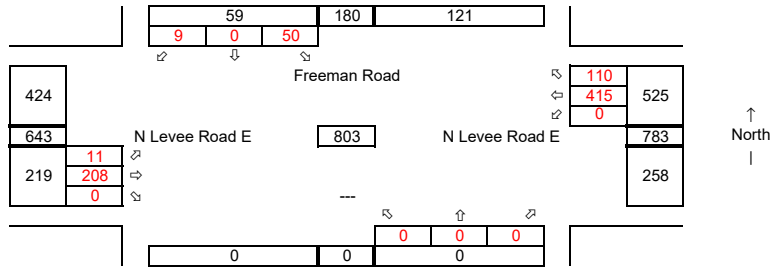
AM Peak-Hour

Synchro ID: 15
 With SR-167 Extension **Existing**
 Average Weekday
 AM Peak Hour

Year: **6/15/2023**

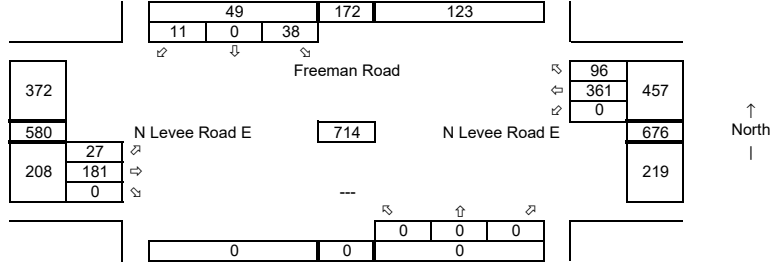
Data Source: **IDAX**

One (1) Westbound U-turn added
 to Southbound Left-turns

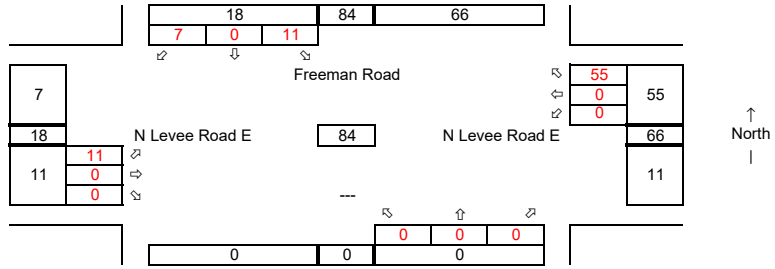


Future without Project
 Average Weekday
 AM Peak Hour

Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609

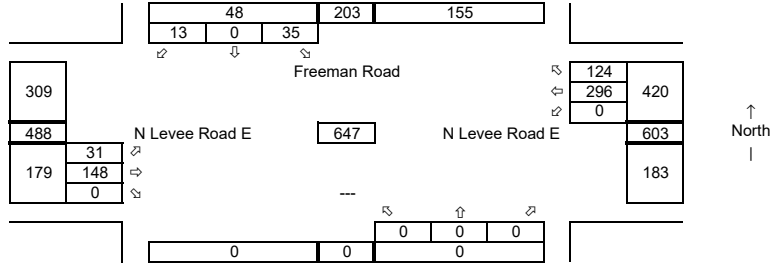


Total Development Trips
 Average Weekday
 AM Peak Hour

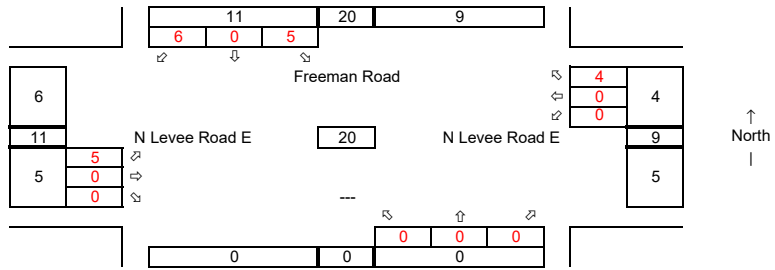


Future with Project
 Average Weekday
 AM Peak Hour

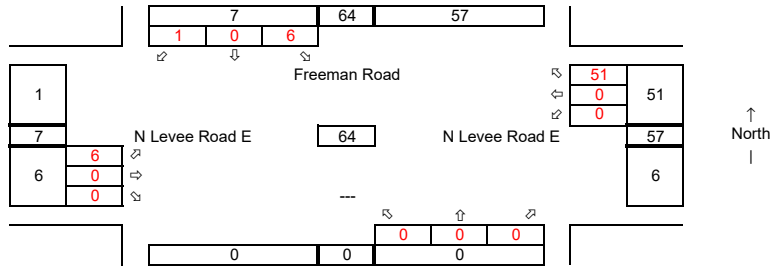
N/S Diversion % 29%
 E/W Diversion % 18%



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



**Freeman Logistics
130 - Industrial Park**

15 Freeman Rd E @ N Levee Rd

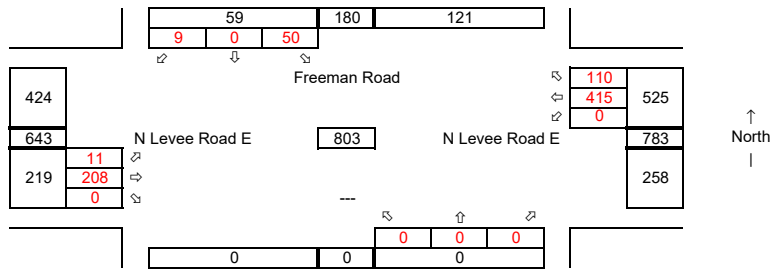
AM Peak-Hour

Synchro ID: 15
With SR-167 Extension **Existing**
Average Weekday
AM Peak Hour

Year: **6/15/2023**

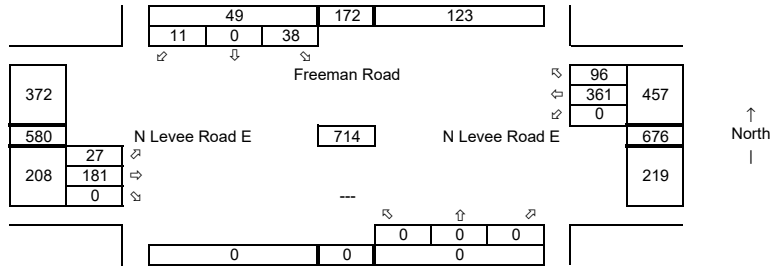
Data Source: **IDAX**

One (1) Westbound U-turn added
to Southbound Left-turns

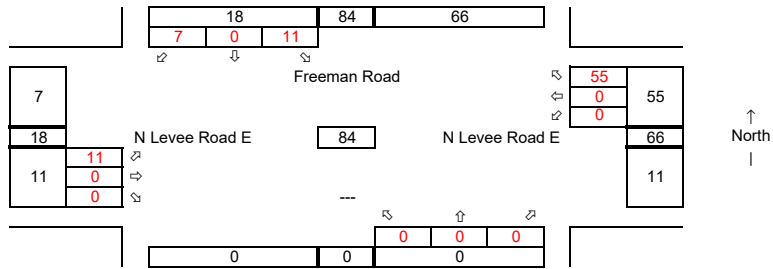


Future without Project
Average Weekday
AM Peak Hour

Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609

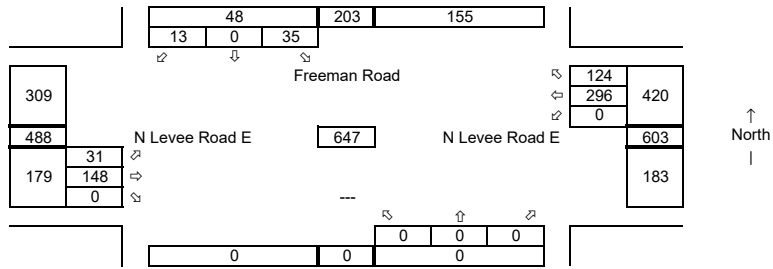


Total Development Trips
Average Weekday
AM Peak Hour

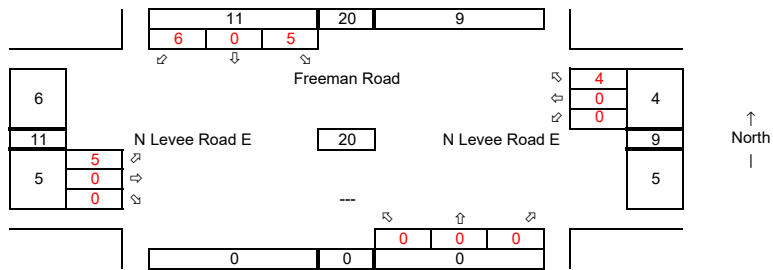


Future with Project
Average Weekday
AM Peak Hour

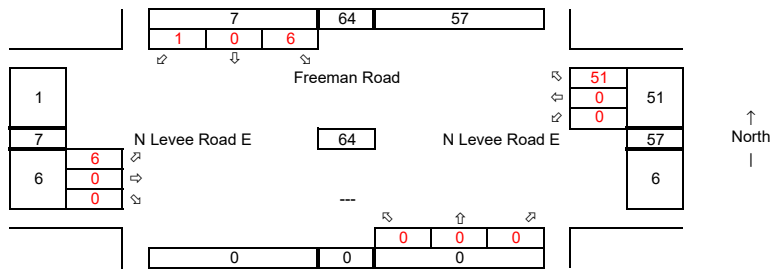
N/S Diversion % 29%
E/W Diversion % 18%



Development Truck Trips
Average Weekday
AM Peak Hour

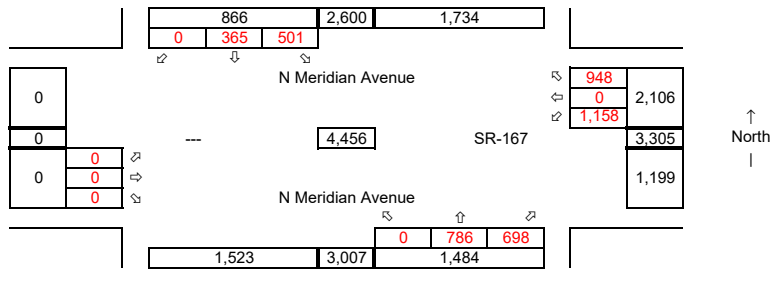


Development Car Trips
Average Weekday
AM Peak Hour



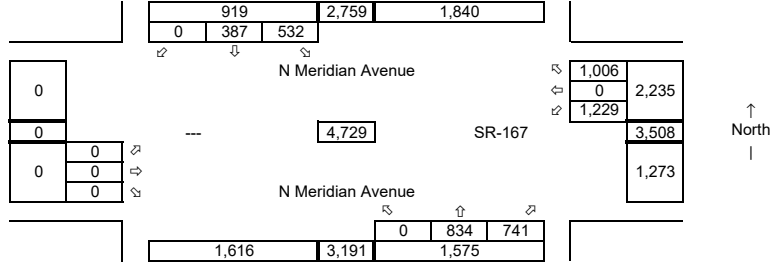
Synchro ID: 16
Existing
 Average Weekday
 AM Peak Hour

 Year: **6/14/2023**
 Data Source: **IDAX**

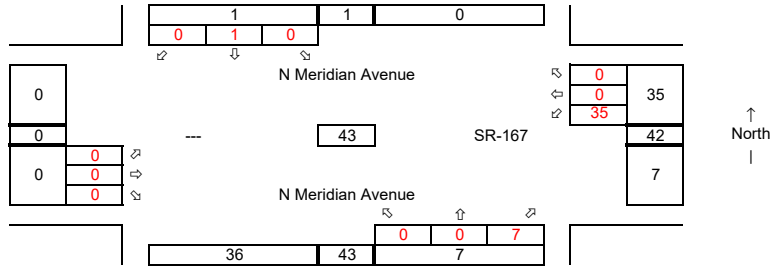


Future without Project
 Average Weekday
 AM Peak Hour

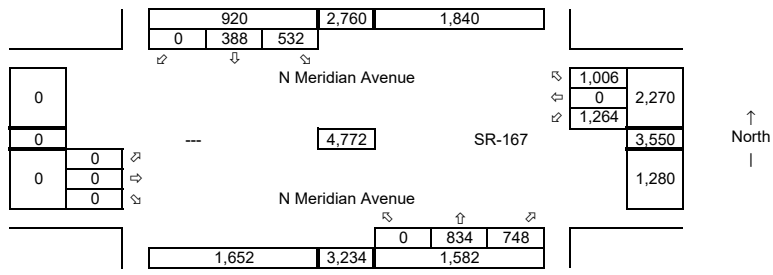
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



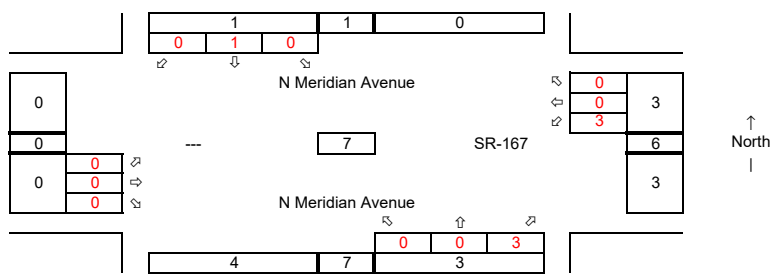
Total Development Trips
 Average Weekday
 AM Peak Hour



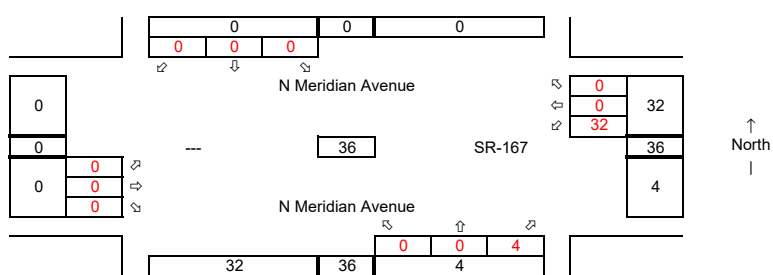
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



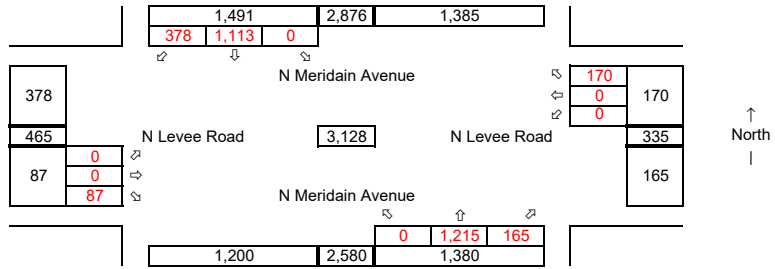
Development Car Trips
 Average Weekday
 AM Peak Hour



Synchro ID: 17
Existing
Average Weekday
AM Peak Hour

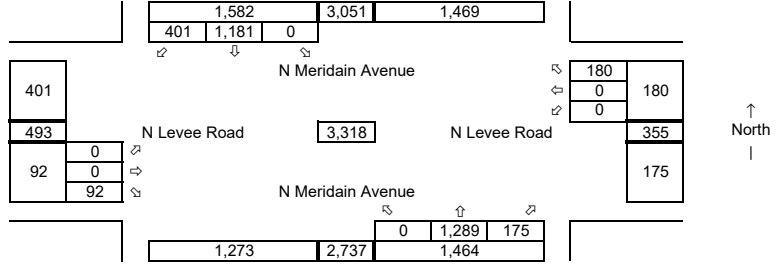
Year: 6/14/2023

Data Source: IDAX

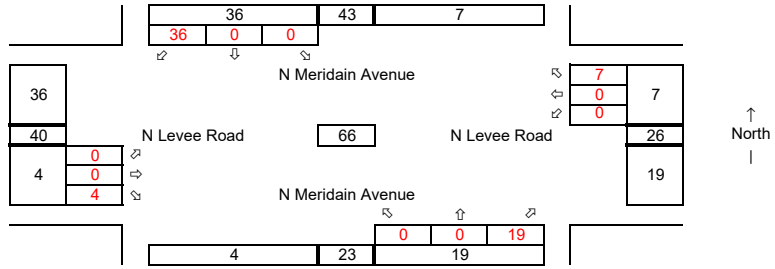


Future without Project
Average Weekday
AM Peak Hour

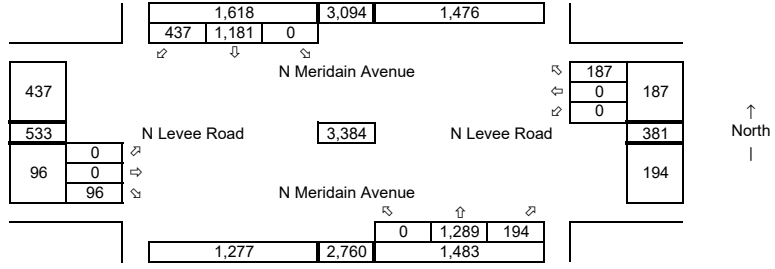
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



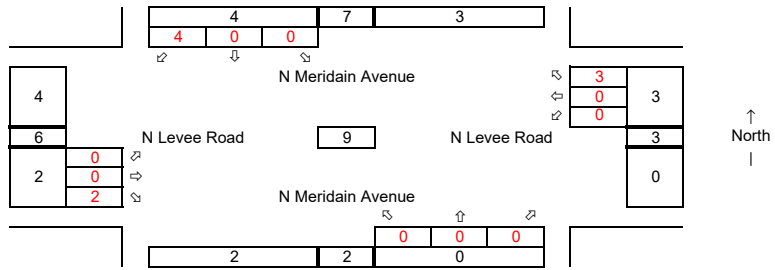
Total Development Trips
Average Weekday
AM Peak Hour



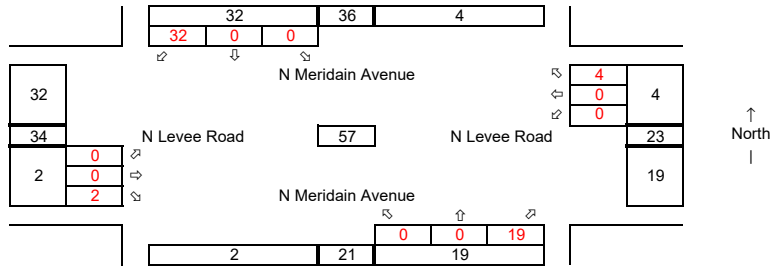
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



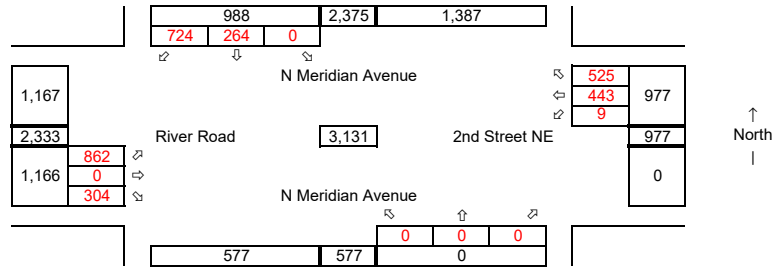
Development Car Trips
Average Weekday
AM Peak Hour



Synchro ID: 18
Existing
Average Weekday
AM Peak Hour

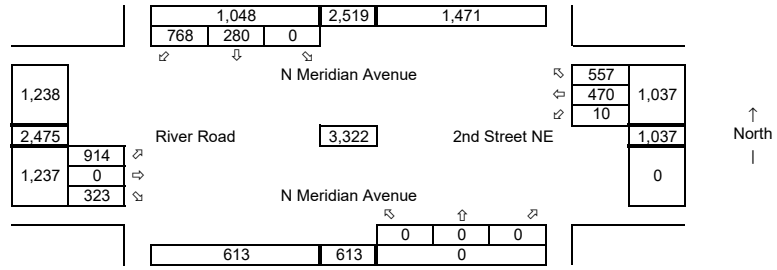
Year: 6/14/2023

Data Source: IDAX

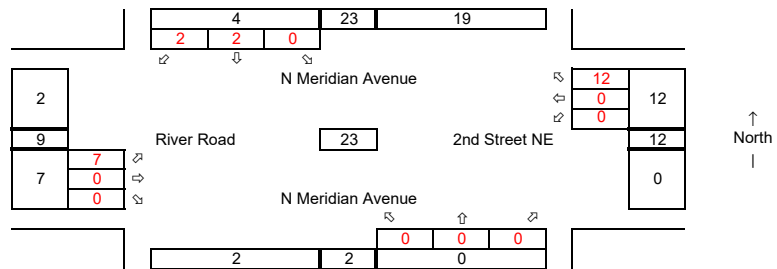


Future without Project
Average Weekday
AM Peak Hour

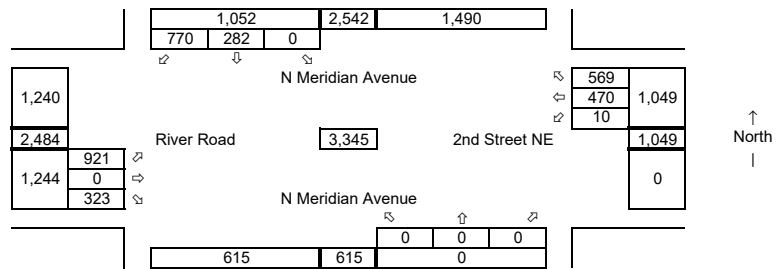
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



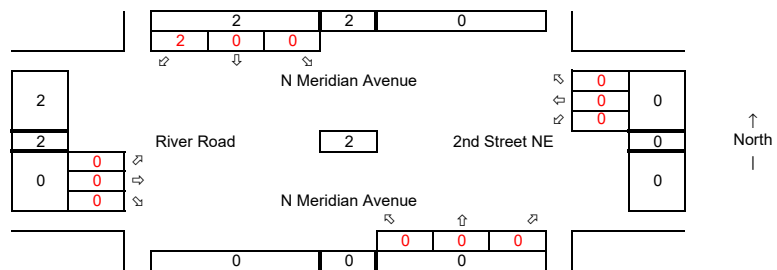
Total Development Trips
Average Weekday
AM Peak Hour



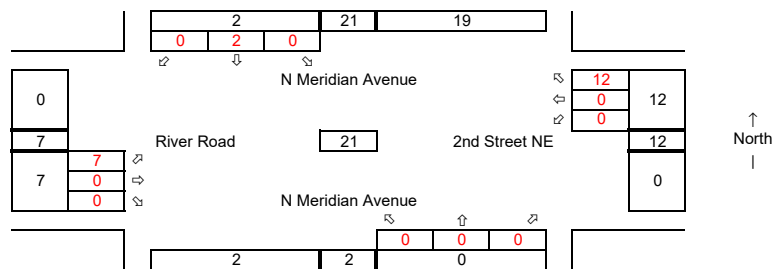
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



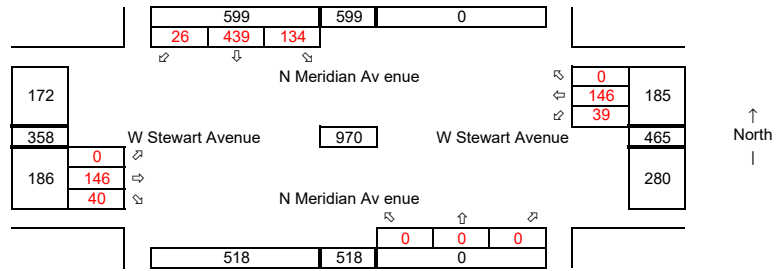
Development Car Trips
Average Weekday
AM Peak Hour



Synchro ID: 19
Existing
Average Weekday
AM Peak Hour

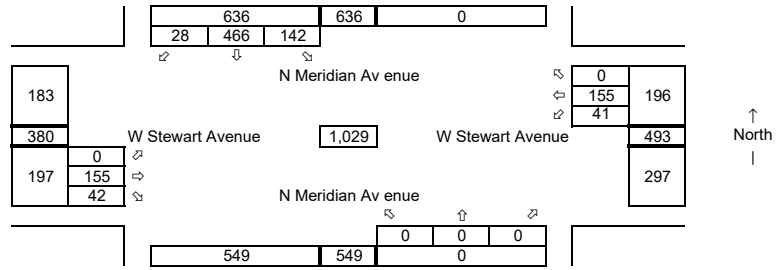
Year: 6/14/2023

Data Source: IDAX

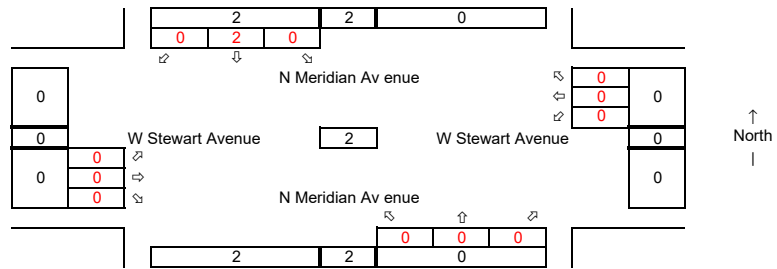


Future without Project
Average Weekday
AM Peak Hour

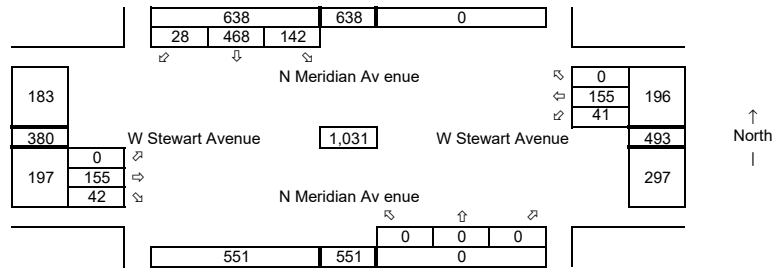
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



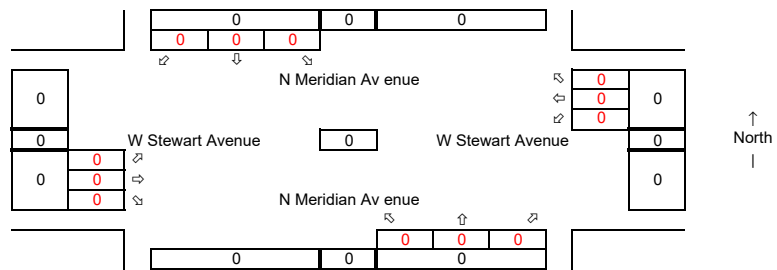
Total Development Trips
Average Weekday
AM Peak Hour



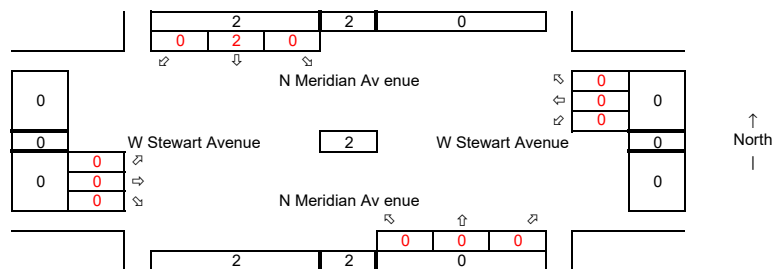
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour

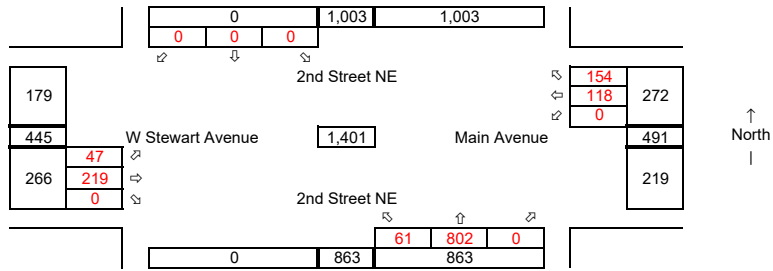


Synchro ID: 20

Existing
Average Weekday
AM Peak Hour

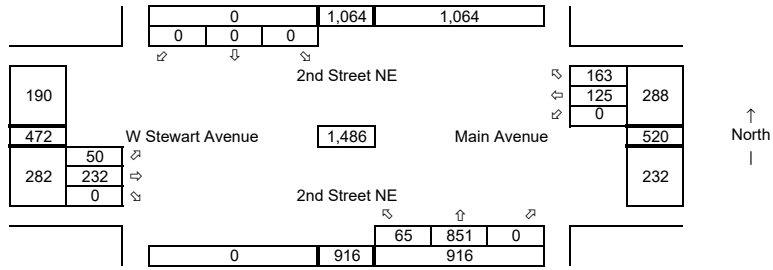
Year: 6/15/2023

Data Source: IDAX

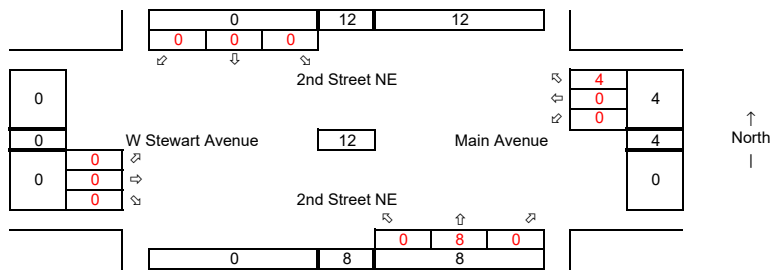


Future without Project
Average Weekday
AM Peak Hour

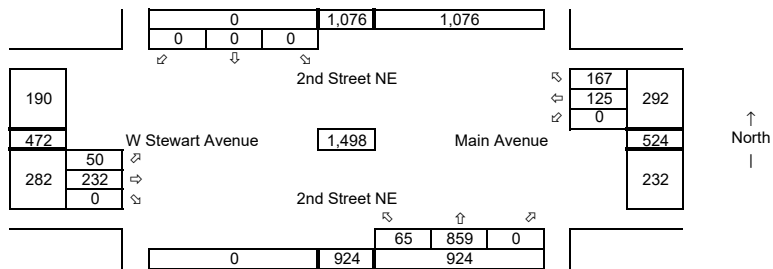
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



Total Development Trips
Average Weekday
AM Peak Hour



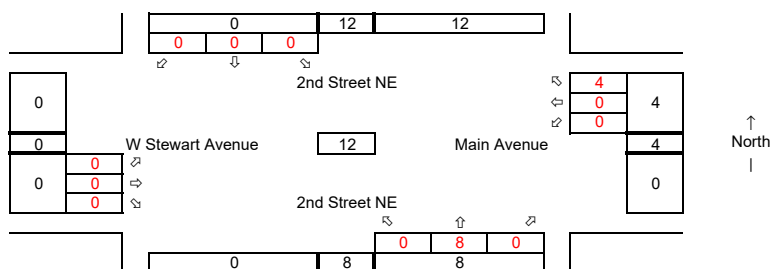
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



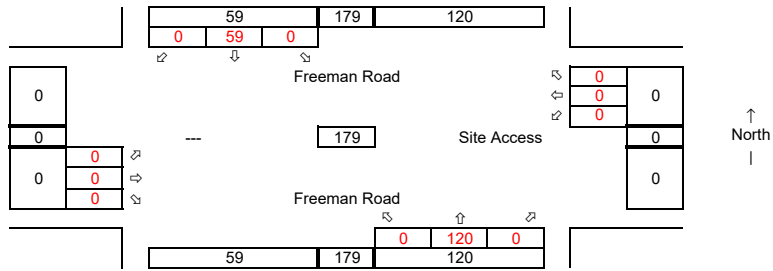
Development Car Trips
Average Weekday
AM Peak Hour



Synchro ID: 21
Existing
 Average Weekday
 AM Peak Hour

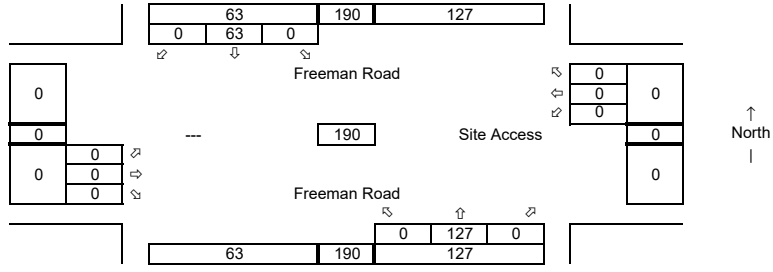
 Year: **6/8/2023**
 Data Source: **IDAX**

 NB/SB volumes extrapolated
 from Freeman at 48th Street E

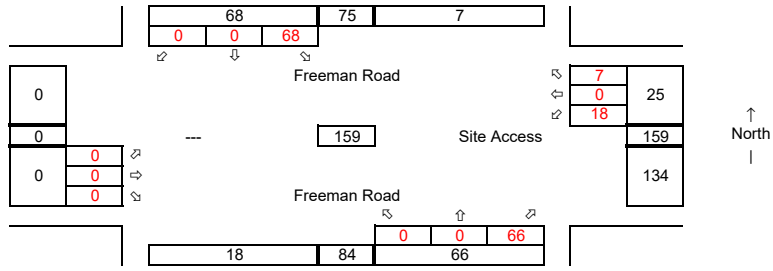


Future without Project
 Average Weekday
 AM Peak Hour

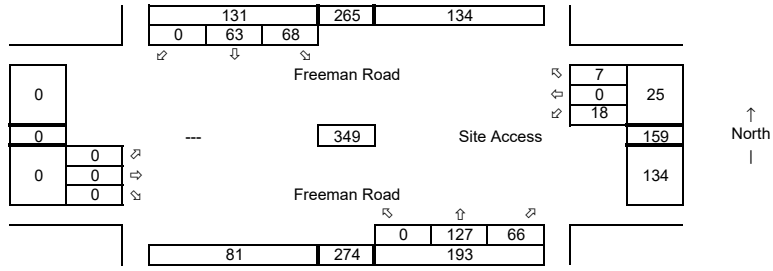
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



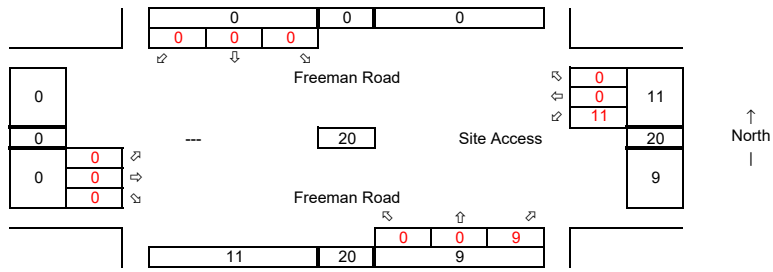
Total Development Trips
 Average Weekday
 AM Peak Hour



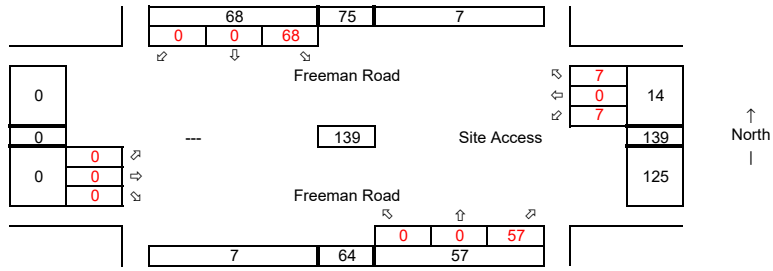
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour

























Development Car Trips
 Average Weekday
 AM Peak Hour



Lanes, Volumes, Timings
1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	126	46	69	70	116	25	441	60	71	354	17
Future Volume (vph)	34	126	46	69	70	116	25	441	60	71	354	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.960			0.907			0.982			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1705	0	1671	1596	0	1347	2646	0	1433	2845	0
Flt Permitted	0.610			0.635			0.506			0.419		
Satd. Flow (perm)	1083	1705	0	1117	1596	0	717	2646	0	632	2845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21			94			22			7	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		727			778			1175			536	
Travel Time (s)		19.8			15.2			22.9			10.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	7%	7%	8%	8%	8%	34%	34%	34%	26%	26%	26%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	195	0	78	212	0	28	569	0	81	421	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		10.0	19.0		10.0	17.0	
Total Split (s)	25.0	25.0		25.0	25.0		19.0	40.0		19.0	40.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		22.6%	47.6%		22.6%	47.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effect Green (s)	11.8	11.8		11.8	11.8		23.6	17.9		22.8	20.4	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.51	0.39		0.49	0.44	
v/c Ratio	0.14	0.43		0.27	0.44		0.06	0.54		0.18	0.33	
Control Delay (s/veh)	18.5	18.9		20.1	13.8		5.3	14.3		6.1	10.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	18.5	18.9		20.1	13.8		5.3	14.3		6.1	10.3	
LOS	B	B		C	B		A	B		A	B	
Approach Delay (s/veh)		18.8			15.5			13.9			9.6	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	9	42		18	27		3	64		8	25	
Queue Length 95th (ft)	33	110		57	90		12	128		27	87	

Lanes, Volumes, Timings
 1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		647			698			1095			456	
Turn Bay Length (ft)	100			200			100			100		
Base Capacity (vph)	539	860		556	842		634	2060		648	2212	
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	0.07	0.23		0.14	0.25		0.04	0.28		0.13	0.19	























Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	46.1
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay (s/veh):	13.6
Intersection LOS:	B
Intersection Capacity Utilization:	49.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 1: 54th Avenue E & 12th Street E



Lanes, Volumes, Timings
 2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	359	255	428	364	122	315	379	362	112	321	57
Future Volume (vph)	82	359	255	428	364	122	315	379	362	112	321	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.962			0.927				0.977
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3167	1417	2993	2968	0	2918	2789	0	1357	2652	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3167	1417	2993	2968	0	2918	2789	0	1357	2652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			140		32			164			14	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1085			1070			320			1175	
Travel Time (s)		21.1			20.8			6.2			22.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	14%	14%	17%	17%	17%	20%	20%	20%	33%	33%	33%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	374	266	446	506	0	328	772	0	117	393	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.0	40.0	40.0	20.0	42.0		40.0	40.0		40.0	40.0	
Total Split (%)	12.9%	28.6%	28.6%	14.3%	30.0%		28.6%	28.6%		28.6%	28.6%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	11.6	34.0	78.4	15.5	37.9		44.4	44.4		27.5	27.5	
Actuated g/C Ratio	0.08	0.24	0.56	0.11	0.27		0.32	0.32		0.20	0.20	
v/c Ratio	0.64	0.48	0.31	1.34	0.61		0.35	0.77		0.43	0.73	
Control Delay (s/veh)	84.5	48.0	5.3	220.8	45.8		42.0	43.2		53.5	59.1	
Queue Delay	0.0	0.0	0.0	1.6	0.0		0.9	33.9		0.0	0.0	
Total Delay (s/veh)	84.5	48.0	5.4	222.5	45.8		43.0	77.1		53.5	59.1	
LOS	F	D	A	F	D		D	E		D	E	
Approach Delay (s/veh)		36.7			128.6			67.0			57.9	
Approach LOS		D			F			E			E	
Queue Length 50th (ft)	76	154	30	~273	202		126	285		95	173	
Queue Length 95th (ft)	135	207	72	#384	268		188	#416		148	216	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

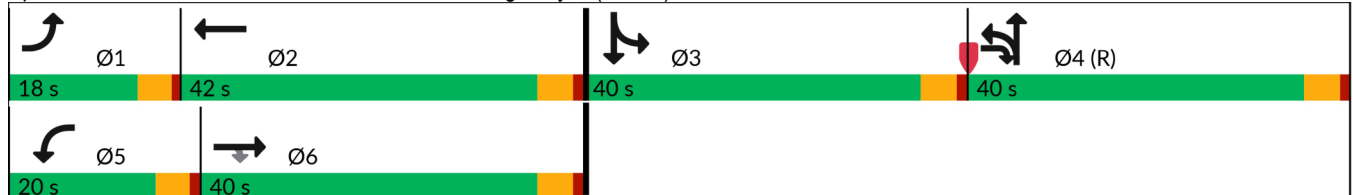
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	152	798	855	331	839		925	996		342	679	
Starvation Cap Reductn	0	0	0	0	0		360	266		0	0	
Spillback Cap Reductn	0	0	84	44	0		0	0		0	1	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.56	0.47	0.35	1.55	0.60		0.58	1.06		0.34	0.58	

Intersection Summary






















Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 14 (10%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.35
 Intersection Signal Delay (s/veh): 76.7 Intersection LOS: E
 Intersection Capacity Utilization 65.9% ICU Level of Service C
 Analysis Period (min) 15
 ~ 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.

Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings
2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	359	255	428	364	122	315	379	362	112	321	57
Future Volume (vph)	82	359	255	428	364	122	315	379	362	112	321	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.962			0.927			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3167	1417	2993	2968	0	2918	2789	0	1357	2652	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3167	1417	2993	2968	0	2918	2789	0	1357	2652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			136		33			167			14	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1085			1070			320			1175	
Travel Time (s)		21.1			20.8			6.2			22.9	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	14%	14%	17%	17%	17%	20%	20%	20%	33%	33%	33%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	374	266	446	506	0	328	772	0	117	393	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	19.0	38.7	36.6	21.0	40.7		36.6	36.6		38.7	38.7	
Total Split (%)	14.1%	28.7%	27.1%	15.6%	30.1%		27.1%	27.1%		28.7%	28.7%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	11.9	34.0	73.2	16.5	38.6		39.2	39.2		26.7	26.7	
Actuated g/C Ratio	0.09	0.25	0.54	0.12	0.29		0.29	0.29		0.20	0.20	
v/c Ratio	0.61	0.46	0.32	1.22	0.58		0.38	0.83		0.43	0.73	
Control Delay (s/veh)	77.2	45.1	5.6	170.5	42.1		41.2	44.3		51.5	56.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.8	34.0		0.0	0.0	
Total Delay (s/veh)	77.2	45.1	5.6	170.5	42.1		42.1	78.3		51.5	56.9	
LOS	E	D	A	F	D		D	E		D	E	
Approach Delay (s/veh)		34.4			102.3			67.5			55.7	
Approach LOS		C			F			E			E	
Queue Length 50th (ft)	73	147	30	~246	188		118	268		91	166	
Queue Length 95th (ft)	129	198	73	#356	255		177	#431		144	210	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

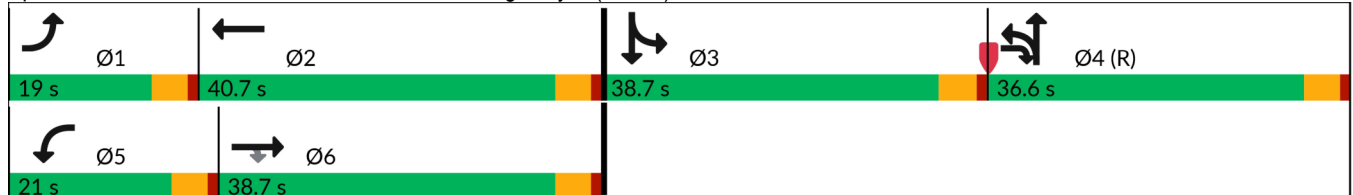
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	170	797	830	365	872		847	928		341	678	
Starvation Cap Reductn	0	0	0	0	0		279	200		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.50	0.47	0.32	1.22	0.58		0.58	1.06		0.34	0.58	

Intersection Summary

Area Type: Other
 Cycle Length: 135
 Actuated Cycle Length: 135
 Offset: 0 (0%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.22
 Intersection Signal Delay (s/veh): 68.5 Intersection LOS: E
 Intersection Capacity Utilization 65.9% ICU Level of Service C
 Analysis Period (min) 15
 ~ 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.



















Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	255	0	327	0	721	356	0	474	463
Future Volume (vph)	0	0	0	255	0	327	0	721	356	0	474	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		50	0		0
Storage Lanes	0		0	1		1	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850		0.987	0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1433	0	1282	0	3282	1468	0	1510	1300
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1433	0	1282	0	3282	1468	0	1510	1300
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						227			196		7	438
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1083			1080			827			320	
Travel Time (s)		21.1			21.0			16.1			6.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	26%	26%	26%	10%	10%	10%	18%	18%	18%
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	0	0	268	0	344	0	759	375	0	548	438
Turn Type				Prot		custom		NA	Perm		NA	custom
Protected Phases				3		3		6			2	2
Permitted Phases									6			Free
Detector Phase				3		3		6	6		2	2
Switch Phase												
Minimum Initial (s)				5.0				10.0	10.0		10.0	
Minimum Split (s)				9.5				14.7	14.7		14.5	
Total Split (s)				35.0				93.0	93.0		93.0	
Total Split (%)				25.0%				66.4%	66.4%		66.4%	
Yellow Time (s)				3.5				3.7	3.7		3.5	
All-Red Time (s)				1.0				1.0	1.0		1.0	
Lost Time Adjust (s)				0.0				0.0	0.0		0.0	
Total Lost Time (s)				4.5				4.7	4.7		4.5	
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Recall Mode				None				C-Max	C-Max		C-Max	
Act Effect Green (s)				28.7		39.8		91.0	91.0		91.2	140.0
Actuated g/C Ratio				0.21		0.28		0.65	0.65		0.65	1.00
v/c Ratio				0.91		0.65		0.35	0.36		0.55	0.33
Control Delay (s/veh)				88.5		20.3		12.0	6.3		13.7	1.9
Queue Delay				0.0		1.0		0.2	0.0		5.5	0.0
Total Delay (s/veh)				88.5		21.3		12.3	6.3		19.3	1.9
LOS				F		C		B	A		B	A
Approach Delay (s/veh)					50.8			10.4			11.6	
Approach LOS					D			B			B	
Queue Length 50th (ft)				237		89		163	65		315	49
Queue Length 95th (ft)				#395		203		204	124		m337	m57

Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	12.0
Total Split (%)	9%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

Lanes, Volumes, Timings

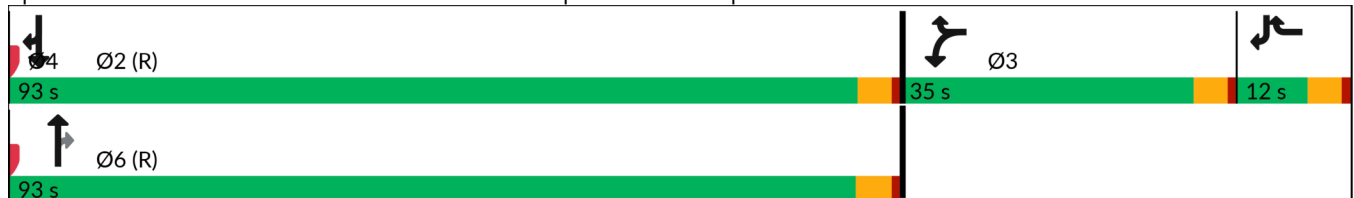
3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1003			1000			747			240	
Turn Bay Length (ft)									50			
Base Capacity (vph)				312		529		2132	1022		986	1300
Starvation Cap Reductn				0		0		0	0		370	0
Spillback Cap Reductn				0		55		698	0		0	0
Storage Cap Reductn				0		0		0	0		0	0
Reduced v/c Ratio				0.86		0.73		0.53	0.37		0.89	0.34

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	75 (54%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.91
Intersection Signal Delay (s/veh):	19.9
Intersection LOS:	B
Intersection Capacity Utilization:	55.5%
ICU Level of Service:	B
Analysis Period (min):	15
#	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.

Splits and Phases: 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp



Lanes, Volumes, Timings























3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	215	76	35	105	371	135	387	37	426	356	283
Future Volume (vph)	292	215	76	35	105	371	135	387	37	426	356	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.971					0.850		0.987			0.940
Flt Protected	0.950	0.987			0.988		0.950			0.950	0.995	
Satd. Flow (prot)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2746	0
Flt Permitted	0.950	0.987			0.988		0.950			0.950	0.995	
Satd. Flow (perm)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				97		6				107
Link Speed (mph)		35			35			30				30
Link Distance (ft)		738			676			783				335
Travel Time (s)		14.4			13.2			17.8				7.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	8%	8%	8%	6%	6%	6%
Shared Lane Traffic (%)	34%									15%		
Lane Group Flow (vph)	214	433	0	0	156	412	150	471	0	402	781	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	34.0	34.0		24.0	24.0	53.0	29.0	29.0		53.0	53.0	
Total Split (%)	24.3%	24.3%		17.1%	17.1%	37.9%	20.7%	20.7%		37.9%	37.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	26.1	26.1			17.4	76.5	23.9	23.9		54.6	54.6	
Actuated g/C Ratio	0.19	0.19			0.12	0.55	0.17	0.17		0.39	0.39	
v/c Ratio	0.86	0.84			0.83	0.54	0.58	0.91		0.73	0.68	
Control Delay (s/veh)	86.8	68.4			93.2	19.2	63.3	80.4		48.0	35.4	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	86.8	68.4			93.2	19.2	63.3	80.4		48.0	35.4	
LOS	F	E			F	B	E	F		D	D	
Approach Delay (s/veh)		74.5			39.6			76.3			39.8	
Approach LOS		E			D			E			D	
Queue Length 50th (ft)	205	198			139	188	127	221		364	300	
Queue Length 95th (ft)	#338	264			#244	298	203	#321		#561	390	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	278	575			210	753	264	526		544	1137	
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	0.77	0.75			0.74	0.55	0.57	0.90		0.74	0.69	

Intersection Summary

Area Type: CBD

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 6:, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay (s/veh): 54.7 Intersection LOS: D

Intersection Capacity Utilization 72.2% ICU Level of Service C

Analysis Period (min) 15























95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	215	76	35	105	371	135	387	37	426	356	283
Future Volume (vph)	292	215	76	35	105	371	135	387	37	426	356	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.971				0.850		0.987			0.940	
Flt Protected	0.950	0.987			0.988		0.950			0.950	0.995	
Satd. Flow (prot)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2746	0
Flt Permitted	0.950	0.987			0.988		0.950			0.950	0.995	
Satd. Flow (perm)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2746	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				78		8			133	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	8%	8%	8%	6%	6%	6%
Shared Lane Traffic (%)	34%									15%		
Lane Group Flow (vph)	214	433	0	0	156	412	150	471	0	402	781	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	24.5	24.5		22.5	22.5	35.5	22.5	22.5		35.5	35.5	
Total Split (%)	23.3%	23.3%		21.4%	21.4%	33.8%	21.4%	21.4%		33.8%	33.8%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	19.0	19.0			14.4	53.8	18.7	18.7		34.9	34.9	
Actuated g/C Ratio	0.18	0.18			0.14	0.51	0.18	0.18		0.33	0.33	
v/c Ratio	0.89	0.86			0.75	0.58	0.55	0.87		0.86	0.78	
Control Delay (s/veh)	80.0	57.9			65.5	18.5	48.3	60.2		55.4	33.7	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	80.0	57.9			65.5	18.5	48.3	60.2		55.4	33.7	
LOS	F	E			E	B	D	E		E	C	
Approach Delay (s/veh)		65.2			31.5			57.4			41.1	
Approach LOS		E			C			E			D	
Queue Length 50th (ft)	153	147			101	160	90	156		293	231	
Queue Length 95th (ft)	#300	#230			167	251	162	#260		#508	#342	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	251	525			258	702	272	544		463	1000	
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	0.85	0.82			0.60	0.59	0.55	0.87		0.87	0.78	

Intersection Summary	
Area Type:	CBD
Cycle Length:	105
Actuated Cycle Length:	105
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.90
Intersection Signal Delay (s/veh):	47.8
Intersection LOS:	D
Intersection Capacity Utilization:	72.2%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	46	0	98	0	447	55	89	461	1
Future Volume (vph)	0	0	0	46	0	98	0	447	55	89	461	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	210		0	100		0
Storage Lanes	0		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.850			0.984				0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	1900	0	1736	1553	0	1759	1731	0	1752	1845	1568
Flt Permitted				0.714						0.280		
Satd. Flow (perm)	0	1900	0	1304	1553	0	1759	1731	0	517	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					538			9				128
Link Speed (mph)		25			25			30				30
Link Distance (ft)		362			838			563				783
Travel Time (s)		9.9			22.9			12.8				17.8
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	8%	8%	8%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	54	115	0	0	591	0	105	542	1
Turn Type				pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	6.0		4.0	6.0	6.0
Minimum Split (s)	8.0	24.5		8.0	24.0		8.0	14.5		8.0	14.5	14.5
Total Split (s)	14.0	16.5		14.0	16.0		14.0	34.5		16.0	34.5	34.5
Total Split (%)	17.3%	20.4%		17.3%	19.8%		17.3%	42.6%		19.8%	42.6%	42.6%
Yellow Time (s)	3.0	3.5		3.0	3.0		3.0	3.5		3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5		4.0	4.0		4.0	4.5		4.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effect Green (s)				7.2	7.2			34.6		43.6	44.1	44.1
Actuated g/C Ratio				0.13	0.13			0.61		0.77	0.78	0.78
v/c Ratio				0.24	0.17			0.55		0.18	0.37	0.00
Control Delay (s/veh)				25.8	0.5			12.5		3.1	3.8	0.0
Queue Delay				0.0	0.0			0.0		0.0	0.0	0.0
Total Delay (s/veh)				25.8	0.5			12.5		3.1	3.8	0.0
LOS				C	A			B		A	A	A
Approach Delay (s/veh)					8.7			12.5			3.8	
Approach LOS					A			B			A	
Queue Length 50th (ft)				17	0			130		7	51	0
Queue Length 95th (ft)				43	0			240		18	95	0

FREEMAN LOGISTICS - INDUSTRIAL PARK
 KIMLEY-HORN & ASSOCIATES, INC [JMM 090222083]

AM PEAK-HOUR
 Synchro 12 Report

Lanes, Volumes, Timings

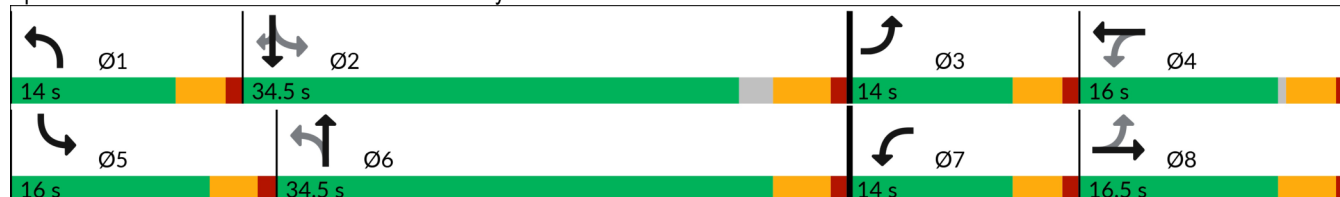
5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	282			758			483			703		
Turn Bay Length (ft)				100						100		
Base Capacity (vph)				308			763			1062		
Starvation Cap Reductn				0			0			0		
Spillback Cap Reductn				0			0			0		
Storage Cap Reductn				0			0			0		
Reduced v/c Ratio				0.18			0.15			0.56		



















Intersection Summary	
Area Type:	Other
Cycle Length:	81
Actuated Cycle Length:	56.6
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.56
Intersection Signal Delay (s/veh):	8.0
Intersection LOS:	A
Intersection Capacity Utilization:	48.3%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: 54th Avenue E & Driveway/23rd Street E



Lanes, Volumes, Timings
6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	256	130	112	361	5	147	1	87	1	1	0
Future Volume (vph)	3	256	130	112	361	5	147	1	87	1	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.949			0.998			0.950				
Flt Protected	0.950			0.950				0.970				0.976
Satd. Flow (prot)	1656	1654	0	1641	1724	0	0	1700	0	0	1854	0
Flt Permitted	0.382			0.356				0.809				0.883
Satd. Flow (perm)	666	1654	0	615	1724	0	0	1418	0	0	1678	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			2			55				
Link Speed (mph)		30			30			25				25
Link Distance (ft)		563			491			578				252
Travel Time (s)		12.8			11.2			15.8				6.9
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	9%	9%	9%	10%	10%	10%	3%	3%	3%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	537	0	156	508	0	0	326	0	0	2	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4				8
Permitted Phases	6			2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.5	30.5		22.5	22.5		32.0	32.0		32.0	32.0	
Total Split (s)	34.5	34.5		34.5	34.5		19.0	19.0		19.0	19.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effect Green (s)	19.0	19.0		19.0	19.0			12.5				12.5
Actuated g/C Ratio	0.47	0.47		0.47	0.47			0.31				0.31
v/c Ratio	0.01	0.65		0.54	0.62			0.68				0.00
Control Delay (s/veh)	5.6	11.3		15.8	11.9			21.9				13.0
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay (s/veh)	5.6	11.3		15.8	11.9			21.9				13.0
LOS	A	B		B	B			C				B
Approach Delay (s/veh)		11.3			12.9			22.0				13.0
Approach LOS		B			B			C				B
Queue Length 50th (ft)	0	73		24	82			51				0
Queue Length 95th (ft)	3	98		46	108			110				3

Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS

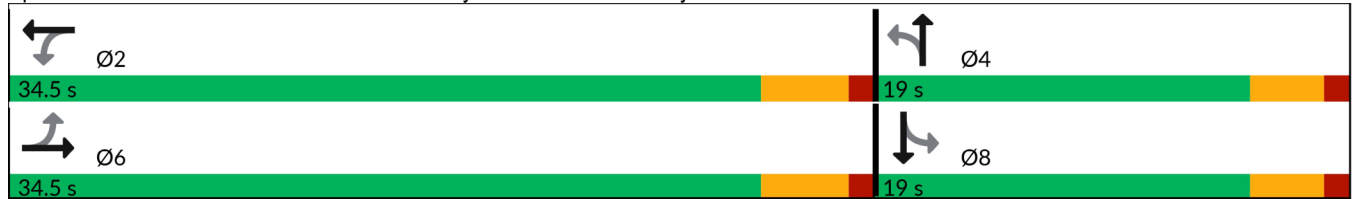


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		483			411			498			172	
Turn Bay Length (ft)	200			125								
Base Capacity (vph)	505	1274		466	1309			591			660	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.01	0.42		0.33	0.39			0.55			0.00	

Intersection Summary

Area Type:	Other
Cycle Length:	53.5
Actuated Cycle Length:	40.5
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay (s/veh):	14.2
Intersection LOS:	B
Intersection Capacity Utilization	57.0%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 6: 54th Avenue E & Valley Avenue E & Driveway



Lanes, Volumes, Timings

7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	0	0	0	0	58
Future Volume (vph)	17	0	0	0	0	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	290			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.850	
Flt Protected	0.950					
Satd. Flow (prot)	1641	0	1545	2935	2692	0
Flt Permitted	0.950					
Satd. Flow (perm)	1641	0	1545	2935	2692	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1091	
Link Speed (mph)	30			30	30	
Link Distance (ft)	592			513	541	
Travel Time (s)	13.5			11.7	12.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	23%	23%	14%	14%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	0	60	0
Turn Type	Prot		Prot		NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	5.0		6.0	10.0	10.0	
Minimum Split (s)	40.0		10.5	23.7	33.7	
Total Split (s)	40.0		20.0	66.0	66.0	
Total Split (%)	31.7%		15.9%	52.4%	52.4%	
Yellow Time (s)	3.5		3.5	4.7	4.7	
All-Red Time (s)	1.0		1.0	1.5	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	6.2	6.2	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	Max		None	Max	None	
Act Effct Green (s)	35.5				59.8	
Actuated g/C Ratio	0.33				0.56	
v/c Ratio	0.03				0.03	
Control Delay (s/veh)	24.0				0.0	
Queue Delay	0.0				0.0	
Total Delay (s/veh)	24.0				0.0	
LOS	C				A	
Approach Delay (s/veh)	24.1					
Approach LOS	C					
Queue Length 50th (ft)	8				0	
Queue Length 95th (ft)	25				0	

Lanes, Volumes, Timings

7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

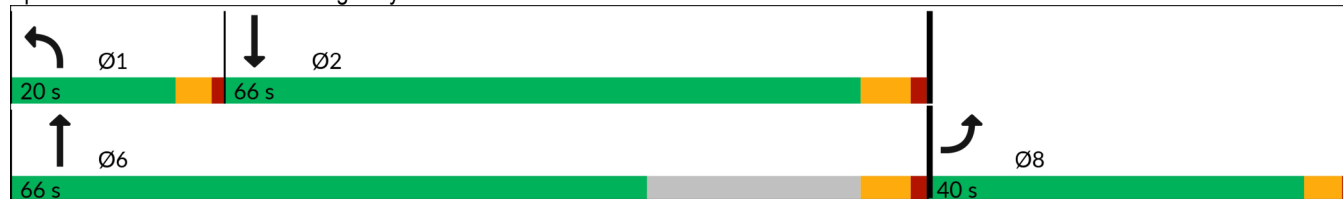


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	512			433	461	
Turn Bay Length (ft)						
Base Capacity (vph)	549				1994	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.03				0.03	

Intersection Summary

























Area Type:	Other
Cycle Length:	126
Actuated Cycle Length:	106
Natural Cycle:	85
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.03
Intersection Signal Delay (s/veh):	5.6
Intersection LOS:	A
Intersection Capacity Utilization	21.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 7: Pacific Highway E & 70th Avenue E



Lanes, Volumes, Timings
8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	369	86	107	460	286	92	729	79	128	412	72
Future Volume (vph)	95	369	86	107	460	286	92	729	79	128	412	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	400		400	250		0	225		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.985			0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	1759	1495	1656	1743	1482	1467	2891	0	2870	2894	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1671	1759	1495	1656	1743	1482	1467	2891	0	2870	2894	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			84		10			17	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1295			1073			2009			522	
Travel Time (s)		25.2			20.9			39.1			10.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	8%	8%	9%	9%	9%	23%	23%	23%	22%	22%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	380	89	110	474	295	95	833	0	132	499	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2						
Detector Phase	1	6	6	5	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	14.5	22.5	14.5	14.5	24.5		14.5	24.5	
Total Split (s)	14.5	44.5	44.5	14.5	44.5	19.5	19.5	44.4		19.5	44.5	
Total Split (%)	11.8%	36.2%	36.2%	11.8%	36.2%	15.9%	15.9%	36.1%		15.9%	36.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	None	None	None		None	None	
Act Effct Green (s)	9.7	40.1	40.1	10.0	40.4	56.2	12.4	37.4		11.2	36.3	
Actuated g/C Ratio	0.08	0.34	0.34	0.09	0.35	0.48	0.11	0.32		0.10	0.31	
v/c Ratio	0.71	0.62	0.15	0.78	0.78	0.39	0.61	0.89		0.47	0.54	
Control Delay (s/veh)	80.6	38.7	6.1	88.4	46.2	15.5	67.7	50.5		56.4	35.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	80.6	38.7	6.1	88.4	46.2	15.5	67.7	50.5		56.4	35.0	
LOS	F	D	A	F	D	B	E	D		E	D	
Approach Delay (s/veh)		40.9			41.2			52.3			39.5	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	75	247	0	85	331	101	70	309		50	160	
Queue Length 95th (ft)	#163	371	35	#191	#523	170	130	#437		82	218	

FREEMAN LOGISTICS - INDUSTRIAL PARK
KIMLEY-HORN & ASSOCIATES, INC [JMM 090222083]

AM PEAK-HOUR
Synchro 12 Report

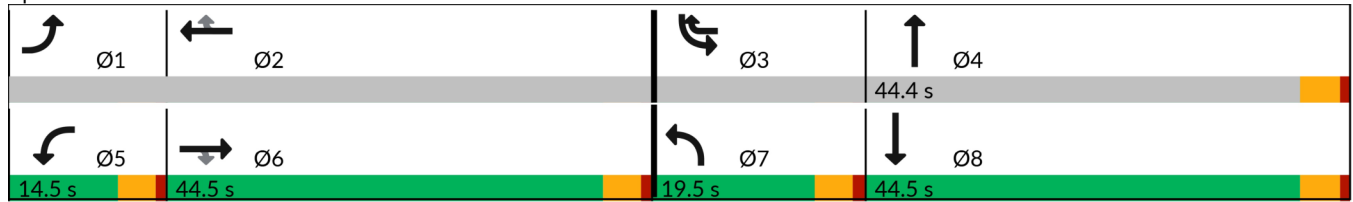
Lanes, Volumes, Timings
 8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1215			993			1929			442		
Turn Bay Length (ft)	250		200	400		400	250			225		
Base Capacity (vph)	143	604	574	142	602	801	188	999		369	1005	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.69	0.63	0.16	0.77	0.79	0.37	0.51	0.83		0.36	0.50	

























Intersection Summary	
Area Type:	Other
Cycle Length:	123
Actuated Cycle Length:	116.8
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay (s/veh):	44.2
Intersection LOS:	D
Intersection Capacity Utilization:	72.1%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: 70th Avenue E & 20th Street E



Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	76	41	67	21	60	83	796	64	71	456	18
Future Volume (vph)	39	76	41	67	21	60	83	796	64	71	456	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	200		0	225		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850				0.850		0.989			0.994
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	1624	1380	1492	1570	1335	1480	2926	0	1530	3041	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1543	1624	1380	1492	1570	1335	1480	2926	0	1530	3041	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53			67		9			4	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1057			880			2032			2009	
Travel Time (s)		20.6			17.1			39.6			39.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	17%	17%	17%	21%	21%	21%	22%	22%	22%	18%	18%	18%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	84	46	74	23	67	92	955	0	79	527	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4	4 5	3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.5	24.5		10.5	24.5		10.5	22.5		10.5	22.5	
Total Split (s)	20.0	24.5		20.0	24.5		20.0	60.0		20.0	60.0	
Total Split (%)	16.1%	19.7%		16.1%	19.7%		16.1%	48.2%		16.1%	48.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	8.6	10.9	24.0	10.6	15.0	27.4	11.5	63.1		10.7	62.4	
Actuated g/C Ratio	0.08	0.11	0.23	0.10	0.14	0.26	0.11	0.61		0.10	0.60	
v/c Ratio	0.33	0.49	0.12	0.48	0.10	0.16	0.56	0.53		0.50	0.28	
Control Delay (s/veh)	56.2	57.2	7.8	58.4	43.4	8.0	60.4	19.2		58.5	15.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	56.2	57.2	7.8	58.4	43.4	8.0	60.4	19.2		58.5	15.7	
LOS	E	E	A	E	D	A	E	B		E	B	
Approach Delay (s/veh)		43.8			35.8			22.9			21.3	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	28	56	0	49	14	0	61	228		52	105	
Queue Length 95th (ft)	70	112	24	103	41	33	124	383		109	181	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	977			800			1952			1929		
Turn Bay Length (ft)	150		150	150		150	200			225		
Base Capacity (vph)	237	322	431	229	319	473	227	1786		235	1835	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.18	0.26	0.11	0.32	0.07	0.14	0.41	0.53		0.34	0.29	

























Intersection Summary	
Area Type:	Other
Cycle Length:	124.5
Actuated Cycle Length:	103.5
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.56
Intersection Signal Delay (s/veh):	25.3
Intersection LOS:	C
Intersection Capacity Utilization	50.7%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 9: 70th Avenue E & 26th Street E

Ø1 20 s	Ø2 60 s	Ø3 20 s	Ø4 24.5 s
Ø5 20 s	Ø6 60 s	Ø7 20 s	Ø8 24.5 s


Lanes, Volumes, Timings
10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	291	106	29	252	413	162	490	42	239	171	95
Future Volume (vph)	53	291	106	29	252	413	162	490	42	239	171	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	200		0	200		130	350		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.946	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1776	1509	1492	1570	1335	1641	3282	1468	2870	2799	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1687	1776	1509	1492	1570	1335	1641	3282	1468	2870	2799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			430			164		80	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		831			1056			750			2032	
Travel Time (s)		18.9			24.0			14.6			39.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	7%	7%	21%	21%	21%	10%	10%	10%	22%	22%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	303	110	30	263	430	169	510	44	249	277	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0	8.0	6.0	8.0	8.0	6.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	31.0	31.0	10.5	31.0	31.0	10.5	31.0	31.0	13.0	31.0	
Total Split (s)	30.0	40.0	40.0	20.0	40.0	40.0	20.0	30.0	30.0	40.0	40.0	
Total Split (%)	21.4%	28.6%	28.6%	14.3%	28.6%	28.6%	14.3%	21.4%	21.4%	28.6%	28.6%	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	11.4	68.6	68.6	8.8	63.6	63.6	15.5	29.1	29.1	18.4	32.5	
Actuated g/C Ratio	0.08	0.49	0.49	0.06	0.45	0.45	0.11	0.21	0.21	0.13	0.23	
v/c Ratio	0.40	0.34	0.13	0.32	0.36	0.51	0.93	0.74	0.10	0.66	0.38	
Control Delay (s/veh)	68.8	27.0	3.8	70.8	30.8	5.2	112.5	58.8	0.4	66.1	31.8	
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)	68.8	27.0	3.8	70.8	30.8	5.2	112.5	58.8	0.4	66.1	31.8	
LOS	E	C	A	E	C	A	F	E	A	E	C	
Approach Delay (s/veh)		26.5			17.3			67.8			48.1	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	48	177	0	27	160	0	155	231	0	112	78	
Queue Length 95th (ft)	92	306	32	60	284	87	#299	279	0	154	110	

Lanes, Volumes, Timings
10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		751			976			670				1952
Turn Bay Length (ft)	150		250	200			200		130	350		
Base Capacity (vph)	301	870	803	165	712	840	181	695	440	717	953	
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.35	0.14	0.18	0.37	0.51	0.93	0.73	0.10	0.35	0.29	





















Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	30 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.93
Intersection Signal Delay (s/veh):	40.7
Intersection LOS:	D
Intersection Capacity Utilization:	56.9%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 10: 70th Avenue E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	384	65	5	558	142	49	77	29	98	62	18
Future Volume (vph)	21	384	65	5	558	142	49	77	29	98	62	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.978			0.970			0.959			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1492	2918	0	1530	2968	0	1703	1719	0	1641	1669	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1492	2918	0	1530	2968	0	1703	1719	0	1641	1669	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			29			14			11	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		671			1259			2534			494	
Travel Time (s)		15.3			28.6			69.1			13.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	21%	21%	21%	18%	18%	18%	6%	6%	6%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	478	0	5	745	0	52	113	0	104	85	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effect Green (s)	7.4	43.2		6.5	40.4		10.8	10.8		11.2	11.2	
Actuated g/C Ratio	0.09	0.53		0.08	0.49		0.13	0.13		0.14	0.14	
v/c Ratio	0.16	0.30		0.04	0.50		0.23	0.47		0.46	0.35	
Control Delay (s/veh)	40.9	13.0		41.0	17.5		36.1	36.8		41.0	34.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	40.9	13.0		41.0	17.5		36.1	36.8		41.0	34.1	
LOS	D	B		D	B		D	D		D	C	
Approach Delay (s/veh)		14.3			17.7			36.6			37.9	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	10	58		2	101		22	43		45	32	
Queue Length 95th (ft)	38	148		15	256		65	112		113	88	

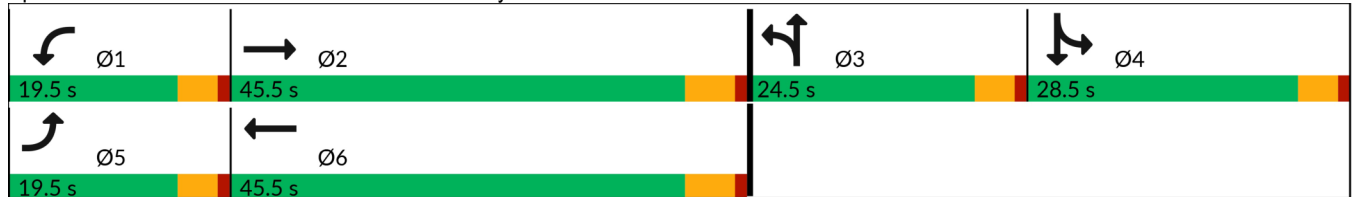
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	277	1548		284	1533		422	436		488	504	
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	0.08	0.31		0.02	0.49		0.12	0.26		0.21	0.17	





















Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	81.9
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.50
Intersection Signal Delay (s/veh):	21.0
Intersection LOS:	C
Intersection Capacity Utilization:	40.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: Freeman Road E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	411	54	7	434	106	25	37	26	61	32	8
Future Volume (vph)	15	411	54	7	434	106	25	37	26	61	32	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983			0.971			0.937				0.969
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1492	2933	0	1530	2971	0	1703	1680	0	1641	1674	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1492	2933	0	1530	2971	0	1703	1680	0	1641	1674	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			27			26			9	
Link Speed (mph)		30			30			25			25	
Link Distance (ft)		671			1259			2534			494	
Travel Time (s)		15.3			28.6			69.1			13.5	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	21%	21%	21%	18%	18%	18%	6%	6%	6%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	494	0	7	575	0	27	67	0	65	43	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effect Green (s)	7.0	45.6		6.5	45.4		8.0	8.0		8.9	8.9	
Actuated g/C Ratio	0.10	0.63		0.09	0.62		0.11	0.11		0.12	0.12	
v/c Ratio	0.11	0.26		0.05	0.30		0.14	0.32		0.32	0.20	
Control Delay (s/veh)	35.6	10.1		35.4	10.4		33.8	26.6		35.9	28.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	35.6	10.1		35.4	10.4		33.8	26.6		35.9	28.5	
LOS	D	B		D	B		C	C		D	C	
Approach Delay (s/veh)		11.0			10.7			28.7			33.0	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	7	52		3	61		11	17		26	14	
Queue Length 95th (ft)	28	132		17	156		39	60		73	48	

Lanes, Volumes, Timings

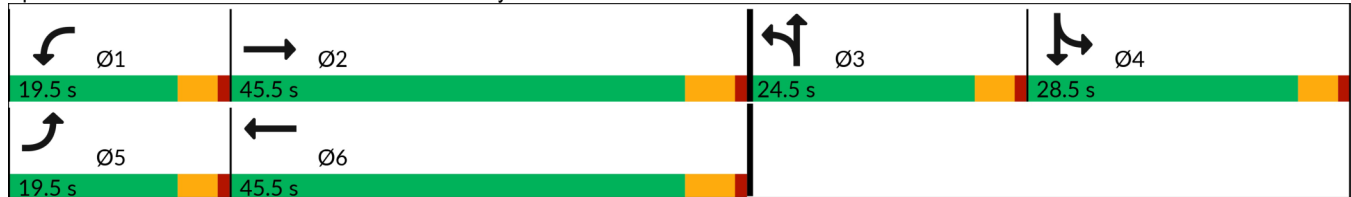
11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	312	1844		321	1873		476	488		550	567	
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	0.05	0.27		0.02	0.31		0.06	0.14		0.12	0.08	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	72.7
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.33
Intersection Signal Delay (s/veh):	14.0
Intersection LOS:	B
Intersection Capacity Utilization	33.8%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 11: Freeman Road E & Valley Avenue E



HCM 6th TWSC
 12: Freeman Road E & 48th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	3	9	6	128	123	8
Future Vol, veh/h	3	9	6	128	123	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	5	5	8	8
Mvmt Flow	4	11	7	156	150	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	325	155	160	0	0
Stage 1	155	-	-	-	-
Stage 2	170	-	-	-	-
Critical Hdwy	6.4	6.2	4.15	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.245	-	-
Pot Cap-1 Maneuver	673	896	1401	-	-
Stage 1	878	-	-	-	-
Stage 2	865	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	670	896	1401	-	-
Mov Cap-2 Maneuver	670	-	-	-	-
Stage 1	874	-	-	-	-
Stage 2	865	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.4	0.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1401	-	826	-	-
HCM Lane V/C Ratio	0.005	-	0.018	-	-
HCM Control Delay (s/veh)	7.6	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC
 13: Freeman Road E & 50th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	8	5	3	190	78	1
Future Vol, veh/h	8	5	3	190	78	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	8	8	6	6	10	10
Mvmt Flow	9	6	3	216	89	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	312	90	90	0	0
Stage 1	90	-	-	-	-
Stage 2	222	-	-	-	-
Critical Hdwy	6.48	6.28	4.16	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.254	-	-
Pot Cap-1 Maneuver	668	951	1480	-	-
Stage 1	919	-	-	-	-
Stage 2	801	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	667	951	1480	-	-
Mov Cap-2 Maneuver	667	-	-	-	-
Stage 1	917	-	-	-	-
Stage 2	801	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.9	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1480	-	754	-	-
HCM Lane V/C Ratio	0.002	-	0.02	-	-
HCM Control Delay (s/veh)	7.4	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC

14: Freeman Road E & 52nd Street E/19th Avenue NW 2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	14	0	4	0	196	18	6	77	2
Future Vol, veh/h	0	0	1	14	0	4	0	196	18	6	77	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	59	59	59	5	5	5	9	9	9
Mvmt Flow	0	0	1	17	0	5	0	233	21	7	92	2

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	353	361	93	352	352	244	94	0	0	254	0	0
Stage 1	107	107	-	244	244	-	-	-	-	-	-	-
Stage 2	246	254	-	108	108	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.69	7.09	6.79	4.15	-	-	4.19	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.69	6.09	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.69	6.09	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	4.031	4.531	3.831	2.245	-	-	2.281	-	-
Pot Cap-1 Maneuver	606	569	970	509	492	673	1481	-	-	1271	-	-
Stage 1	903	811	-	649	611	-	-	-	-	-	-	-
Stage 2	762	701	-	776	708	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	599	566	970	506	489	673	1481	-	-	1271	-	-
Mov Cap-2 Maneuver	599	566	-	506	489	-	-	-	-	-	-	-
Stage 1	903	806	-	649	611	-	-	-	-	-	-	-
Stage 2	757	701	-	770	704	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	8.7	12	0	0.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1481	-	-	970	536	1271	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.04	0.006	-	-
HCM Control Delay (s/veh)	0	-	-	8.7	12	7.8	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.1	0	-	-

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	24	221	440	172	64	17
Future Vol, veh/h	24	221	440	172	64	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	27	248	494	193	72	19

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	687	0	-	0	893 591
Stage 1	-	-	-	-	591 -
Stage 2	-	-	-	-	302 -
Critical Hdwy	4.26	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.344	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	845	-	-	-	302 492
Stage 1	-	-	-	-	538 -
Stage 2	-	-	-	-	732 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	845	-	-	-	291 492
Mov Cap-2 Maneuver	-	-	-	-	291 -
Stage 1	-	-	-	-	518 -
Stage 2	-	-	-	-	732 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.9	0	20.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	845	-	-	-	318
HCM Lane V/C Ratio	0.032	-	-	-	0.286
HCM Control Delay (s/veh)	9.4	0	-	-	20.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q (veh)	0.1	-	-	-	1.2

HCM 6th AWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection	
Intersection Delay, s/veh	23.2
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	24	221	440	172	64	17
Future Vol, veh/h	24	221	440	172	64	17
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	27	248	494	193	72	19
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	11.8	29.4	10.9
HCM LOS	B	D	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	10%	0%	100%	0%
Vol Thru, %	90%	72%	0%	0%
Vol Right, %	0%	28%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	612	64	17
LT Vol	24	0	64	0
Through Vol	221	440	0	0
RT Vol	0	172	0	17
Lane Flow Rate	275	688	72	19
Geometry Grp	2	2	5	5
Degree of Util (X)	0.401	0.866	0.148	0.033
Departure Headway (Hd)	5.241	4.534	7.432	6.209
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	680	791	485	580
Service Time	3.328	2.593	5.132	3.909
HCM Lane V/C Ratio	0.404	0.87	0.148	0.033
HCM Control Delay, s/veh	11.8	29.4	11.4	9.1
HCM Lane LOS	B	D	B	A
HCM 95th-tile Q	1.9	10.7	0.5	0.1

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	1.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Traffic Vol, veh/h	32	148	296	124	35	13
Future Vol, veh/h	32	148	296	124	35	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	36	166	333	139	39	15













Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	472	0	-	0	641
Stage 1	-	-	-	-	403
Stage 2	-	-	-	-	238
Critical Hdwy	4.26	-	-	-	6.5
Critical Hdwy Stg 1	-	-	-	-	5.5
Critical Hdwy Stg 2	-	-	-	-	5.5
Follow-up Hdwy	2.344	-	-	-	3.59
Pot Cap-1 Maneuver	1020	-	-	-	427
Stage 1	-	-	-	-	658
Stage 2	-	-	-	-	783
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1020	-	-	-	410
Mov Cap-2 Maneuver	-	-	-	-	410
Stage 1	-	-	-	-	632
Stage 2	-	-	-	-	783

Approach	EB	WB	SB
HCM Control Delay, s/v	1.5	0	14
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1020	-	-	-	453
HCM Lane V/C Ratio	0.035	-	-	-	0.119
HCM Control Delay (s/veh)	8.7	0	-	-	14
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q (veh)	0.1	-	-	-	0.4

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1264	1006	834	748	532	388
Future Volume (vph)	1264	1006	834	748	532	388
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	2		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.88	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3183	2584	3282	1468	3019	3112
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3183	2584	3282	1468	3019	3112
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		90		491		
Link Speed (mph)	35		35			35
Link Distance (ft)	522		278			1175
Travel Time (s)	10.2		5.4			22.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	10%	10%	10%	10%	16%	16%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1331	1059	878	787	560	408
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	10.0	6.0	10.0
Minimum Split (s)	36.6	10.6	38.9	38.9	10.6	36.9
Total Split (s)	36.6	54.6	64.9	64.9	54.6	64.9
Total Split (%)	23.4%	35.0%	41.6%	41.6%	35.0%	41.6%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9	4.9	4.6	4.9
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	32.1	70.0	60.2	60.2	33.3	98.1
Actuated g/C Ratio	0.23	0.50	0.43	0.43	0.24	0.70
v/c Ratio	1.82	0.79	0.62	0.86	0.77	0.18
Control Delay (s/veh)	406.4	30.9	34.2	24.6	57.5	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	406.4	30.9	34.2	24.6	57.5	7.2
LOS	F	C	C	C	E	A
Approach Delay (s/veh)	240.1		29.7			36.4
Approach LOS	F		C			D
Queue Length 50th (ft)	~930	407	318	279	246	61
Queue Length 95th (ft)	#1189	505	452	#657	311	79

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

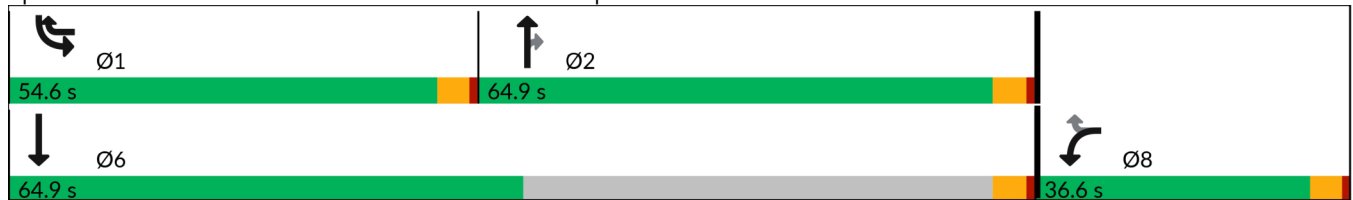


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	442		198			1095
Turn Bay Length (ft)					250	
Base Capacity (vph)	730	1640	1413	911	1083	2560
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.82	0.65	0.62	0.86	0.52	0.16

Intersection Summary

Area Type:	Other
Cycle Length:	156.1
Actuated Cycle Length:	139.7
Natural Cycle:	120
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.82
Intersection Signal Delay (s/veh):	131.1
Intersection LOS:	F
Intersection Capacity Utilization	86.0%
ICU Level of Service	E
Analysis Period (min)	15
~ 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.	

Splits and Phases: 16: N Meridian Avenue & SR-167 Ramps



HCM 6th TWSC
 17: N Meridian Avenue & N Levee Road

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↔			↕↔	
Traffic Vol, veh/h	0	0	96	0	0	187	0	1289	194	0	1181	437
Future Vol, veh/h	0	0	96	0	0	187	0	1289	194	0	1181	437
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	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, %	6	6	6	10	10	10	9	9	9	9	9	9
Mvmt Flow	0	0	101	0	0	197	0	1357	204	0	1243	460

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	852	-	-	679	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.02	-	-	7.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.36	-	-	3.4	-	-
Pot Cap-1 Maneuver	0	0	295	0	0	376	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	295	-	-	376	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s/v	23.4		24.6		0		0	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	295	376	-	-
HCM Lane V/C Ratio	-	0.343	0.524	-	-
HCM Control Delay (s/veh)	-	23.4	24.6	-	-
HCM Lane LOS	-	C	C	-	-
HCM 95th %tile Q (veh)	-	1.5	2.9	-	-

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	921	0	323	10	470	569	0	0	0	0	282	770
Future Volume (vph)	921	0	323	10	470	569	0	0	0	0	282	770
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3242	0	1495	1736	3471	1553	0	0	0	0	3282	1468
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3242	0	1495	1736	3471	1553	0	0	0	0	3282	1468
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				90		444						610
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	8%	8%	4%	4%	4%	0%	0%	0%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	980	0	344	11	500	605	0	0	0	0	300	819
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2						4	
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2					4	4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	31.0		31.0	31.0	31.0	31.0					22.0	22.0
Total Split (%)	36.9%		36.9%	36.9%	36.9%	36.9%					26.2%	26.2%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	25.9		25.9	30.0	30.0	30.0					17.2	17.2
Actuated g/C Ratio	0.29		0.29	0.34	0.34	0.34					0.20	0.20
v/c Ratio	1.02		0.78	0.01	0.42	0.73					0.46	1.05
Control Delay (s/veh)	68.7		43.0	0.0	23.7	12.9					34.1	58.7
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	68.7		43.0	0.0	23.7	12.9					34.1	58.7
LOS	E		D	A	C	B					C	E
Approach Delay (s/veh)		62.1			17.7						52.2	
Approach LOS		E			B						D	
Queue Length 50th (ft)	~303		174	0	111	65					78	~204
Queue Length 95th (ft)	#422		#310	0	155	205					118	#430

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	953		439	650	1181	821					640	777
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	1.03		0.78	0.02	0.42	0.74					0.47	1.05













Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	88.1
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.05
Intersection Signal Delay (s/veh):	45.1
Intersection LOS:	D
Intersection Capacity Utilization:	69.1%
ICU Level of Service:	C
Analysis Period (min):	15
~ 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.	

Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↖	↗
Traffic Volume (vph)	0	155	42	41	155	0	0	0	0	142	468	28
Future Volume (vph)	0	155	42	41	155	0	0	0	0	142	468	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	125		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt			0.850									0.993
Flt Protected				0.950								0.989
Satd. Flow (prot)	0	1776	1509	1703	1792	0	0	0	0	0	3409	0
Flt Permitted				0.421								0.989
Satd. Flow (perm)	0	1776	1509	755	1792	0	0	0	0	0	3409	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91									16
Link Speed (mph)		25			25			25				25
Link Distance (ft)		393			385			1349				2133
Travel Time (s)		10.7			10.5			36.8				58.2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	7%	7%	6%	6%	6%	0%	0%	0%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	48	47	178	0	0	0	0	0	733	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		8		7	4						2	
Permitted Phases			8	4						2		
Detector Phase		8	8	7	4					2	2	
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					10.0	10.0	
Minimum Split (s)		21.0	21.0	9.0	21.0					23.0	23.0	
Total Split (s)		9.0	9.0	7.0	13.0					44.0	44.0	
Total Split (%)		15.0%	15.0%	11.7%	21.7%					73.3%	73.3%	
Yellow Time (s)		3.0	3.0	3.0	3.0					3.0	3.0	
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0							0.0
Total Lost Time (s)		4.0	4.0	4.0	4.0							4.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		None	None	None	None					Max	Max	
Act Effct Green (s)		5.5	5.5	9.7	9.7							42.5
Actuated g/C Ratio		0.09	0.09	0.16	0.16							0.70
v/c Ratio		1.09	0.21	0.27	0.61							0.30
Control Delay (s/veh)		132.7	4.8	24.3	32.2							4.0
Queue Delay		0.0	0.0	0.0	0.0							0.0
Total Delay (s/veh)		132.7	4.8	24.3	32.2							4.0
LOS		F	A	C	C							A
Approach Delay (s/veh)		105.6			30.6							4.0
Approach LOS		F			C							A
Queue Length 50th (ft)		~81	0	14	58							46
Queue Length 95th (ft)		#178	9	37	106							64

Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

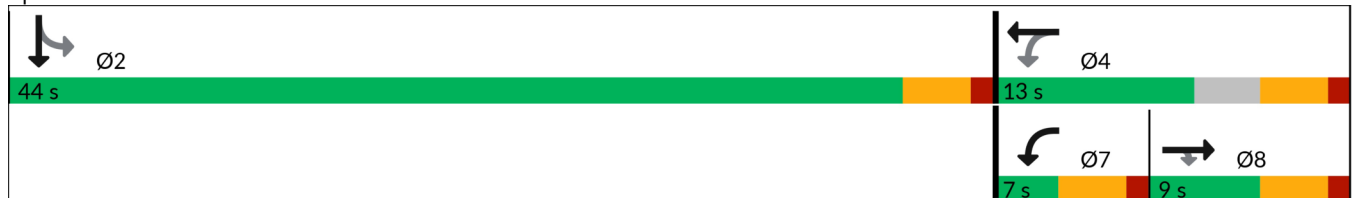


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		313			305			1269			2053	
Turn Bay Length (ft)			50	125								
Base Capacity (vph)		162	220	169	357						2409	
Starvation Cap Reductn		0	0	0	0						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		1.10	0.22	0.28	0.50						0.30	

Intersection Summary

Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60.3
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.10
Intersection Signal Delay (s/veh):	28.5
Intersection LOS:	C
Intersection Capacity Utilization	50.1%
ICU Level of Service	A
Analysis Period (min)	15
~ 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.	

Splits and Phases: 19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue



Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	232	0	0	125	167	65	859	0	0	0	0
Future Volume (vph)	50	232	0	0	125	167	65	859	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	0		125	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850						
Flt Protected	0.950							0.997				
Satd. Flow (prot)	1719	1810	0	0	1792	1524	0	3461	0	0	0	0
Flt Permitted	0.466							0.997				
Satd. Flow (perm)	843	1810	0	0	1792	1524	0	3461	0	0	0	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		385			615			394				343
Travel Time (s)		10.5			16.8			10.7				9.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	6%	6%	6%	4%	4%	4%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	244	0	0	132	176	0	972	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	3	8			4			2				
Permitted Phases	8					4	2					
Detector Phase	3	8			4	4	2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	10.0	10.0				
Minimum Split (s)	9.5	28.0			28.0	28.0	26.0	26.0				
Total Split (s)	10.0	45.0			29.0	29.0	53.0	53.0				
Total Split (%)	10.2%	45.9%			29.6%	29.6%	54.1%	54.1%				
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0				
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	None			None	None	Max	Max				
Act Effct Green (s)	18.1	18.1			12.7	12.7		49.6				
Actuated g/C Ratio	0.24	0.24			0.17	0.17		0.65				
v/c Ratio	0.20	0.56			0.44	0.69		0.42				
Control Delay (s/veh)	22.6	29.6			33.8	44.9		8.4				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay (s/veh)	22.6	29.6			33.8	44.9		8.4				
LOS	C	C			C	D		A				
Approach Delay (s/veh)		28.4			40.2			8.4				
Approach LOS		C			D			A				
Queue Length 50th (ft)	19	100			60	83		116				
Queue Length 95th (ft)	44	164			111	149		201				

Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

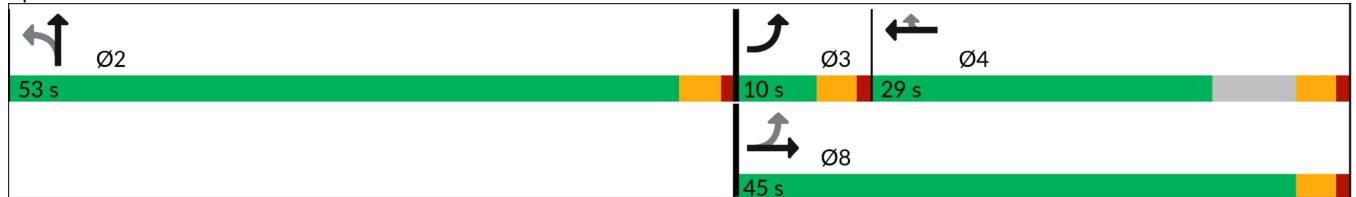


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		305			535			314			263	
Turn Bay Length (ft)	50					125						
Base Capacity (vph)	271	990			741	630		2263				
Starvation Cap Reductn	0	0			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.20	0.25			0.18	0.28		0.43				

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	75.8
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay (s/veh):	18.4
Intersection LOS:	B
Intersection Capacity Utilization:	50.1%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 20: 2nd Street NE & E Stewart Avenue/E Main Avenue



HCM 6th TWSC
 21: Freeman Road E & Site Access

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	2.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	18	7	127	67	70	63
Future Vol, veh/h	18	7	127	67	70	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	8	138	73	76	68

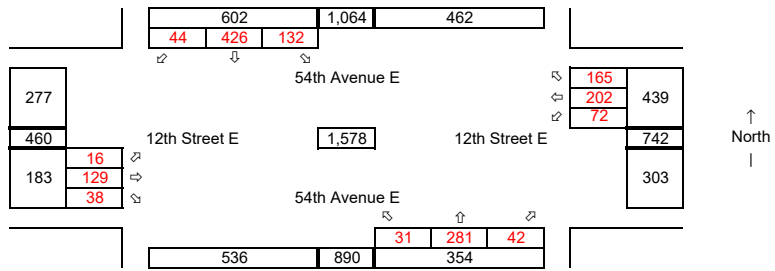
Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	395	175	0	0	211
Stage 1	175	-	-	-	-
Stage 2	220	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	610	868	-	-	1360
Stage 1	855	-	-	-	-
Stage 2	817	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	576	868	-	-	1360
Mov Cap-2 Maneuver	576	-	-	-	-
Stage 1	855	-	-	-	-
Stage 2	771	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	10.9	0	4.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	636	1360
HCM Lane V/C Ratio	-	-	0.043	0.056
HCM Control Delay (s/veh)	-	-	10.9	7.8
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q (veh)	-	-	0.1	0.2

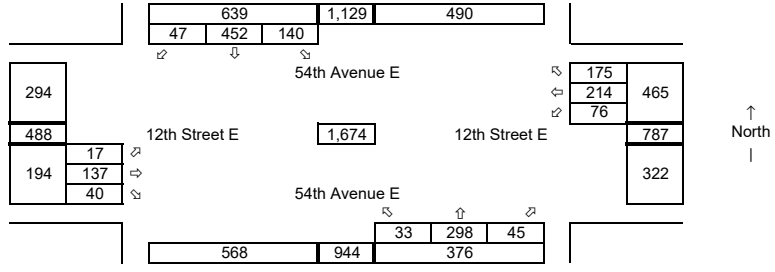
Synchro ID: 1
Existing
Average Weekday
PM Peak Hour

Year: 6/8/2023
Data Source: IDAX

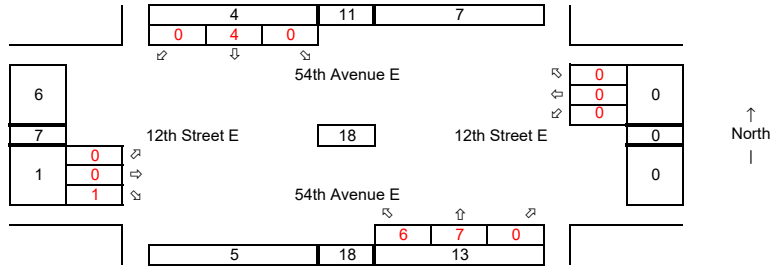


Future without Project
Average Weekday
PM Peak Hour

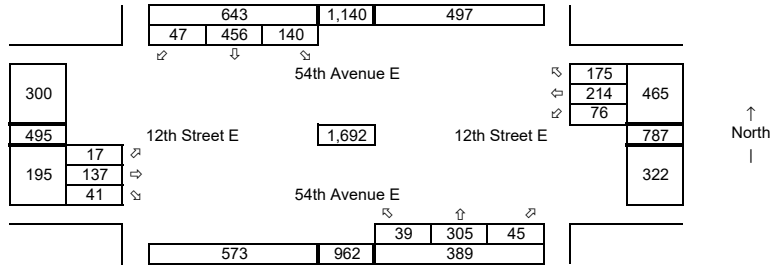
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



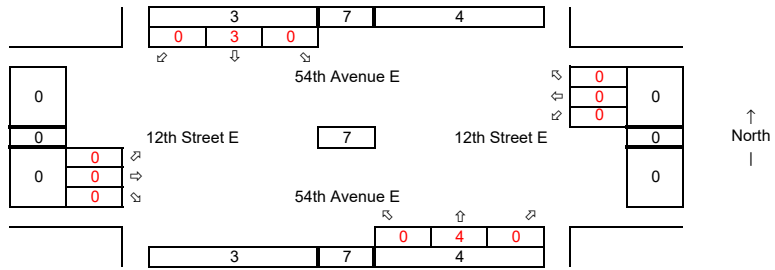
Total Development Trips
Average Weekday
PM Peak Hour



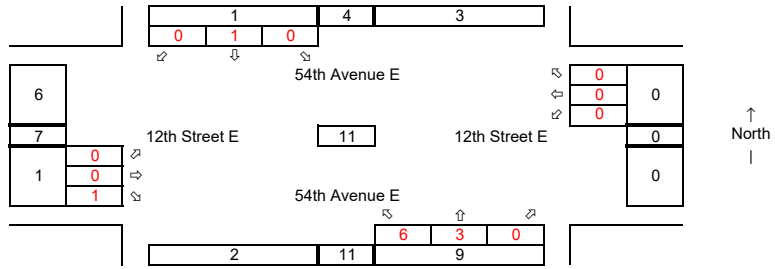
Future with Project
Average Weekday
PM Peak Hour



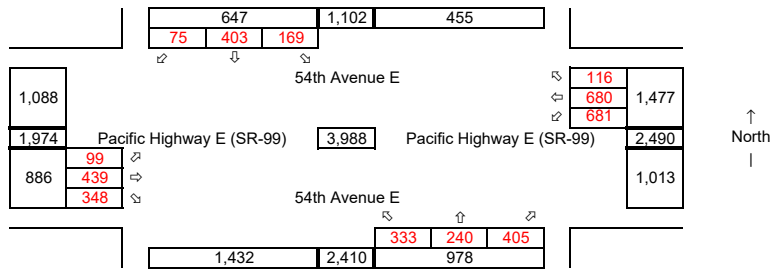
Development Truck Trips
Average Weekday
PM Peak Hour



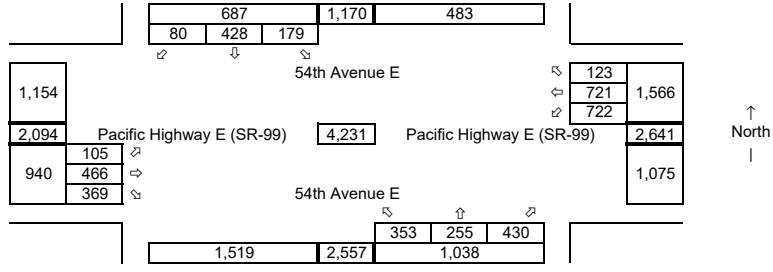
Development Car Trips
Average Weekday
PM Peak Hour



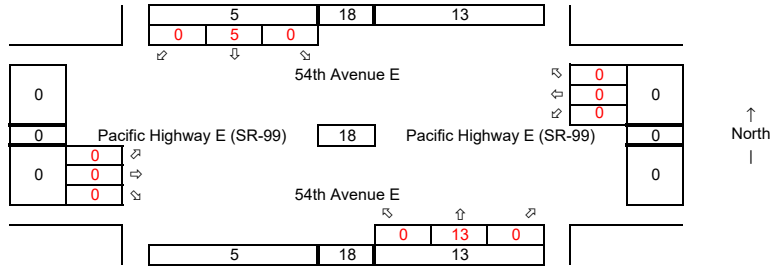
Synchro ID: 2
Existing
 Average Weekday
 PM Peak Hour
 Year: 6/15/2023
 Data Source: IDAX
 Two (2) Eastbound U-turns added
 to Eastbound left-turns



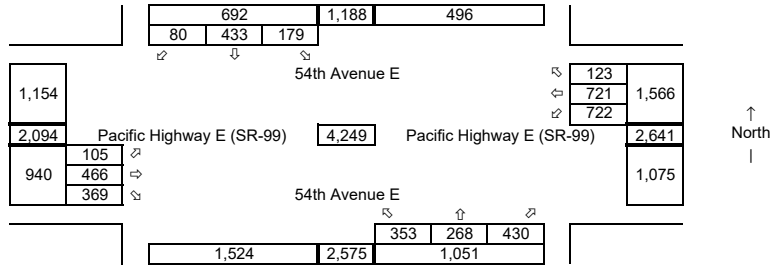
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



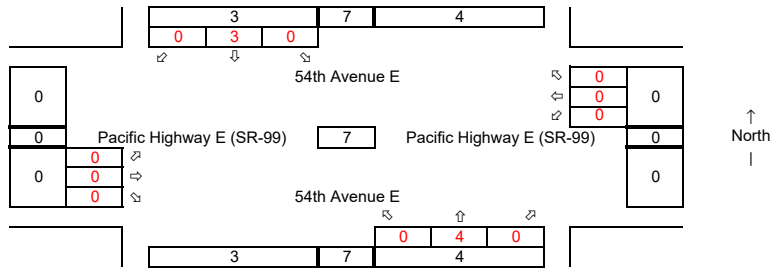
Total Development Trips
 Average Weekday
 PM Peak Hour



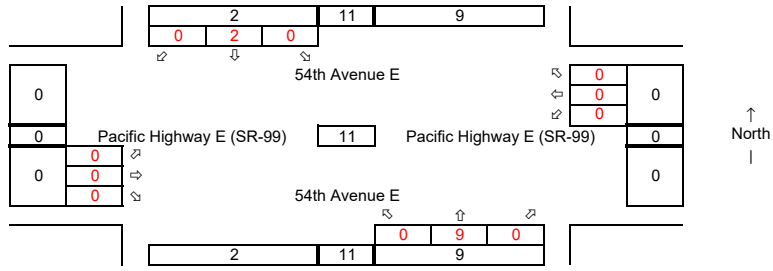
Future with Project
 Average Weekday
 PM Peak Hour

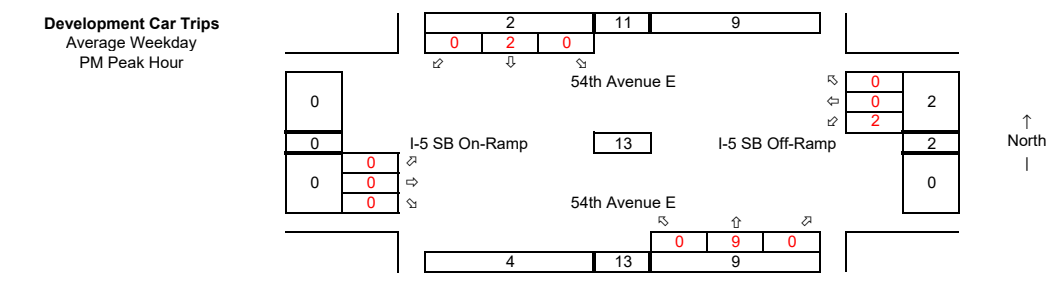
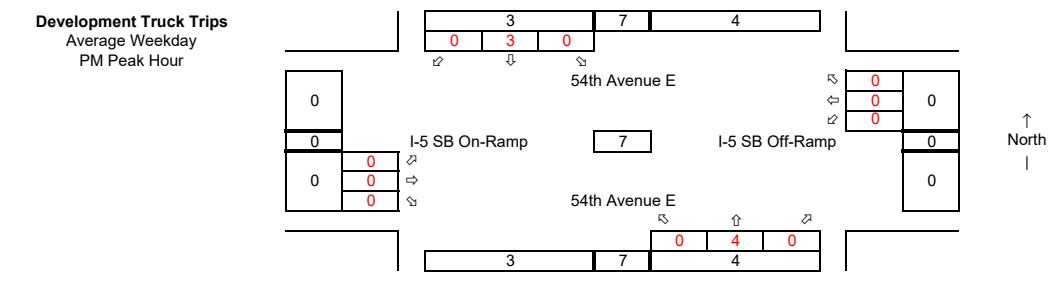
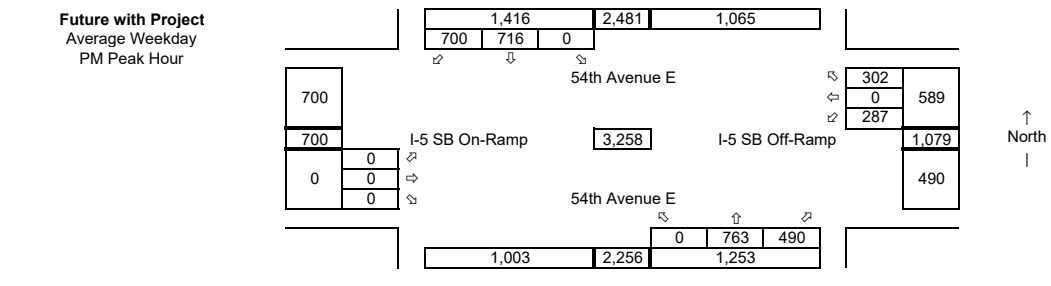
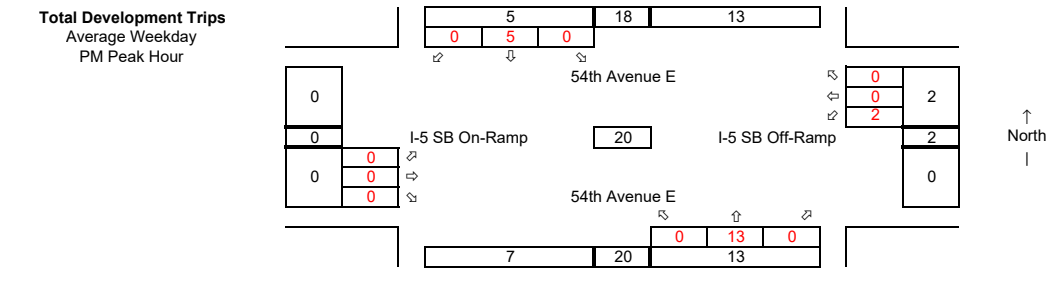
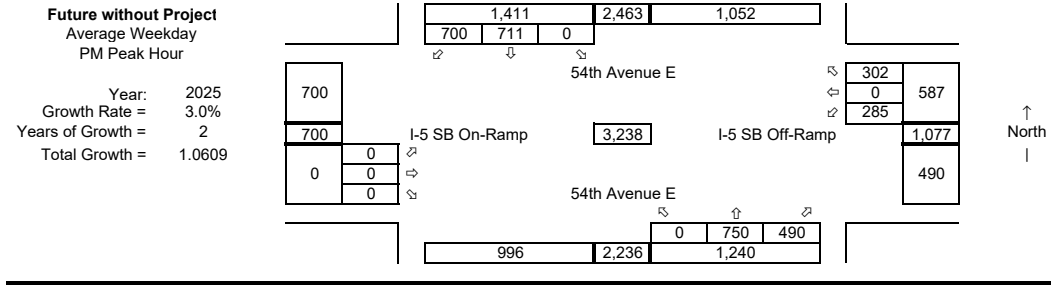
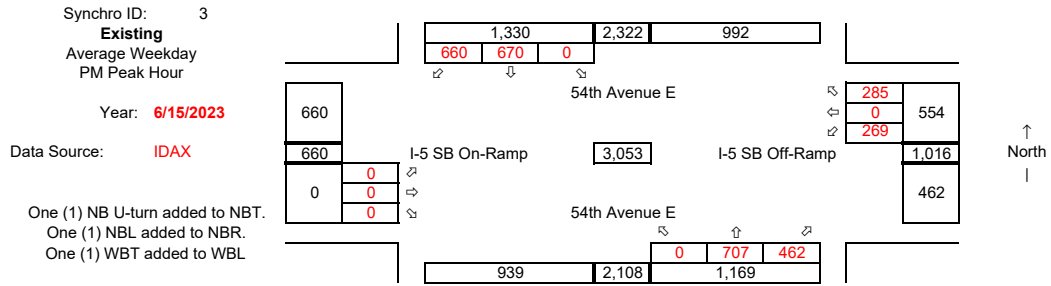


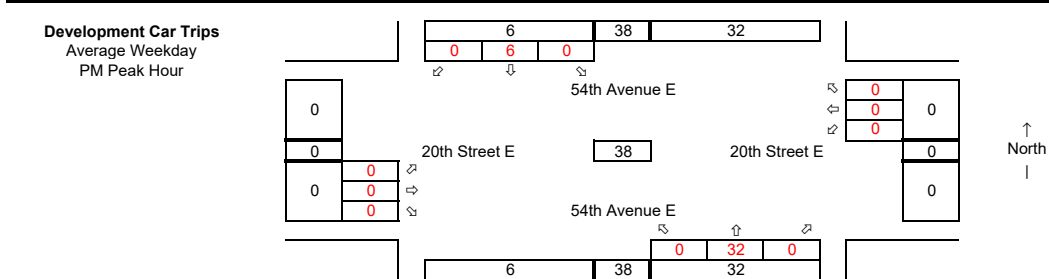
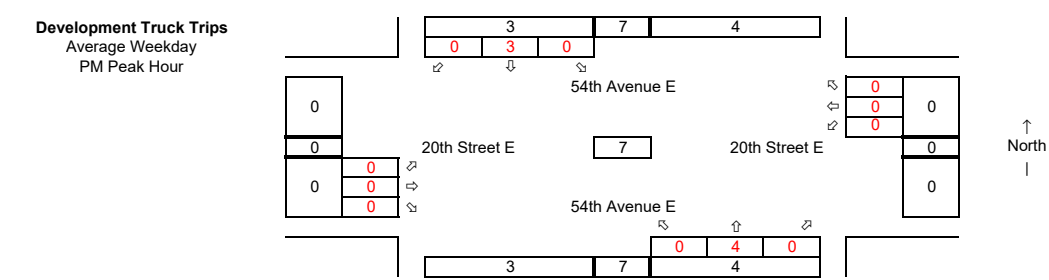
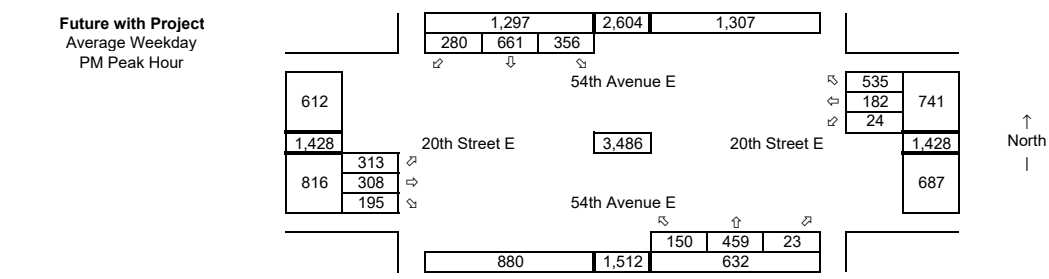
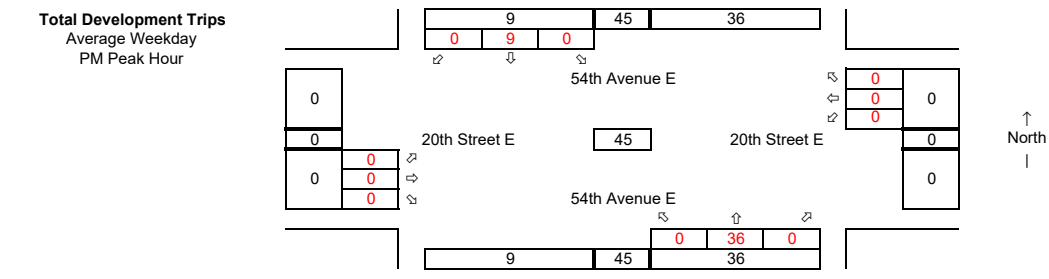
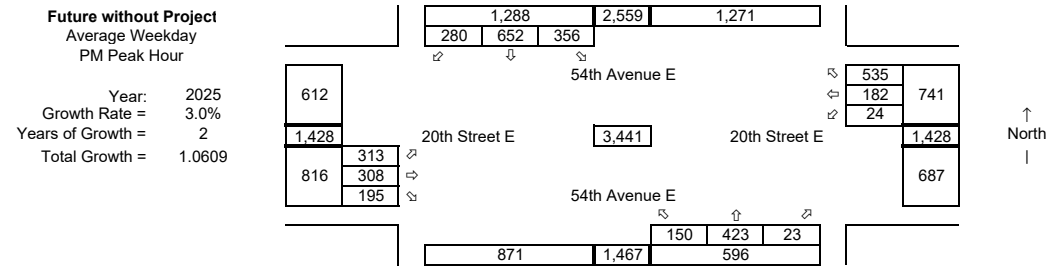
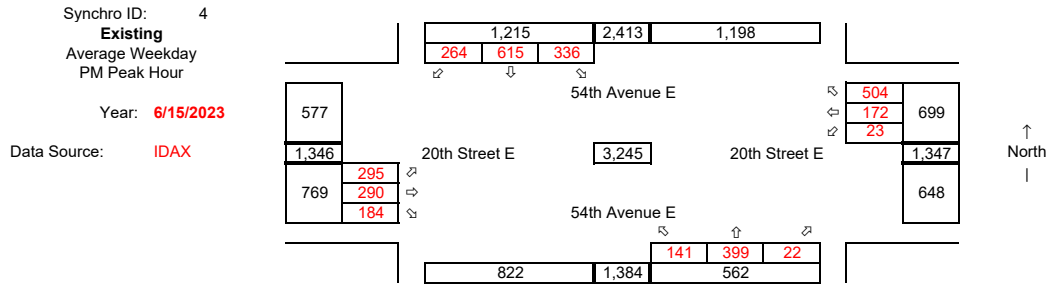
Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

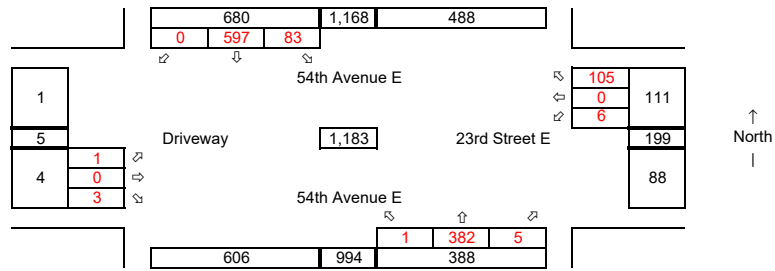






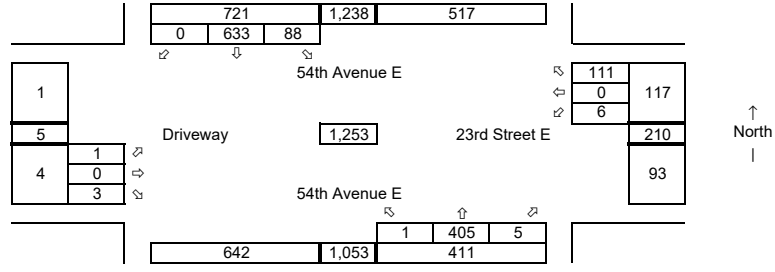
Synchro ID: 5
Existing
Average Weekday
PM Peak Hour

Year: 6/8/2023
Data Source: IDAX

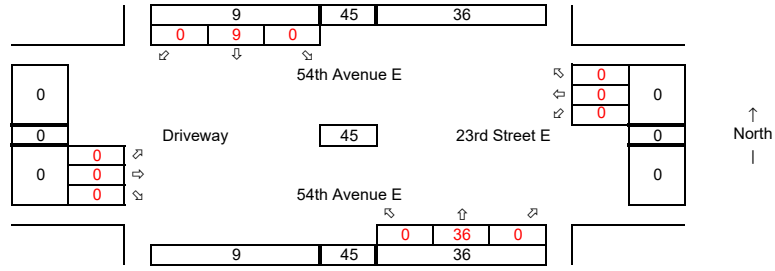


Future without Project
Average Weekday
PM Peak Hour

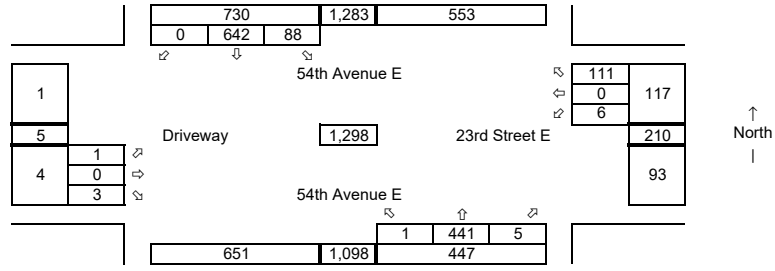
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



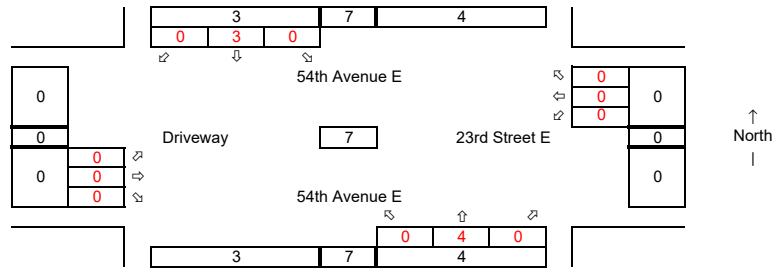
Total Development Trips
Average Weekday
PM Peak Hour



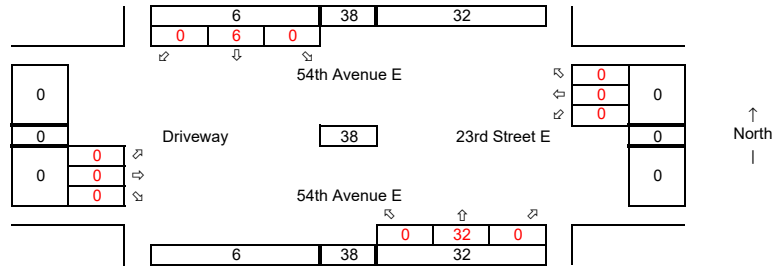
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



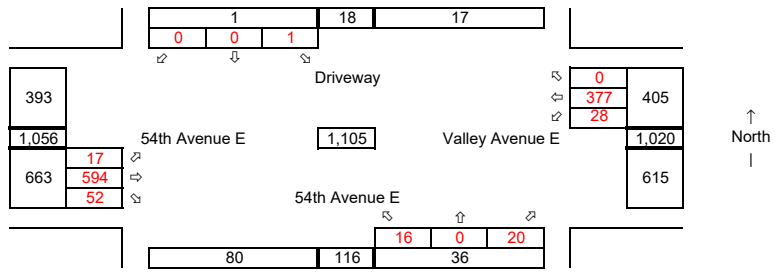
Development Car Trips
Average Weekday
PM Peak Hour



Synchro ID: 6
Existing
Average Weekday
PM Peak Hour

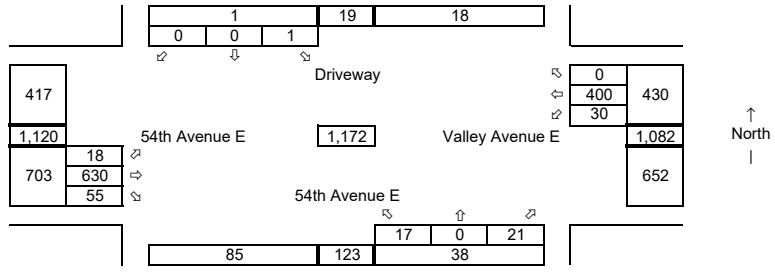
Year: 6/15/2023

Data Source: IDAX

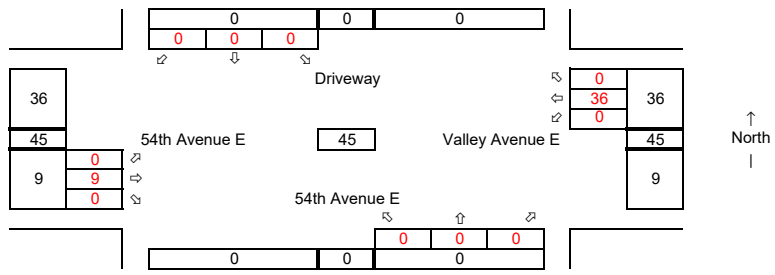


Future without Project
Average Weekday
PM Peak Hour

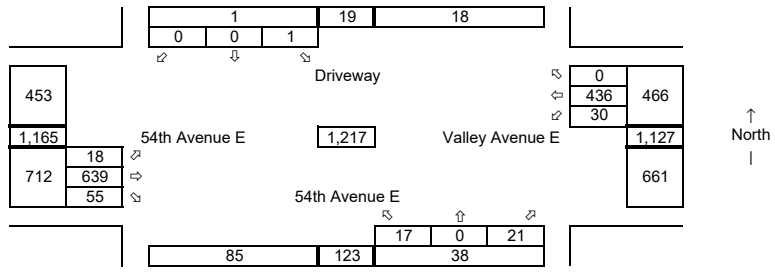
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



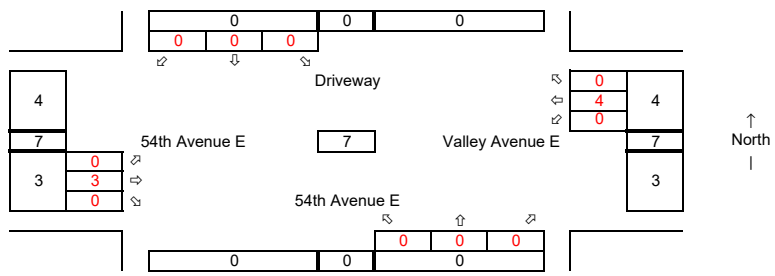
Total Development Trips
Average Weekday
PM Peak Hour



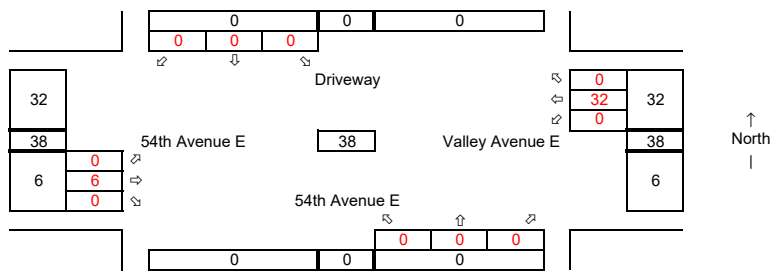
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour

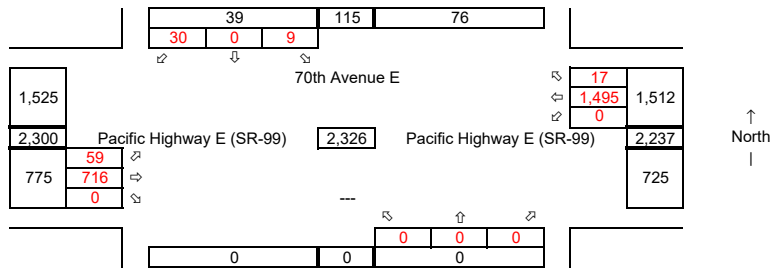


Synchro ID: 7
Existing
Average Weekday
PM Peak Hour

Year: 6/15/2023

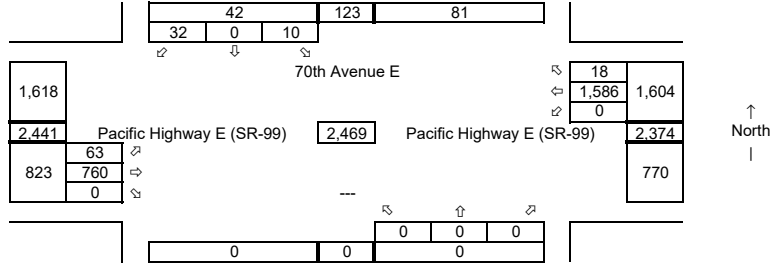
Data Source: IDAX

One (1) Eastbound U-turn
added to Eastbound left-turns

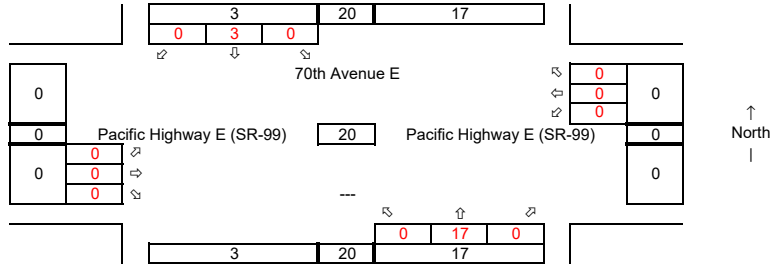


Future without Project
Average Weekday
PM Peak Hour

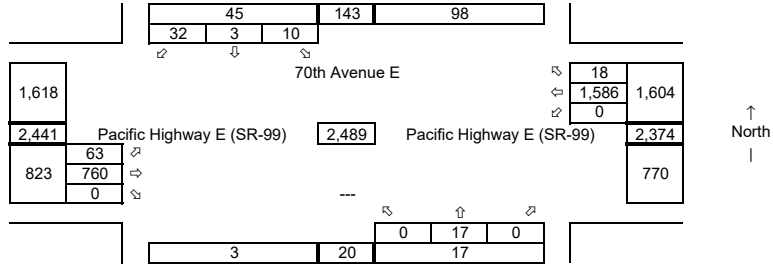
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



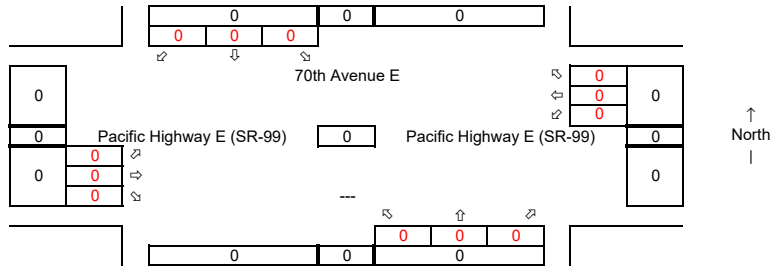
Total Development Trips
Average Weekday
PM Peak Hour



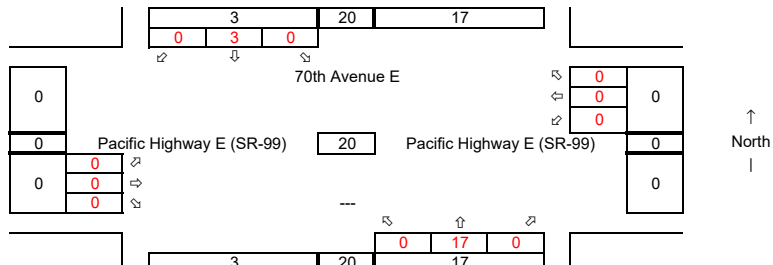
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



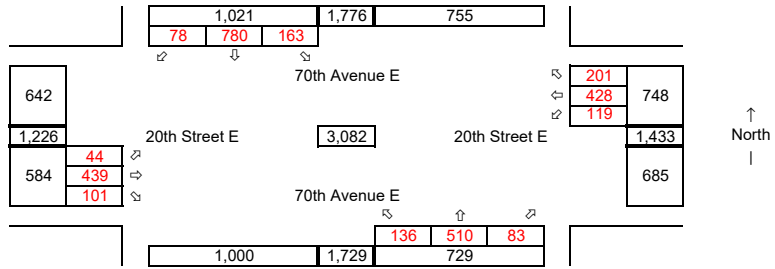
Development Car Trips
Average Weekday
PM Peak Hour



Synchro ID: 8
Existing
Average Weekday
PM Peak Hour

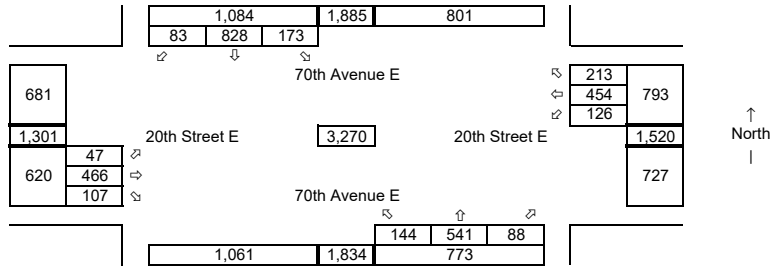
Year: 6/8/2023

Data Source: IDAX

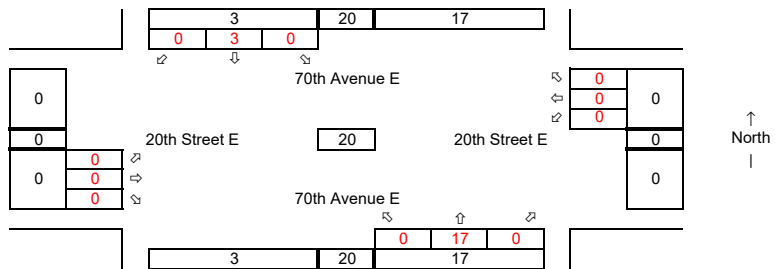


Future without Project
Average Weekday
PM Peak Hour

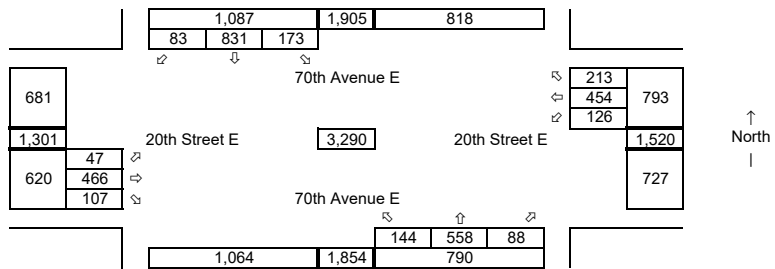
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



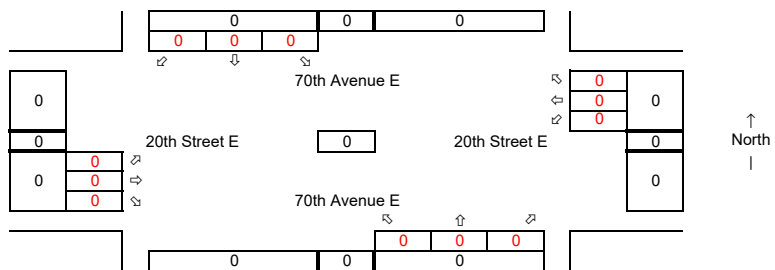
Total Development Trips
Average Weekday
PM Peak Hour



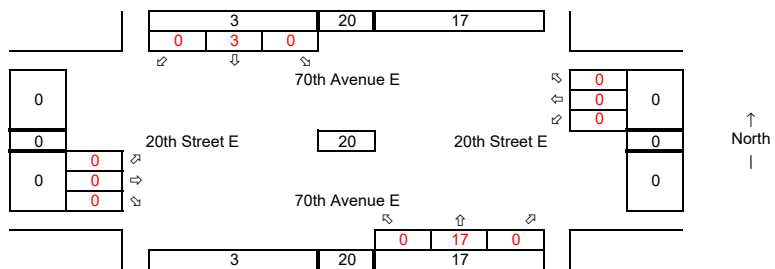
Future with Project
Average Weekday
PM Peak Hour



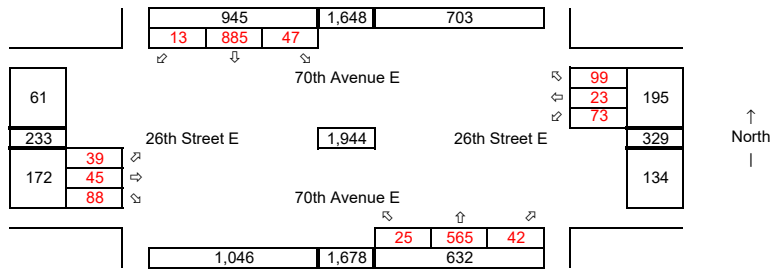
Development Truck Trips
Average Weekday
PM Peak Hour



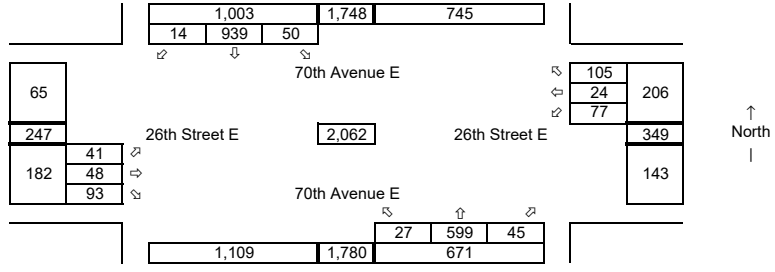
Development Car Trips
Average Weekday
PM Peak Hour



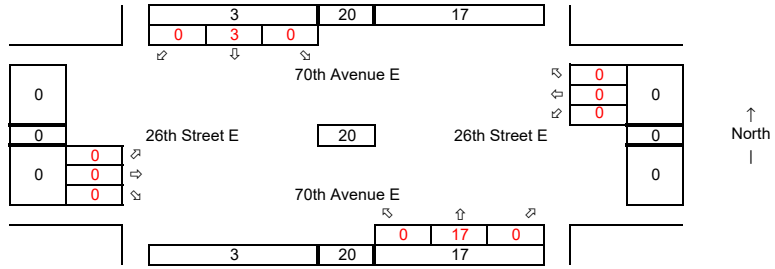
Synchro ID: 9
Existing
 Average Weekday
 PM Peak Hour
 Year: 6/8/2023
 Data Source: IDAX



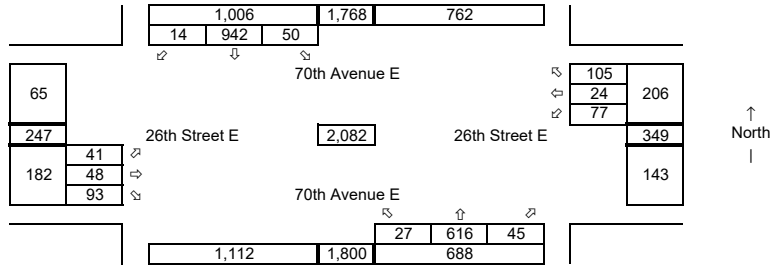
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



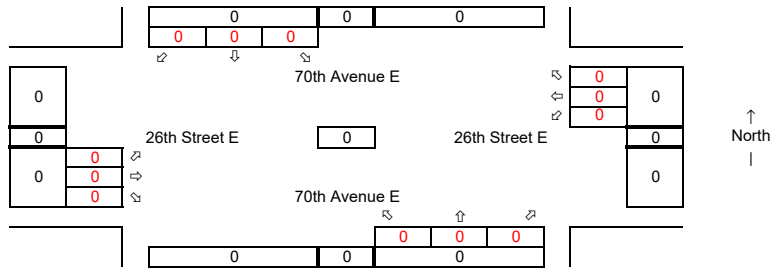
Total Development Trips
 Average Weekday
 PM Peak Hour



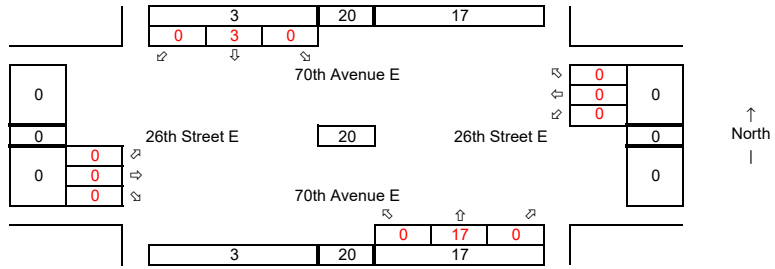
Future with Project
 Average Weekday
 PM Peak Hour



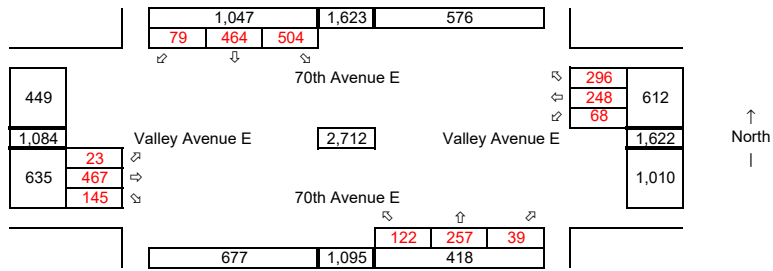
Development Truck Trips
 Average Weekday
 PM Peak Hour



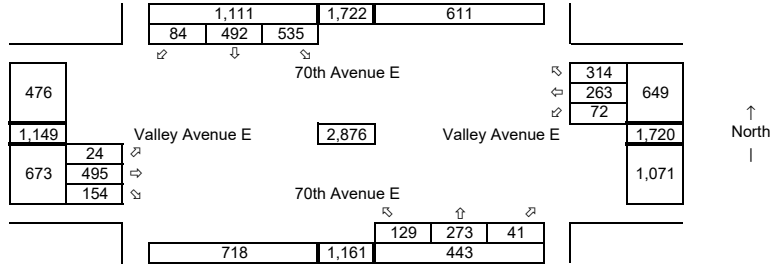
Development Car Trips
 Average Weekday
 PM Peak Hour



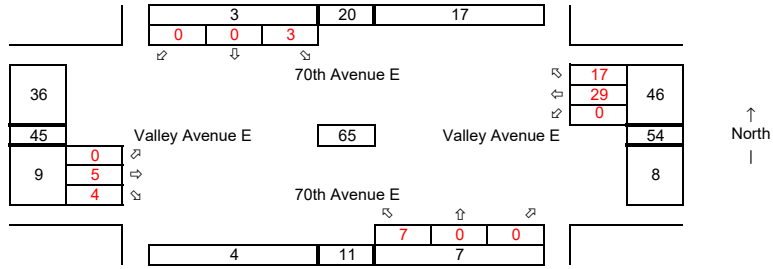
Synchro ID: 10
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



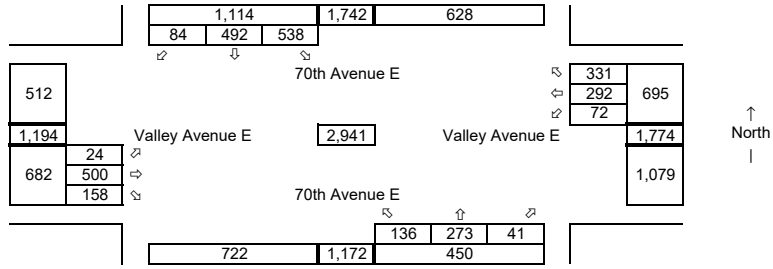
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



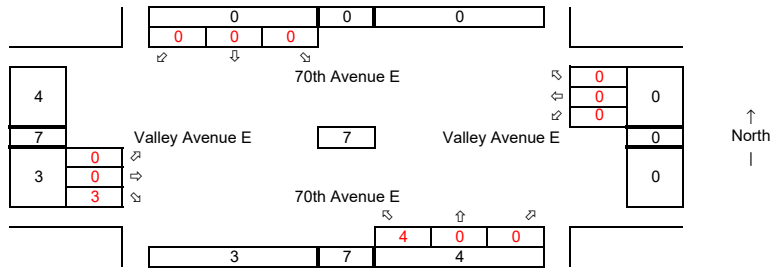
Total Development Trips
 Average Weekday
 PM Peak Hour



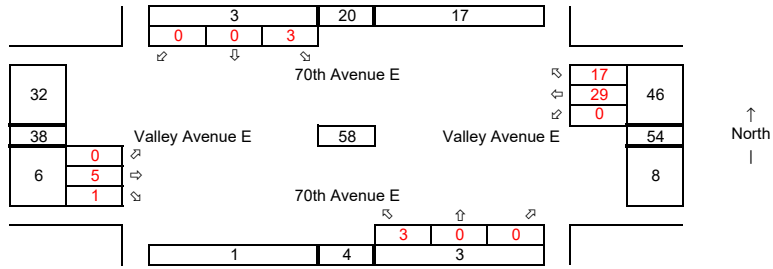
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



**Freeman Logistics
130 - Industrial Park**

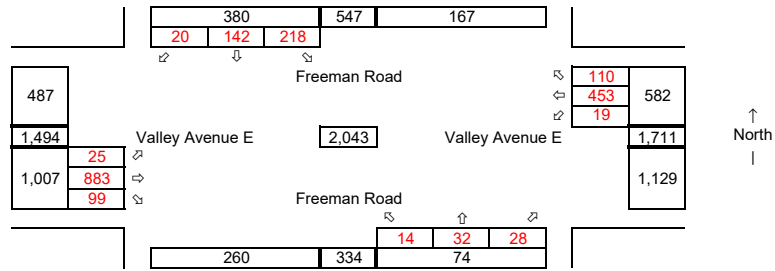
11 Freeman Rd @ Valley Ave E

PM Peak-Hour

Synchro ID: 11
Existing
 Average Weekday
 PM Peak Hour

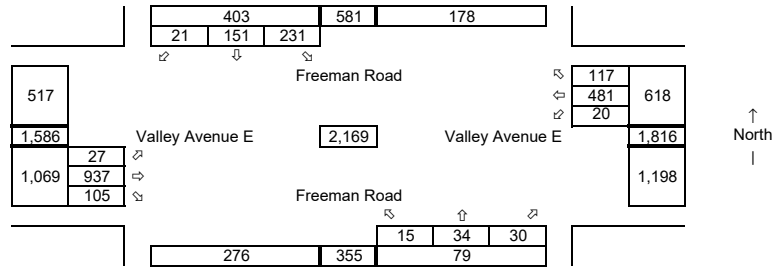
Year: **6/14/2023**

Data Source: **IDAX**

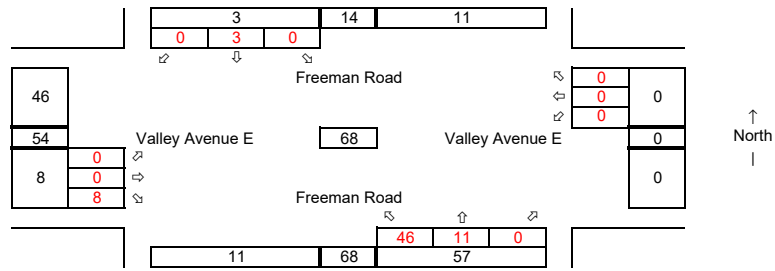


Future without Project
 Average Weekday
 PM Peak Hour

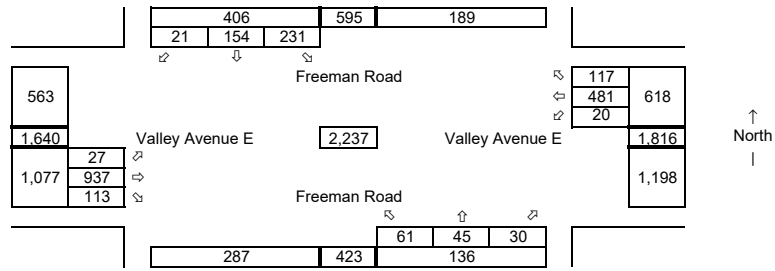
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



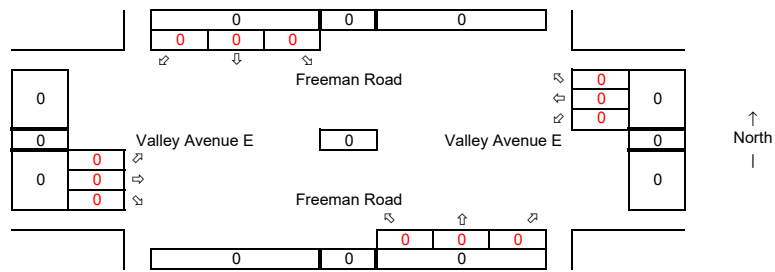
Total Development Trips
 Average Weekday
 PM Peak Hour



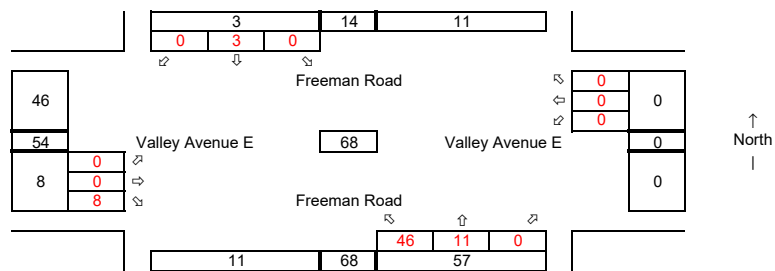
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



**Freeman Logistics
130 - Industrial Park**

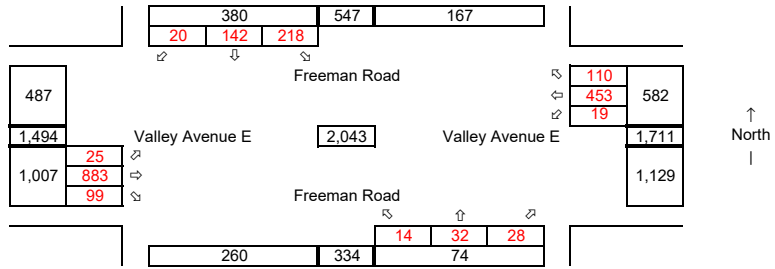
11 Freeman Rd E @ Valley Ave E

PM Peak-Hour

Synchro ID: 11
With SR-167 Extension **Existing**
Average Weekday
PM Peak Hour

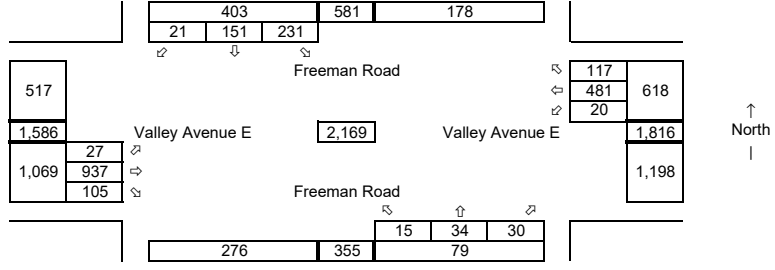
Year: **6/14/2023**

Data Source: **IDAX**

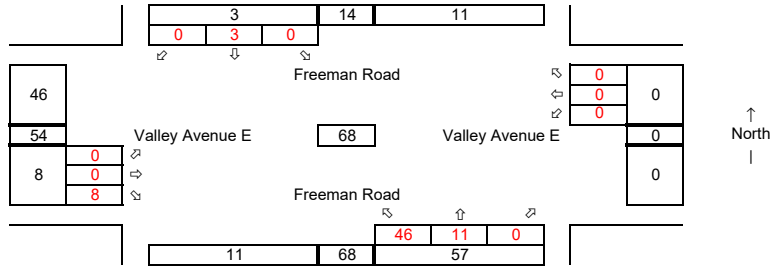


Future without Project
Average Weekday
PM Peak Hour

Year: **2025**
Growth Rate = **3.0%**
Years of Growth = **2**
Total Growth = **1.0609**

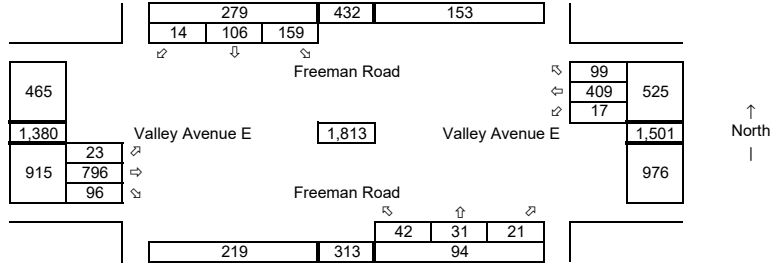


Total Development Trips
Average Weekday
PM Peak Hour

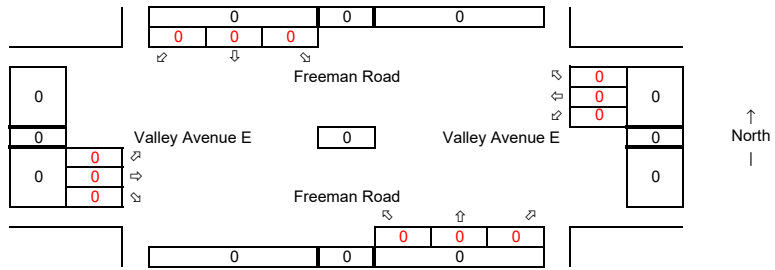


Future with Project
Average Weekday
PM Peak Hour

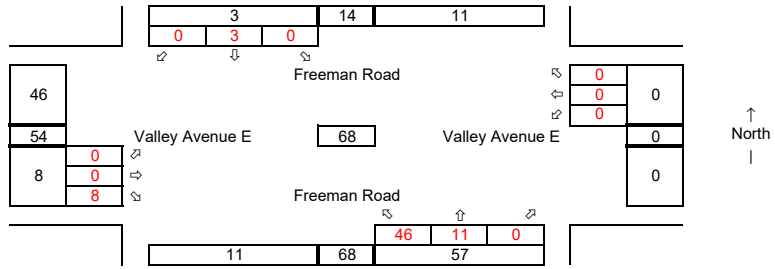
N/S Diversion % **31%**
E/W Diversion % **15%**



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



**Freeman Logistics
130 - Industrial Park**

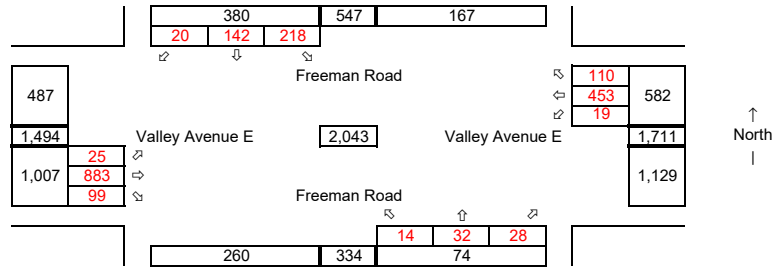
11 Freeman Rd E @ Valley Ave E

PM Peak-Hour

Synchro ID: 11
With SR-167 Extension **Existing**
Average Weekday
PM Peak Hour

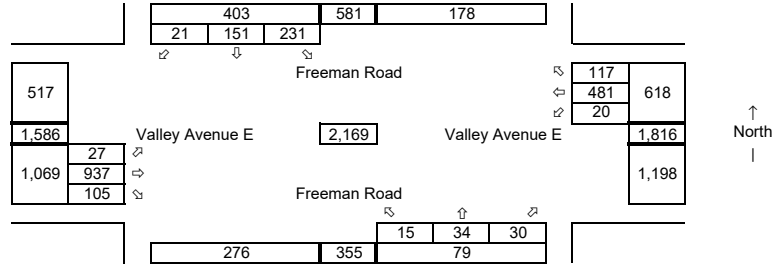
Year: **6/14/2023**

Data Source: **IDAX**

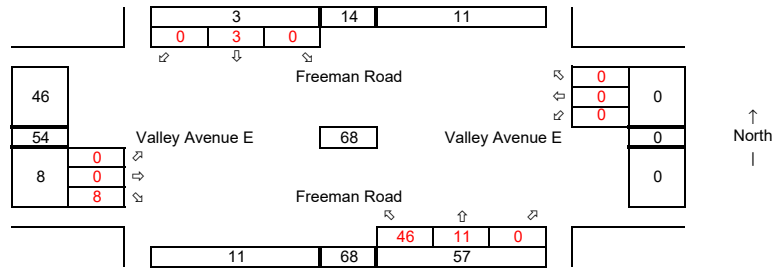


Future without Project
Average Weekday
PM Peak Hour

Year: **2025**
Growth Rate = **3.0%**
Years of Growth = **2**
Total Growth = **1.0609**

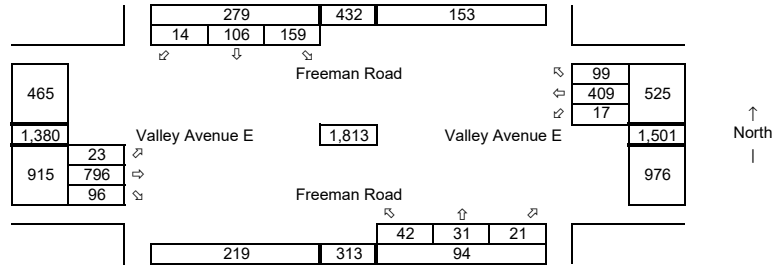


Total Development Trips
Average Weekday
PM Peak Hour

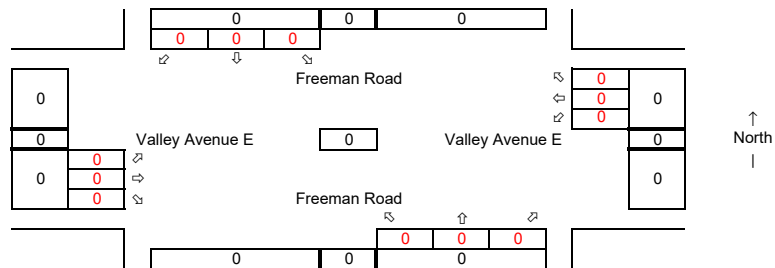


Future with Project
Average Weekday
PM Peak Hour

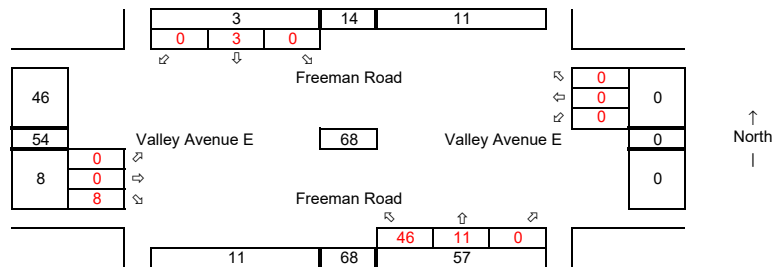
N/S Diversion % **31%**
E/W Diversion % **15%**



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



**Freeman Logistics
130 - Industrial Park**

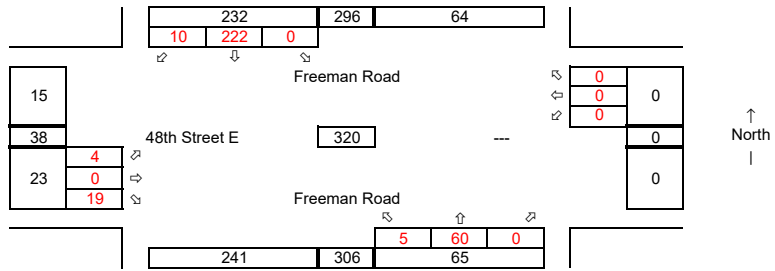
12 Freeman Rd E @ 48th St E

PM Peak-Hour

Synchro ID: 12
Existing
Average Weekday
PM Peak Hour

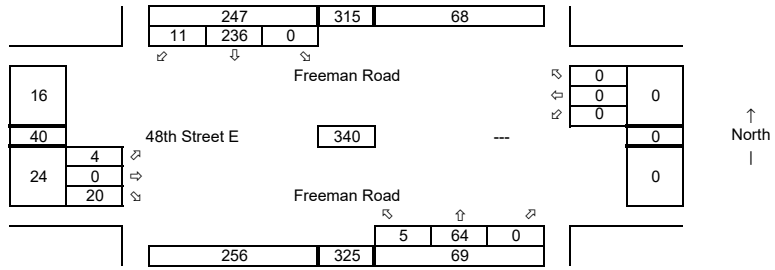
Year: **6/8/2023**

Data Source: **IDAX**

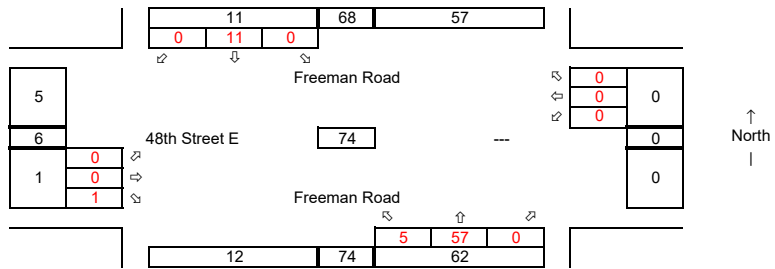


Future without Project
Average Weekday
PM Peak Hour

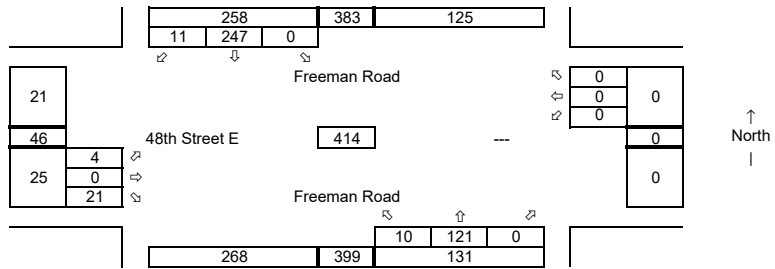
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



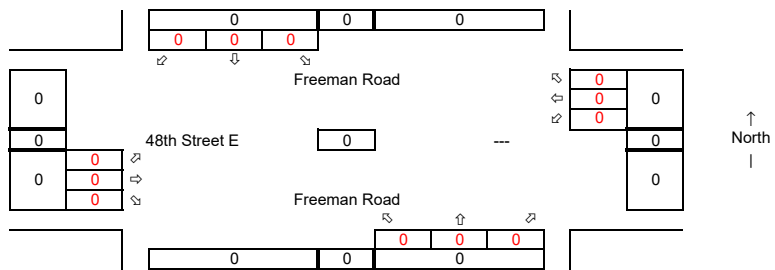
Total Development Trips
Average Weekday
PM Peak Hour



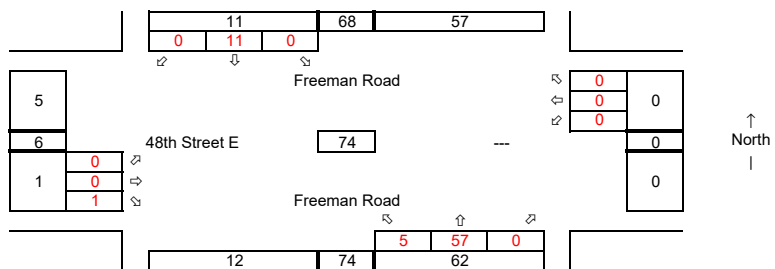
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



**Freeman Logistics
130 - Industrial Park**

13 Freeman Rd @ 50th St E

PM Peak-Hour

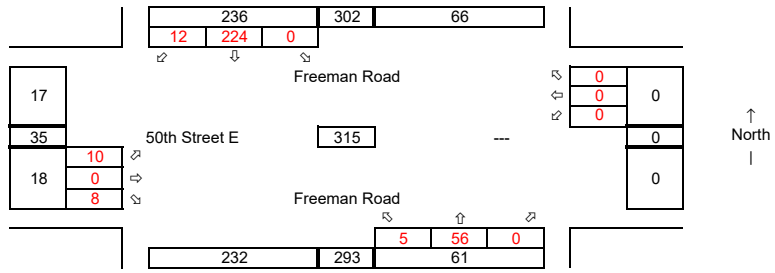
Synchro ID: 13

Existing

Average Weekday
PM Peak Hour

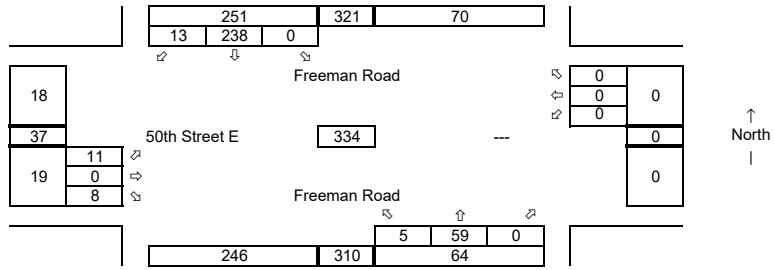
Year: **6/8/2023**

Data Source: **IDAX**

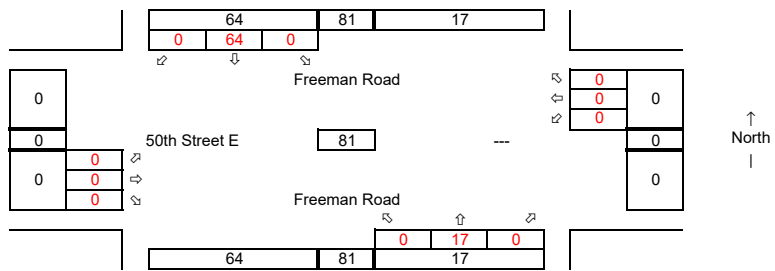


Future without Project
Average Weekday
PM Peak Hour

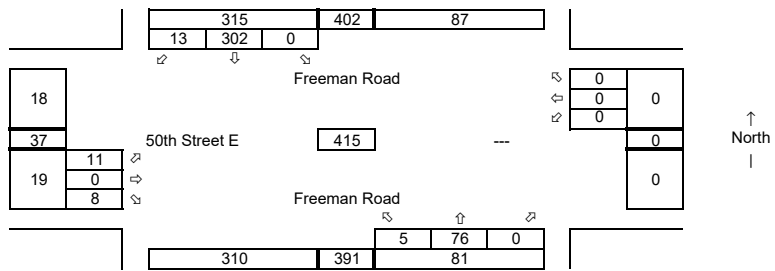
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



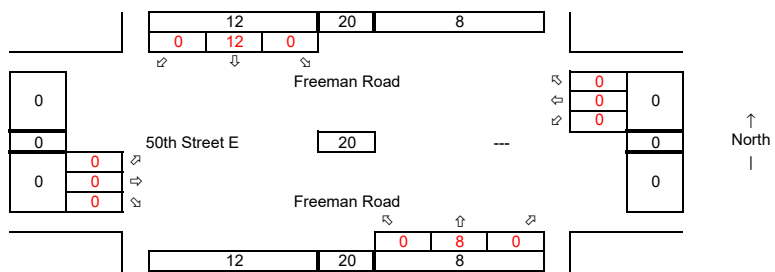
Total Development Trips
Average Weekday
PM Peak Hour



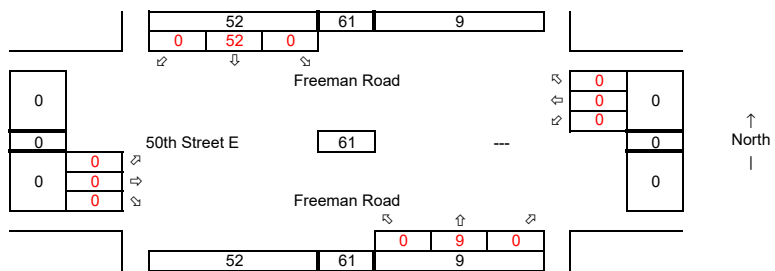
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



**Freeman Logistics
130 - Industrial Park**

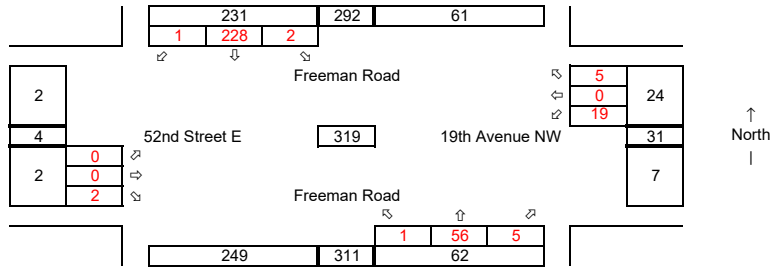
14 Freeman Rd @ 52nd St E

PM Peak-Hour

Synchro ID: 14
Existing
 Average Weekday
 PM Peak Hour

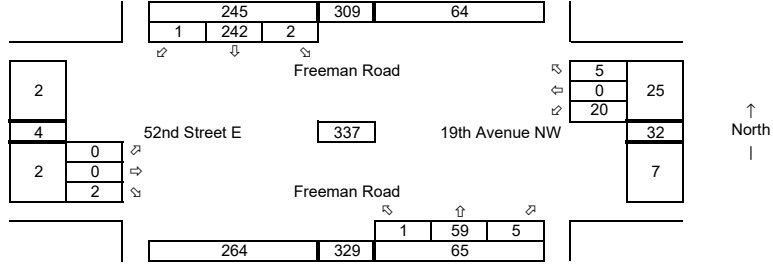
Year: **6/8/2023**

Data Source: **IDAX**

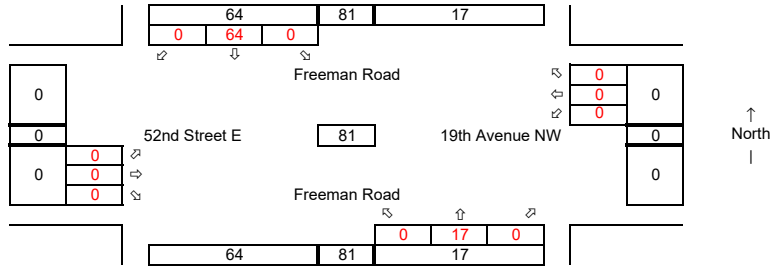


Future without Project
 Average Weekday
 PM Peak Hour

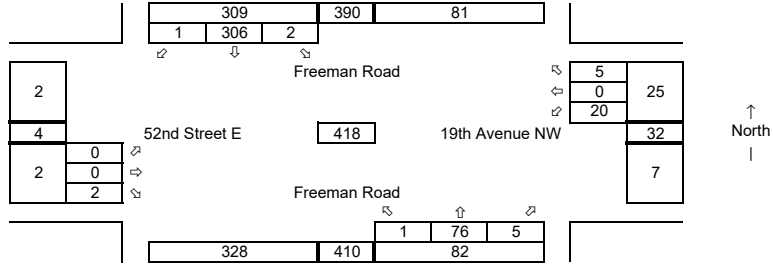
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



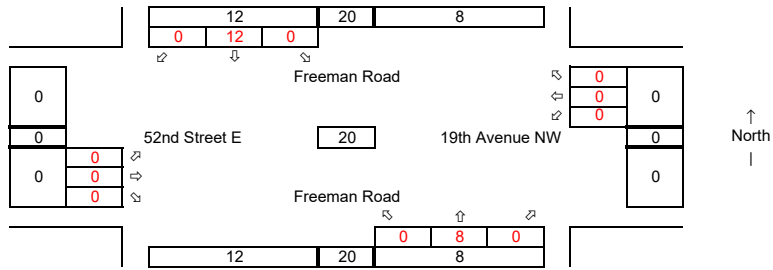
Total Development Trips
 Average Weekday
 PM Peak Hour



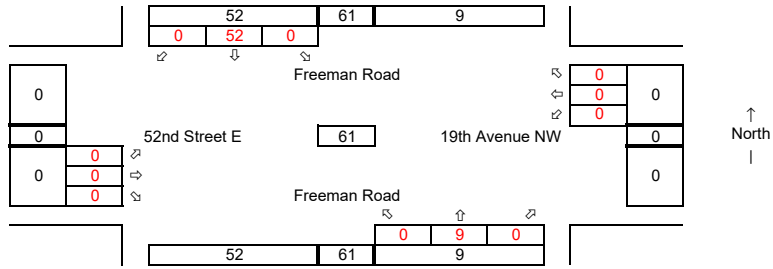
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

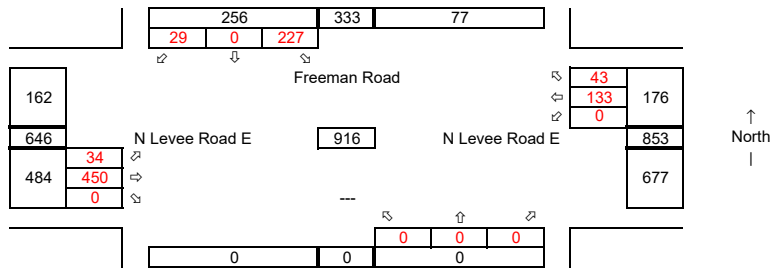


Synchro ID: 15

Existing
 Average Weekday
 PM Peak Hour

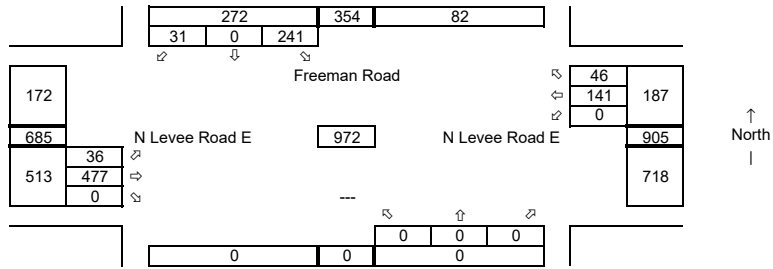
Year: **6/15/2023**

Data Source: **IDAX**

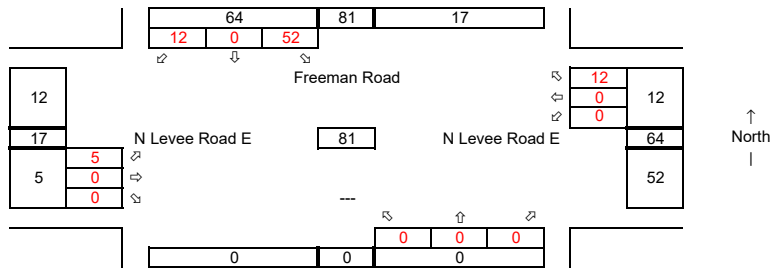


Future without Project
 Average Weekday
 PM Peak Hour

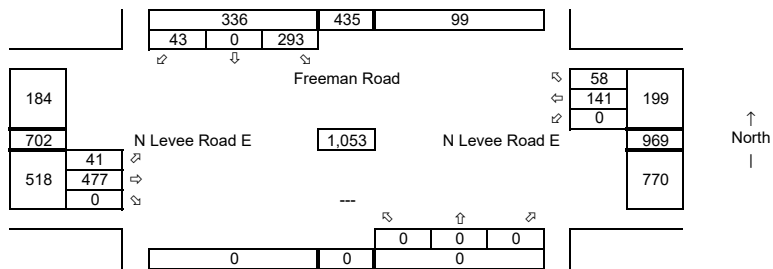
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



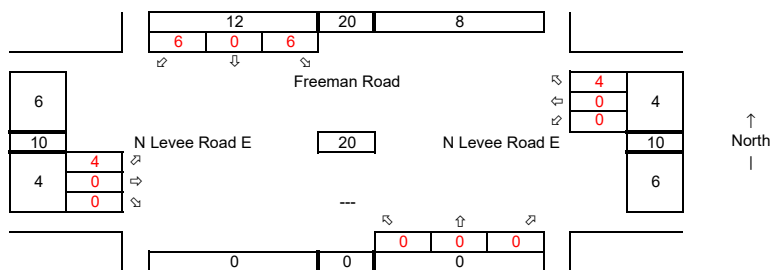
Total Development Trips
 Average Weekday
 PM Peak Hour



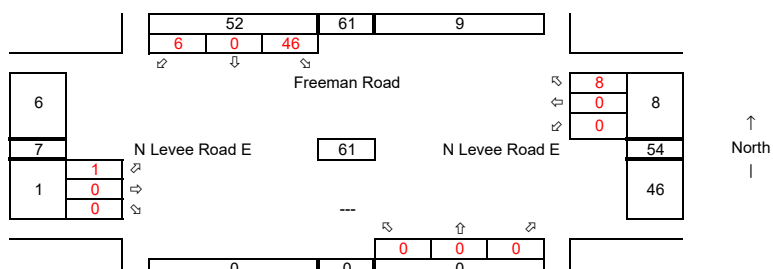
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



**Freeman Logistics
130 - Industrial Park**

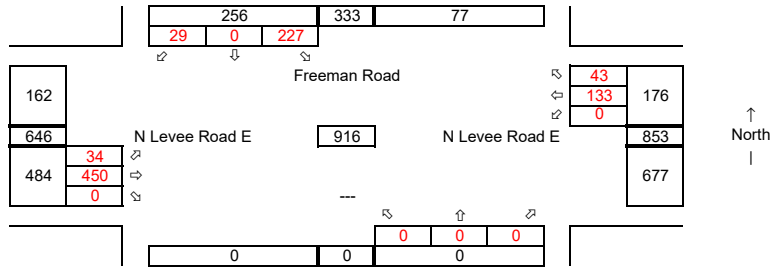
15 Freeman Rd E @ N Levee Rd

PM Peak-Hour

Synchro ID: 15
 With SR-167 Extension **Existing**
 Average Weekday
 PM Peak Hour

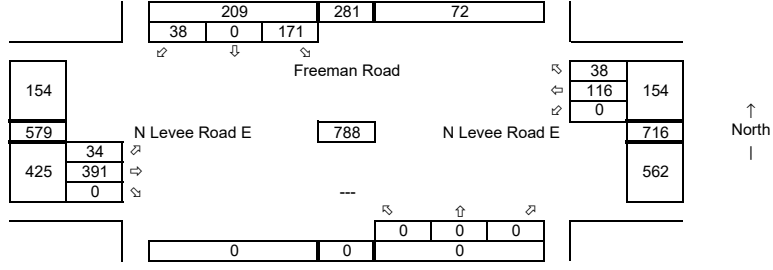
Year: **6/15/2023**

Data Source: **IDAX**

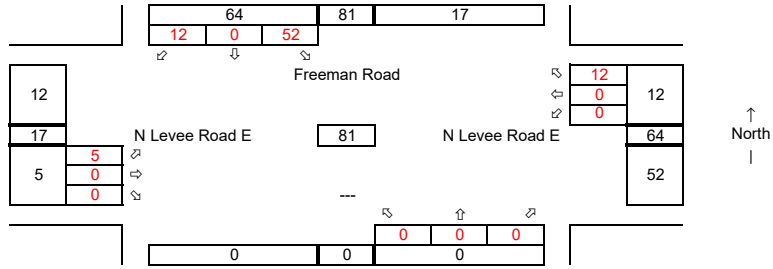


Future without Project
 Average Weekday
 PM Peak Hour

Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609

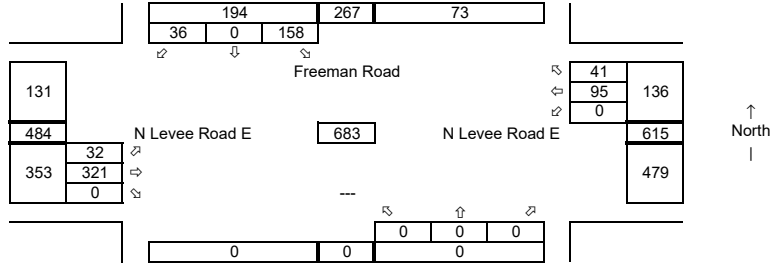


Total Development Trips
 Average Weekday
 PM Peak Hour

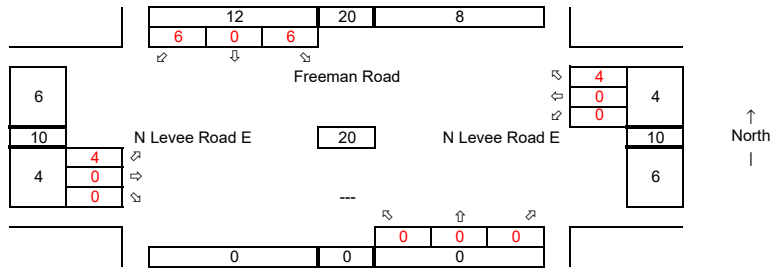


Future with Project
 Average Weekday
 PM Peak Hour

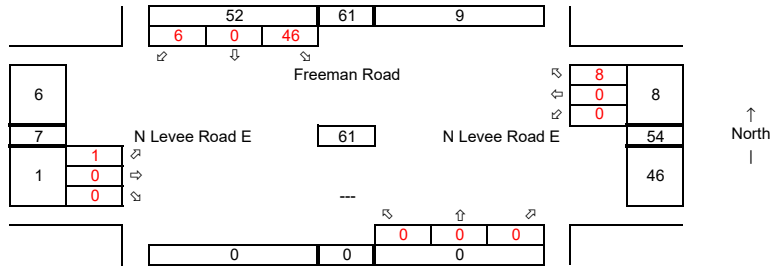
N/S Diversion % 29%
 E/W Diversion % 18%



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



**Freeman Logistics
130 - Industrial Park**

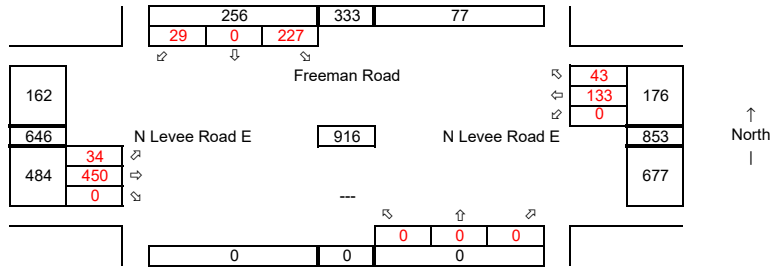
15 Freeman Rd E @ N Levee Rd

PM Peak-Hour

Synchro ID: 15
 With SR-167 Extension **Existing**
 Average Weekday
 PM Peak Hour

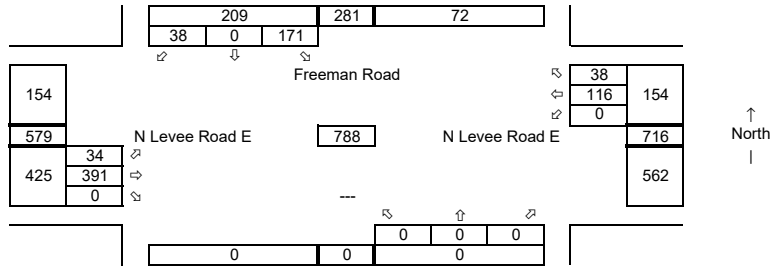
Year: **6/15/2023**

Data Source: **IDAX**

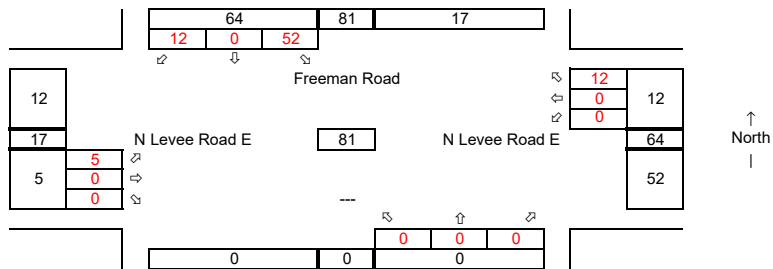


Future without Project
 Average Weekday
 PM Peak Hour

Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609

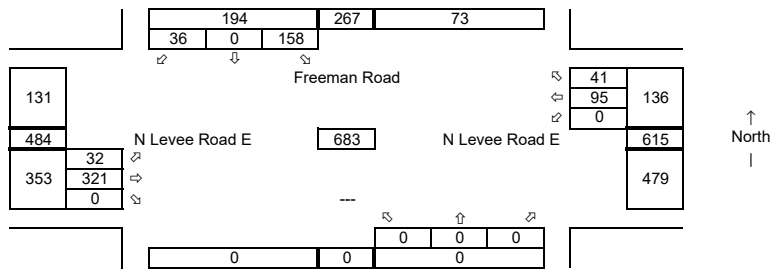


Total Development Trips
 Average Weekday
 PM Peak Hour

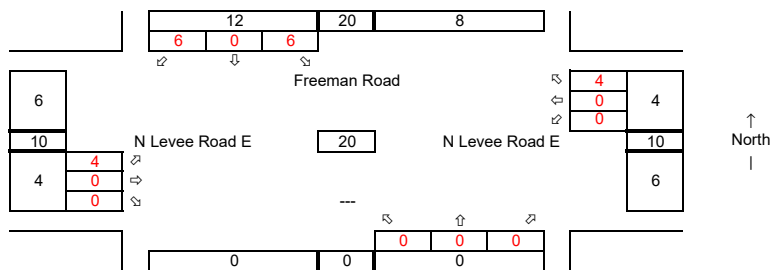


Future with Project
 Average Weekday
 PM Peak Hour

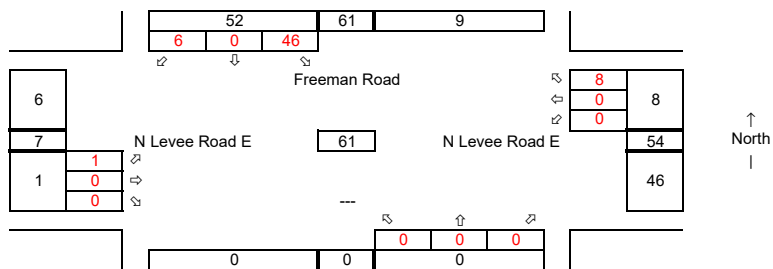
N/S Diversion % 29%
 E/W Diversion % 18%



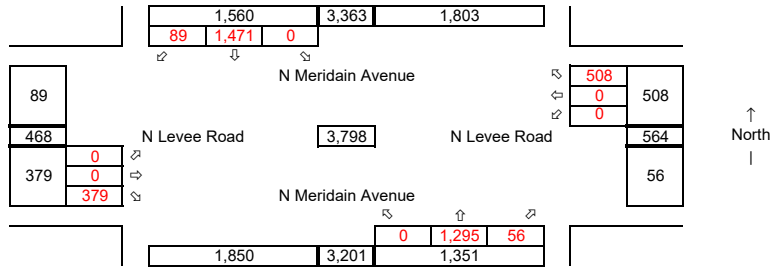
Development Truck Trips
 Average Weekday
 PM Peak Hour



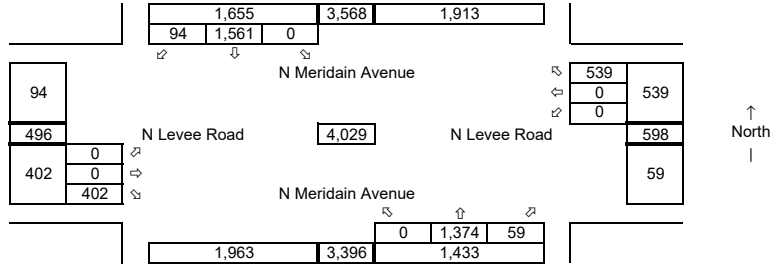
Development Car Trips
 Average Weekday
 PM Peak Hour



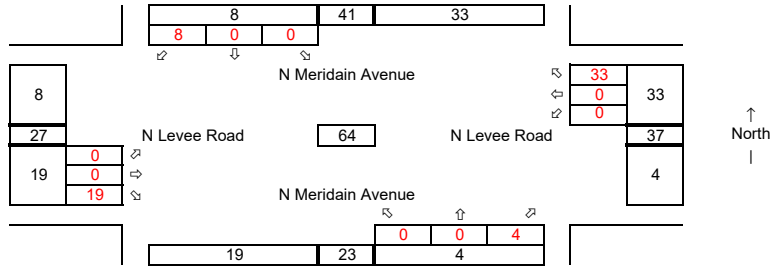
Synchro ID: 17
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/14/2023**
 Data Source: **IDAX**



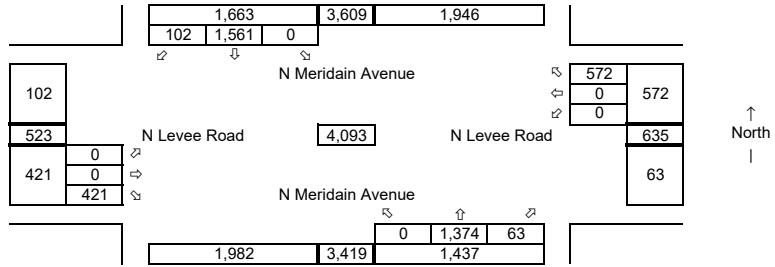
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



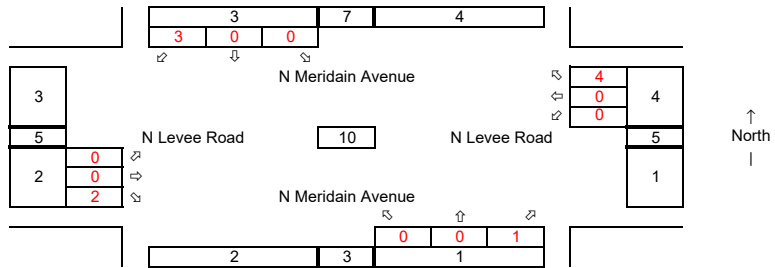
Total Development Trips
 Average Weekday
 PM Peak Hour



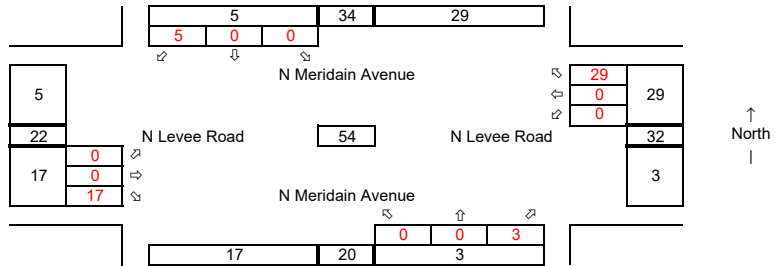
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



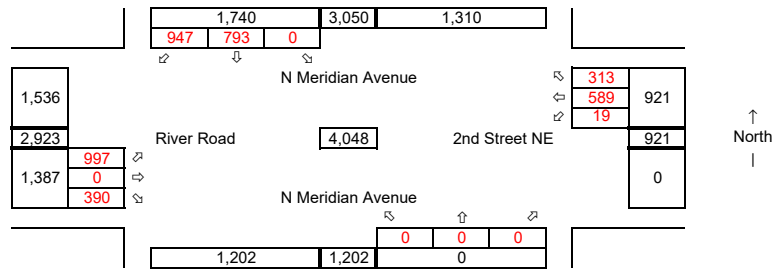
Development Car Trips
 Average Weekday
 PM Peak Hour



Synchro ID: 18
Existing
Average Weekday
PM Peak Hour

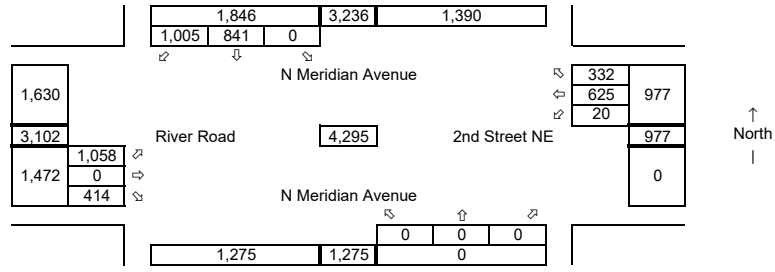
Year: **6/14/2023**

Data Source: **IDAX**

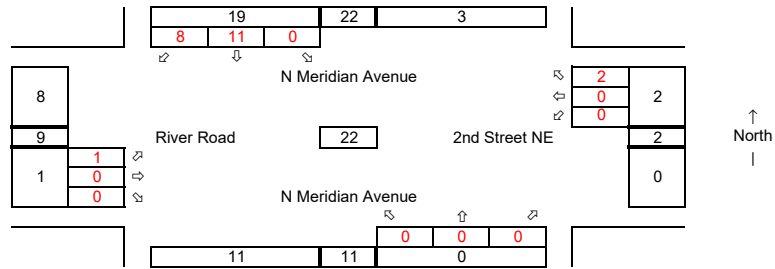


Future without Project
Average Weekday
PM Peak Hour

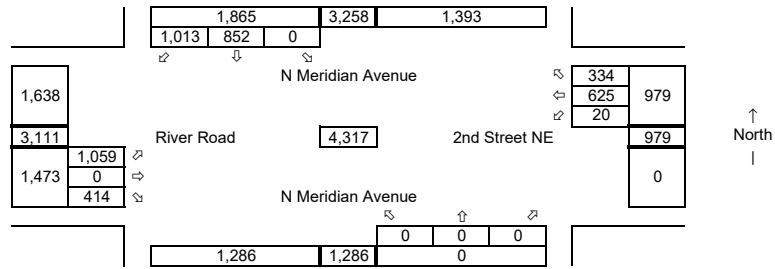
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



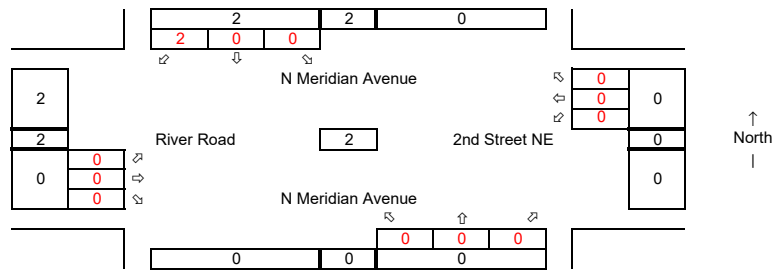
Total Development Trips
Average Weekday
PM Peak Hour



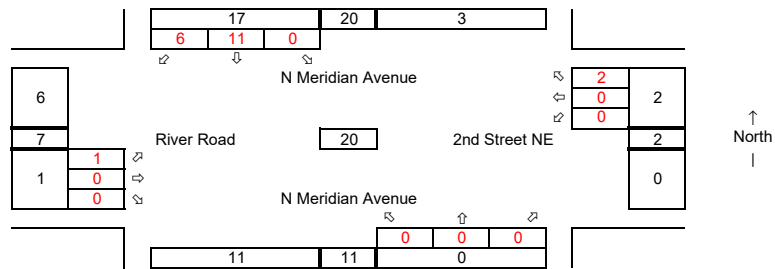
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour

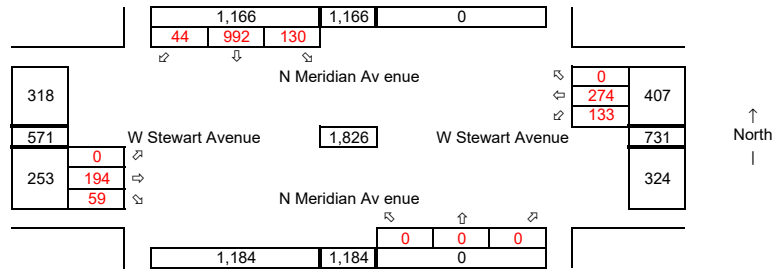


Synchro ID: 19
Existing
Average Weekday
PM Peak Hour

Year: **6/14/2023**

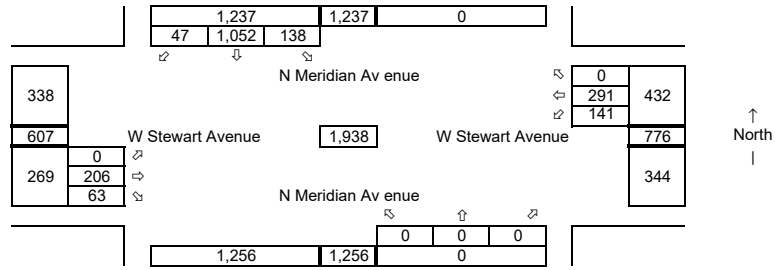
Data Source: **IDAX**

One (1) Westbound U-turn
added to Westbound left-turns

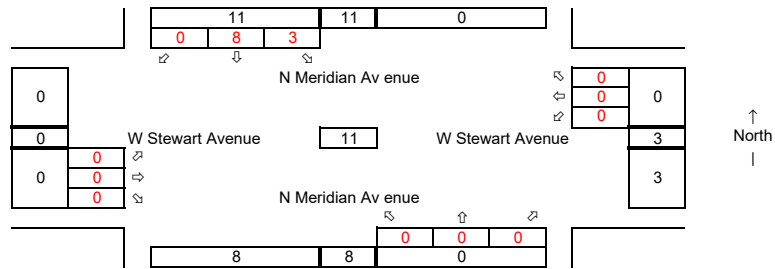


Future without Project
Average Weekday
PM Peak Hour

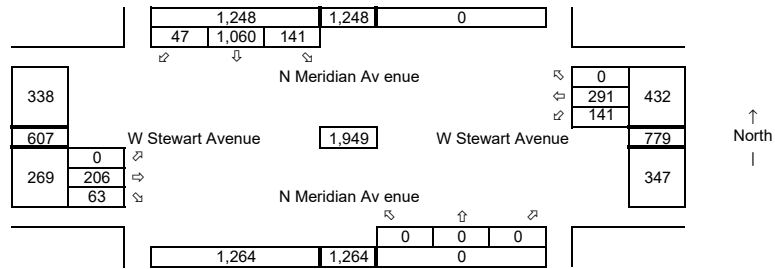
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



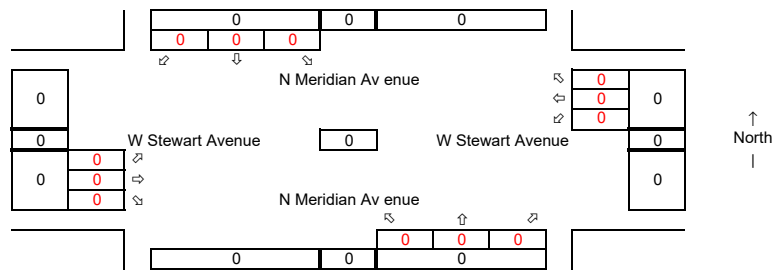
Total Development Trips
Average Weekday
PM Peak Hour



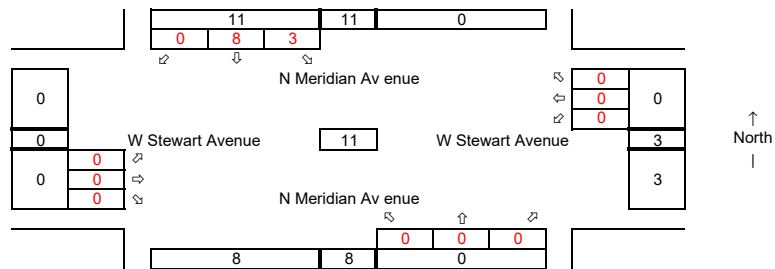
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



Synchro ID: 20
Existing
Average Weekday
PM Peak Hour

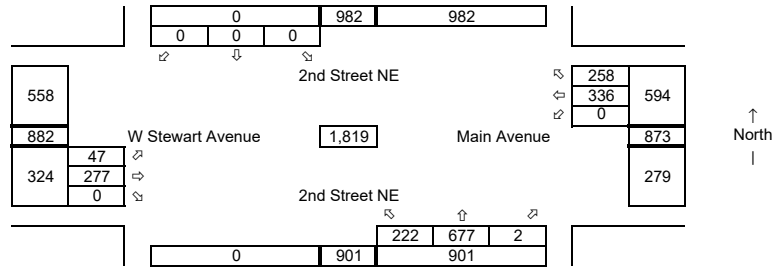
Year: 6/15/2023

Data Source: IDAX

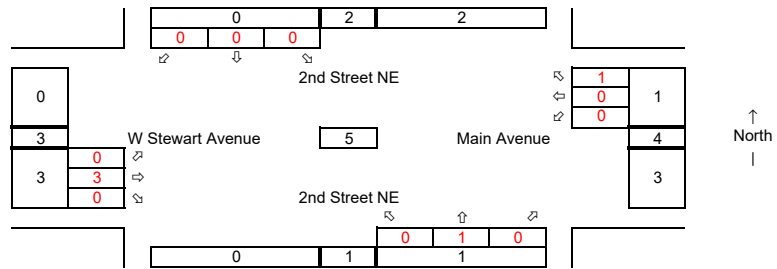


Future without Project
Average Weekday
PM Peak Hour

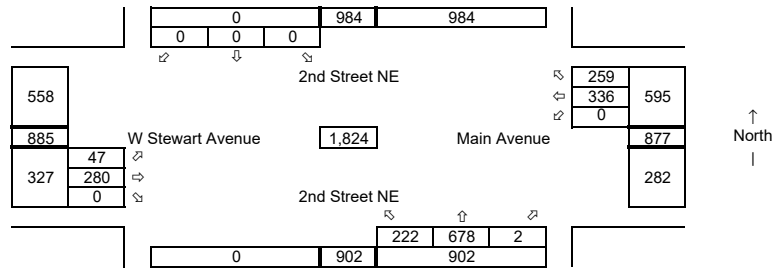
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



Total Development Trips
Average Weekday
PM Peak Hour



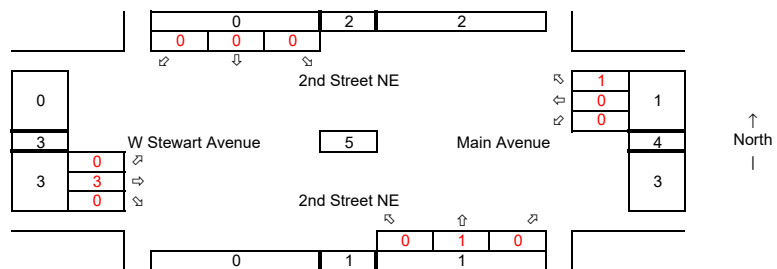
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour

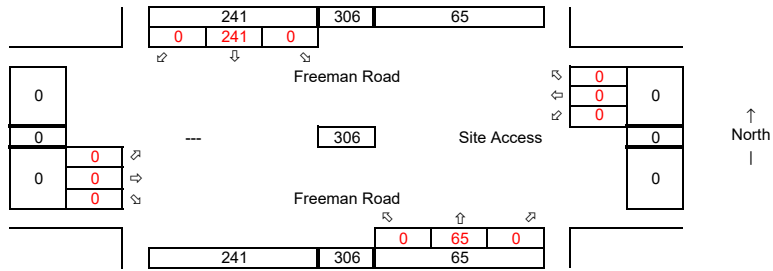


**Freeman Logistics
130 - Industrial Park**

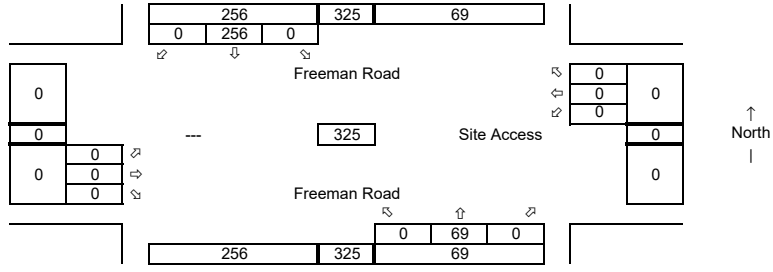
21 Freeman Rd @ Site Access

PM Peak-Hour

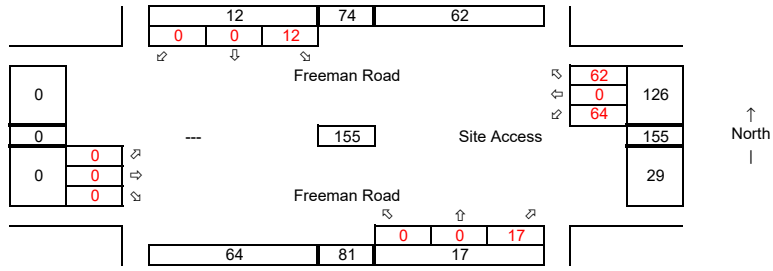
Synchro ID: 21
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**
 NB/SB volumes extrapolated
 from Freeman at 48th Street E



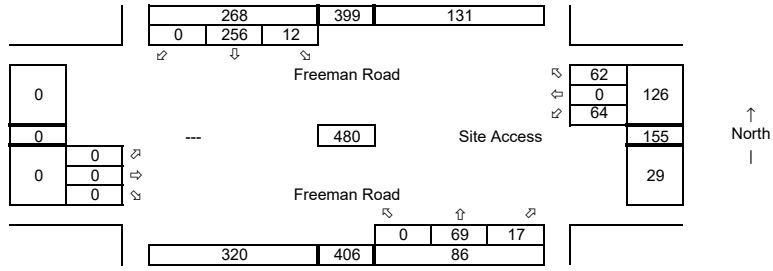
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



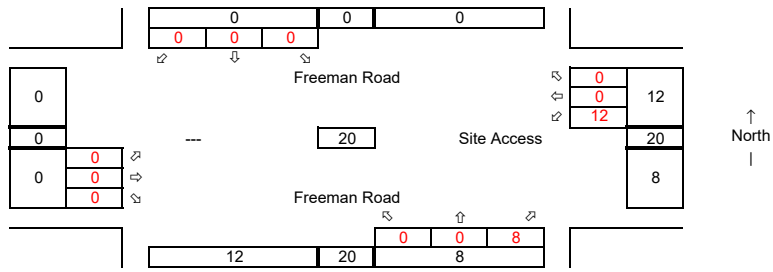
Total Development Trips
 Average Weekday
 PM Peak Hour



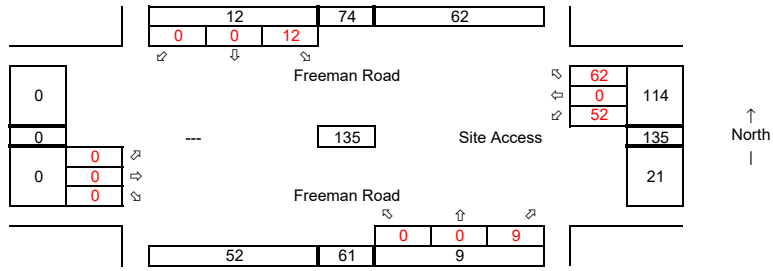
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour

























Development Car Trips
 Average Weekday
 PM Peak Hour



Lanes, Volumes, Timings
1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	137	41	76	214	175	39	305	45	140	455	47
Future Volume (vph)	17	137	41	76	214	175	39	305	45	140	455	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.966			0.933			0.981			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1765	0	1736	1705	0	1456	2856	0	1504	2966	0
Flt Permitted	0.360			0.640			0.425			0.533		
Satd. Flow (perm)	658	1765	0	1169	1705	0	651	2856	0	844	2966	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17			46			23			16	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		727			778			1175			536	
Travel Time (s)		19.8			15.2			22.9			10.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	24%	24%	24%	20%	20%	20%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	187	0	80	409	0	41	368	0	147	528	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		10.0	19.0		10.0	17.0	
Total Split (s)	25.0	25.0		25.0	25.0		19.0	40.0		19.0	40.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		22.6%	47.6%		22.6%	47.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effct Green (s)	18.7	18.7		18.7	18.7		22.6	13.2		21.0	19.2	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.44	0.26		0.41	0.37	
v/c Ratio	0.07	0.28		0.18	0.63		0.10	0.49		0.32	0.47	
Control Delay (s/veh)	14.8	14.2		15.2	19.4		8.0	19.2		10.1	14.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	14.8	14.2		15.2	19.4		8.0	19.2		10.1	14.9	
LOS	B	B		B	B		A	B		B	B	
Approach Delay (s/veh)		14.3			18.8			18.1			13.9	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	4	37		17	91		7	52		26	54	
Queue Length 95th (ft)	18	94		52	#219		19	92		52	123	

FREEMAN LOGISTICS - INDUSTRIAL PARK
KIMLEY-HORN & ASSOCIATES, INC [JMM 090222083]

PM PEAK-HOUR
Synchro 12 Report

Lanes, Volumes, Timings
 1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		647			698			1095			456	
Turn Bay Length (ft)	100			200			100			100		
Base Capacity (vph)	275	749		489	741		566	2008		616	2083	
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	0.07	0.25		0.16	0.55		0.07	0.18		0.24	0.25	

Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	51.7
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay (s/veh):	16.3
Intersection LOS:	B
Intersection Capacity Utilization:	61.0%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	























Splits and Phases: 1: 54th Avenue E & 12th Street E



Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	466	369	722	721	123	353	268	430	179	432	80
Future Volume (vph)	105	466	369	722	721	123	353	268	430	179	432	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.978			0.908			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1626	3252	1455	3242	3269	0	3127	2927	0	1517	2964	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1626	3252	1455	3242	3269	0	3127	2927	0	1517	2964	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64		12			268			13	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1085			1070			320			1175	
Travel Time (s)		21.1			20.8			6.2			22.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	11%	11%	11%	8%	8%	8%	12%	12%	12%	19%	19%	19%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	496	393	768	898	0	376	742	0	190	545	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.0	40.0	47.0	22.0	44.0		47.0	47.0		41.0	41.0	
Total Split (%)	12.0%	26.7%	31.3%	14.7%	29.3%		31.3%	31.3%		27.3%	27.3%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	12.9	35.3	80.6	17.5	39.9		45.3	45.3		33.3	33.3	
Actuated g/C Ratio	0.09	0.24	0.54	0.12	0.27		0.30	0.30		0.22	0.22	
v/c Ratio	0.80	0.64	0.48	2.03	1.02		0.39	0.69		0.56	0.81	
Control Delay (s/veh)	104.1	56.3	11.9	504.5	88.7		45.3	36.2		58.3	64.4	
Queue Delay	0.0	0.0	0.1	4.1	0.0		1.6	6.7		0.0	0.0	
Total Delay (s/veh)	104.1	56.3	12.1	508.6	88.7		46.9	43.0		58.3	64.4	
LOS	F	E	B	F	F		D	D		E	E	
Approach Delay (s/veh)		44.4			282.3			44.3			62.9	
Approach LOS		D			F			D			E	
Queue Length 50th (ft)	109	232	118	~605	~492		160	247		164	258	
Queue Length 95th (ft)	#211	296	178	#735	#630		219	328		247	327	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

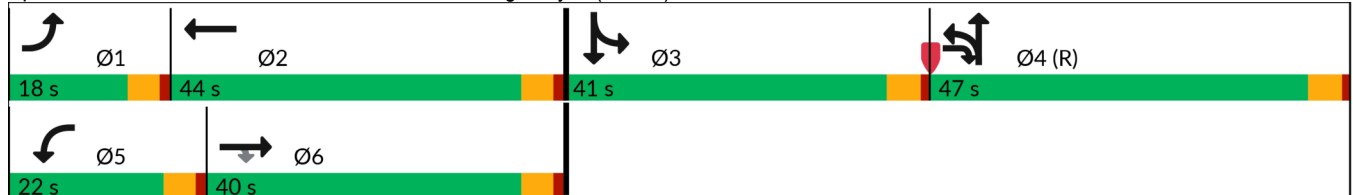
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	146	765	811	378	878		943	1070		367	727	
Starvation Cap Reductn	0	0	0	0	0		386	278		0	0	
Spillback Cap Reductn	0	0	65	114	0		0	0		0	1	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.77	0.65	0.53	2.91	1.02		0.68	0.94		0.52	0.75	

Intersection Summary






















Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 138 (92%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.03
 Intersection Signal Delay (s/veh): 135.1 Intersection LOS: F
 Intersection Capacity Utilization 80.2% ICU Level of Service D
 Analysis Period (min) 15
 ~ 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.

Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings
 2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	466	369	722	721	123	353	268	430	179	432	80
Future Volume (vph)	105	466	369	722	721	123	353	268	430	179	432	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.978			0.908			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1626	3252	1455	3242	3269	0	3127	2927	0	1517	2964	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1626	3252	1455	3242	3269	0	3127	2927	0	1517	2964	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			81		14			255			14	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1085			1070			320			1175	
Travel Time (s)		21.1			20.8			6.2			22.9	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	11%	11%	11%	8%	8%	8%	12%	12%	12%	19%	19%	19%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	496	393	768	898	0	376	742	0	190	545	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.7	38.7	36.6	31.0	51.0		36.6	36.6		38.7	38.7	
Total Split (%)	12.9%	26.7%	25.2%	21.4%	35.2%		25.2%	25.2%		26.7%	26.7%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	13.1	34.0	68.1	26.5	47.4		34.1	34.1		31.8	31.8	
Actuated g/C Ratio	0.09	0.23	0.47	0.18	0.33		0.24	0.24		0.22	0.22	
v/c Ratio	0.76	0.65	0.54	1.29	0.83		0.51	0.84		0.57	0.82	
Control Delay (s/veh)	94.6	54.7	14.0	191.7	52.6		51.6	44.2		57.5	63.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		1.7	15.6		0.0	0.0	
Total Delay (s/veh)	94.6	54.7	14.0	191.7	52.6		53.4	59.9		57.5	63.8	
LOS	F	D	B	F	D		D	E		E	E	
Approach Delay (s/veh)		43.2			116.8			57.7			62.2	
Approach LOS		D			F			E			E	
Queue Length 50th (ft)	104	224	106	~476	412		163	247		158	249	
Queue Length 95th (ft)	#195	288	161	#605	502		218	#356		243	320	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

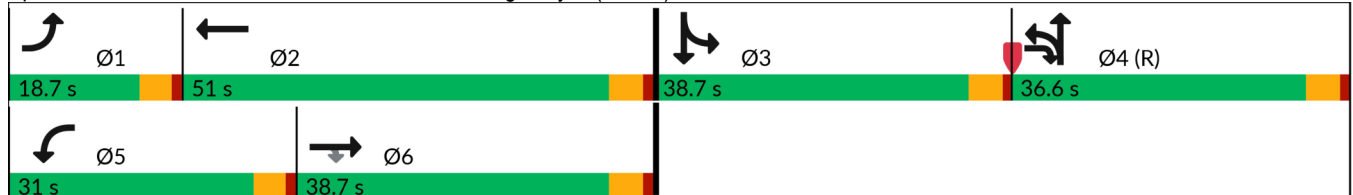
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Internal Link Dist (ft)		1005				990				240				1095		
Turn Bay Length (ft)	225			550			150			125						
Base Capacity (vph)	159	762	726	592	1077		735	883		355	705					
Starvation Cap Reductn	0	0	0	0	0		209	143		0	0					
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0					
Storage Cap Reductn	0	0	0	0	0		0	0		0	0					
Reduced v/c Ratio	0.70	0.65	0.54	1.30	0.83		0.71	1.00		0.54	0.77					

Intersection Summary

Area Type: Other
 Cycle Length: 145
 Actuated Cycle Length: 145
 Offset: 0 (0%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.30
 Intersection Signal Delay (s/veh): 77.0 Intersection LOS: E
 Intersection Capacity Utilization 80.2% ICU Level of Service D
 Analysis Period (min) 15
 ~ 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.



















Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	287	0	302	0	763	490	0	715	700
Future Volume (vph)	0	0	0	287	0	302	0	763	490	0	715	700
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	1		1	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850		0.987	0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1626	0	1455	0	3438	1538	0	1681	1447
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1626	0	1455	0	3438	1538	0	1681	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						220			425		7	663
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1083			1080			827			320	
Travel Time (s)		24.6			24.5			18.8			7.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	11%	11%	11%	5%	5%	5%	6%	6%	6%
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	0	0	302	0	318	0	803	516	0	827	663
Turn Type				Prot		custom		NA	Perm		NA	custom
Protected Phases				3		34		6			2	24
Permitted Phases						4			6			Free
Detector Phase				3		34		6	6		2	24
Switch Phase												
Minimum Initial (s)				5.0				10.0	10.0		10.0	
Minimum Split (s)				9.5				14.7	14.7		14.5	
Total Split (s)				35.0				103.0	103.0		103.0	
Total Split (%)				23.3%				68.7%	68.7%		68.7%	
Yellow Time (s)				3.5				3.7	3.7		3.5	
All-Red Time (s)				1.0				1.0	1.0		1.0	
Lost Time Adjust (s)				0.0				0.0	0.0		0.0	
Total Lost Time (s)				4.5				4.7	4.7		4.5	
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Recall Mode				None				C-Max	C-Max		C-Max	
Act Effct Green (s)				29.6		39.4		101.4	101.4		101.6	150.0
Actuated g/C Ratio				0.20		0.26		0.68	0.68		0.68	1.00
v/c Ratio				0.94		0.58		0.34	0.43		0.72	0.45
Control Delay (s/veh)				96.0		18.9		10.9	3.1		19.4	4.6
Queue Delay				0.0		0.2		0.0	0.0		50.9	0.0
Total Delay (s/veh)				96.0		19.1		11.0	3.1		70.3	4.6
LOS				F		B		B	A		E	A
Approach Delay (s/veh)					56.6			7.9			41.1	
Approach LOS					E			A			D	
Queue Length 50th (ft)				292		79		164	29		561	202
Queue Length 95th (ft)				#472		183		207	77		m484	m114

Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	12.0
Total Split (%)	8%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

Lanes, Volumes, Timings

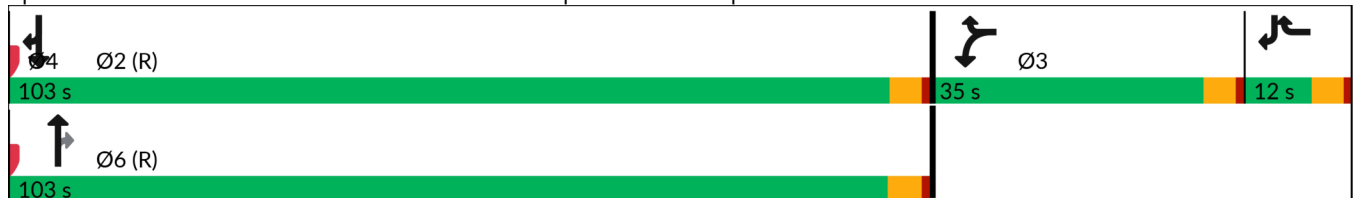
3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1003			1000			747			240	
Turn Bay Length (ft)									100			
Base Capacity (vph)				330		562		2324	1177		1140	1447
Starvation Cap Reductn				0		0		0	0		427	0
Spillback Cap Reductn				0		27		430	0		0	0
Storage Cap Reductn				0		0		0	0		0	0
Reduced v/c Ratio				0.92		0.59		0.42	0.44		1.16	0.46

Intersection Summary	
Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	60 (40%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay (s/veh):	31.2
Intersection LOS:	C
Intersection Capacity Utilization	74.8%
ICU Level of Service	D
Analysis Period (min)	15
#	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.

Splits and Phases: 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp



Lanes, Volumes, Timings






















3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	308	195	24	182	535	150	460	23	356	661	280
Future Volume (vph)	313	308	195	24	182	535	150	460	23	356	661	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.946				0.850		0.993			0.957	
Flt Protected	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (prot)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2831	0
Flt Permitted	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (perm)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59				106		3			42	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)	12%									10%		
Lane Group Flow (vph)	281	551	0	0	210	546	153	492	0	327	996	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	38.0	38.0		26.0	26.0	60.0	26.0	26.0		60.0	60.0	
Total Split (%)	25.3%	25.3%		17.3%	17.3%	40.0%	17.3%	17.3%		40.0%	40.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	32.1	32.1			20.8	80.8	23.6	23.6		55.6	55.6	
Actuated g/C Ratio	0.21	0.21			0.14	0.54	0.16	0.16		0.37	0.37	
v/c Ratio	0.94	0.86			0.92	0.68	0.61	0.98		0.62	0.92	
Control Delay (s/veh)	96.9	64.9			107.1	24.7	71.4	98.2		45.2	58.1	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	96.9	64.9			107.1	24.7	71.4	98.2		45.2	58.1	
LOS	F	E			F	C	E	F		D	E	
Approach Delay (s/veh)		75.7			47.7			91.9			55.0	
Approach LOS		E			D			F			D	
Queue Length 50th (ft)	296	257			205	306	144	~281		287	495	
Queue Length 95th (ft)	#486	#336			#359	449	226	#402		412	#641	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	311	664			234	801	250	499		521	1074	
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	0.90	0.83			0.90	0.68	0.61	0.99		0.63	0.93	























Intersection Summary	
Area Type:	CBD
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.99
Intersection Signal Delay (s/veh):	65.0
Intersection LOS:	E
Intersection Capacity Utilization:	87.6%
ICU Level of Service:	E
Analysis Period (min):	15
~ 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.	

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	308	195	24	182	535	150	460	23	356	661	280
Future Volume (vph)	313	308	195	24	182	535	150	460	23	356	661	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.946				0.850		0.993			0.957	
Flt Protected	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (prot)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2831	0
Flt Permitted	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (perm)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		72				86		3			50	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)	12%									10%		
Lane Group Flow (vph)	281	551	0	0	210	546	153	492	0	327	996	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	29.0	29.0		22.6	22.6	45.4	23.0	23.0		45.4	45.4	
Total Split (%)	24.2%	24.2%		18.8%	18.8%	37.8%	19.2%	19.2%		37.8%	37.8%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	24.5	24.5			17.3	62.7	19.3	19.3		40.9	40.9	
Actuated g/C Ratio	0.20	0.20			0.14	0.52	0.16	0.16		0.34	0.34	
v/c Ratio	0.98	0.88			0.89	0.70	0.59	0.96		0.68	0.99	
Control Delay (s/veh)	98.9	57.5			87.4	23.8	57.9	81.5		42.5	66.1	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	98.9	57.5			87.4	23.8	57.9	81.5		42.5	66.1	
LOS	F	E			F	C	E	F		D	E	
Approach Delay (s/veh)		71.5			41.5			75.9			60.3	
Approach LOS		E			D			E			E	
Queue Length 50th (ft)	240	202			161	259	112	~203		237	405	
Queue Length 95th (ft)	#437	#306			#296	400	186	#321		358	#565	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	284	622			246	771	256	512		479	997	
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	0.99	0.89			0.85	0.71	0.60	0.96		0.68	1.00	

Intersection Summary	
Area Type:	CBD
Cycle Length:	120
Actuated Cycle Length:	120
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	120
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.00
Intersection Signal Delay (s/veh):	61.8
Intersection LOS:	E
Intersection Capacity Utilization:	87.6%
ICU Level of Service:	E
Analysis Period (min):	15
~ 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.	

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗		↖	↗		↖	↗	↖
Traffic Volume (vph)	1	0	3	6	0	111	1	442	5	88	642	0
Future Volume (vph)	1	0	3	6	0	111	1	442	5	88	642	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	210		0	100		0
Storage Lanes	0		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.899			0.850			0.998				
Flt Protected		0.988		0.950			0.950			0.950		
Satd. Flow (prot)	0	1350	0	1805	1615	0	1752	1841	0	1752	1845	1845
Flt Permitted		0.878		0.672			0.358			0.377		
Satd. Flow (perm)	0	1200	0	1277	1615	0	660	1841	0	695	1845	1845
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74			562			1				
Link Speed (mph)		25			25			30				30
Link Distance (ft)		362			838			575				783
Travel Time (s)		9.9			22.9			13.1				17.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	25%	25%	25%	0%	0%	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	6	117	0	1	470	0	93	676	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	6.0		4.0	6.0	6.0
Minimum Split (s)	8.0	24.5		8.0	24.0		8.0	14.5		8.0	14.5	14.5
Total Split (s)	14.0	16.5		14.0	16.0		14.0	34.5		16.0	34.5	34.5
Total Split (%)	17.3%	20.4%		17.3%	19.8%		17.3%	42.6%		19.8%	42.6%	42.6%
Yellow Time (s)	3.0	3.5		3.0	3.0		3.0	3.5		3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5		4.0	4.0		4.0	4.5		4.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effct Green (s)		5.6		7.7	7.7		39.4	35.2		43.6	42.7	
Actuated g/C Ratio		0.10		0.13	0.13		0.69	0.61		0.76	0.74	
v/c Ratio		0.02		0.02	0.16		0.00	0.41		0.13	0.49	
Control Delay (s/veh)		0.2		21.3	0.5		4.0	10.8		3.4	8.2	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		0.2		21.3	0.5		4.0	10.8		3.4	8.2	
LOS		A		C	A		A	B		A	A	
Approach Delay (s/veh)		0.3			1.5			10.9			7.6	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		0		2	0		0	87		5	63	
Queue Length 95th (ft)		0		10	0		2	226		27	345	

Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

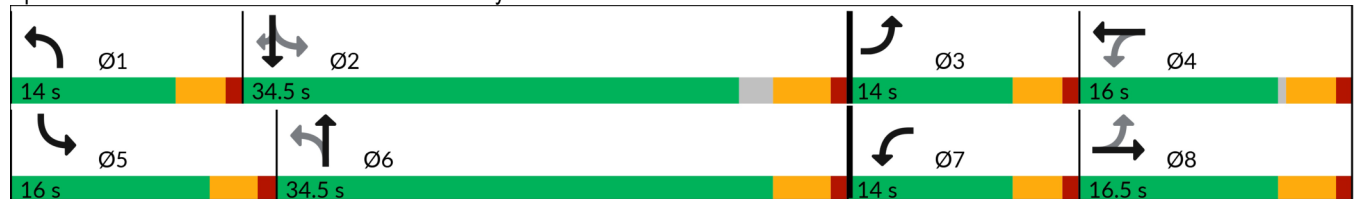
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		282			758			495			703	
Turn Bay Length (ft)				100			210			100		
Base Capacity (vph)		311		341	805		680	1129		753	1371	
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		0.01		0.02	0.15		0.00	0.42		0.12	0.49	

Intersection Summary

Area Type:	Other
Cycle Length:	81
Actuated Cycle Length:	57.4
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.49
Intersection Signal Delay (s/veh):	8.2
Intersection LOS:	A
Intersection Capacity Utilization:	54.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: 54th Avenue E & Driveway/23rd Street E



Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	639	55	30	437	0	17	0	21	1	0	0
Future Volume (vph)	18	639	55	30	437	0	17	0	21	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988						0.924				
Flt Protected	0.950			0.950				0.979			0.950	
Satd. Flow (prot)	1752	1823	0	1787	1881	0	0	1719	0	0	1805	0
Flt Permitted	0.491			0.322								
Satd. Flow (perm)	906	1823	0	606	1881	0	0	1756	0	0	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13						31				
Link Speed (mph)		30			30			25				25
Link Distance (ft)		575			491			578				252
Travel Time (s)		13.1			11.2			15.8				6.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	755	0	33	475	0	0	41	0	0	1	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4				8
Permitted Phases	6			2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.5	30.5		22.5	22.5		32.0	32.0		32.0	32.0	
Total Split (s)	34.5	34.5		34.5	34.5		19.0	19.0		19.0	19.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effect Green (s)	23.9	23.9		23.9	23.9			7.2				7.2
Actuated g/C Ratio	0.86	0.86		0.86	0.86			0.26				0.26
v/c Ratio	0.02	0.48		0.06	0.29			0.08				0.00
Control Delay (s/veh)	2.5	4.1		2.8	2.8			9.1				15.0
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay (s/veh)	2.5	4.1		2.8	2.8			9.1				15.0
LOS	A	A		A	A			A				B
Approach Delay (s/veh)		4.1			2.8			9.1				15.0
Approach LOS		A			A			A				B
Queue Length 50th (ft)	0	0		0	0			1				0
Queue Length 95th (ft)	6	165		9	80			21				3

Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS

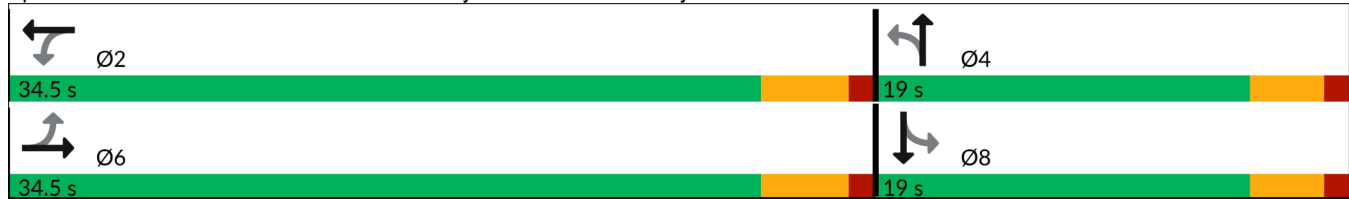


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		495			411			498			172	
Turn Bay Length (ft)	200			125								
Base Capacity (vph)	792	1597		530	1646			1173			1258	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.03	0.47		0.06	0.29			0.03			0.00	

Intersection Summary













Area Type:	Other
Cycle Length:	53.5
Actuated Cycle Length:	27.9
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.48
Intersection Signal Delay (s/veh):	3.8
Intersection LOS:	A
Intersection Capacity Utilization:	47.4%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 6: 54th Avenue E & Valley Avenue E & Driveway



Lanes, Volumes, Timings
7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	63	0	0	17	3	32
Future Volume (vph)	63	0	0	17	3	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	290			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.862	
Flt Protected	0.950					
Satd. Flow (prot)	1641	0	1776	3374	2992	0
Flt Permitted	0.950					
Satd. Flow (perm)	1641	0	1776	3374	2992	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1091	
Link Speed (mph)	30			30	30	
Link Distance (ft)	623			659	553	
Travel Time (s)	14.2			15.0	12.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	7%	7%	4%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	0	0	18	36	0
Turn Type	Prot		Prot	NA	NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	5.0		6.0	10.0	10.0	
Minimum Split (s)	22.5		10.5	23.7	33.7	
Total Split (s)	35.0		15.0	60.0	60.0	
Total Split (%)	31.8%		13.6%	54.5%	54.5%	
Yellow Time (s)	3.5		3.5	4.7	4.7	
All-Red Time (s)	1.0		1.0	1.5	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	6.2	6.2	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	Max		None	Max	None	
Act Effct Green (s)	30.5			53.8	53.8	
Actuated g/C Ratio	0.32			0.57	0.57	
v/c Ratio	0.12			0.00	0.01	
Control Delay (s/veh)	23.7			9.0	0.0	
Queue Delay	0.0			0.0	0.0	
Total Delay (s/veh)	23.7			9.0	0.0	
LOS	C			A	A	
Approach Delay (s/veh)	23.7			9.1		
Approach LOS	C			A		
Queue Length 50th (ft)	28			2	0	
Queue Length 95th (ft)	59			7	0	

FREEMAN LOGISTICS - INDUSTRIAL PARK
KIMLEY-HORN & ASSOCIATES, INC [JMM 090222083]

PM PEAK-HOUR
Synchro 12 Report

Lanes, Volumes, Timings

7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

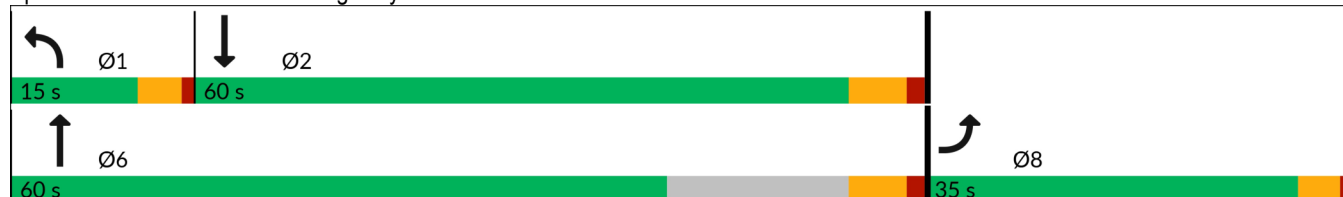


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	543			579	473	
Turn Bay Length (ft)						
Base Capacity (vph)	526			2443	2167	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.13			0.01	0.02	

Intersection Summary

























Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	95
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.13
Intersection Signal Delay (s/veh):	14.4
Intersection LOS:	B
Intersection Capacity Utilization	21.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 7: Pacific Highway E & 70th Avenue E



Lanes, Volumes, Timings
8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	466	107	126	454	213	144	558	88	173	831	83
Future Volume (vph)	47	466	107	126	454	213	144	558	88	173	831	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	400		400	250		0	225		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.980			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1736	1827	1553	1612	3159	0	3019	3068	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	1845	1568	1736	1827	1553	1612	3159	0	3019	3068	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			186		15			9	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1295			1073			2009			522	
Travel Time (s)		25.2			20.9			39.1			10.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	12%	12%	12%	16%	16%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	480	110	130	468	220	148	666	0	178	943	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2						
Detector Phase	1	6	6	5	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	14.5	22.5	14.5	14.5	24.5		14.5	24.5	
Total Split (s)	14.5	44.5	44.5	14.5	44.5	19.5	19.5	44.5		19.5	44.5	
Total Split (%)	11.8%	36.2%	36.2%	11.8%	36.2%	15.9%	15.9%	36.2%		15.9%	36.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	None	None	None		None	None	
Act Effect Green (s)	8.6	40.0	40.0	10.0	43.7	60.7	14.2	40.9		12.6	39.3	
Actuated g/C Ratio	0.07	0.33	0.33	0.08	0.36	0.50	0.12	0.34		0.10	0.32	
v/c Ratio	0.38	0.78	0.19	0.90	0.71	0.25	0.78	0.62		0.57	0.94	
Control Delay (s/veh)	63.4	48.1	8.9	110.5	42.5	4.7	80.5	36.3		59.3	58.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	63.4	48.1	8.9	110.5	42.5	4.7	80.5	36.3		59.3	58.2	
LOS	E	D	A	F	D	A	F	D		E	E	
Approach Delay (s/veh)		42.5			43.2			44.4			58.4	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	37	347	9	104	333	14	116	225		70	379	
Queue Length 95th (ft)	78	#495	51	#227	#473	57	#218	298		106	#513	

Lanes, Volumes, Timings
 8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Internal Link Dist (ft)		1215				993				1929				442
Turn Bay Length (ft)	250		200	400		400	250			225				
Base Capacity (vph)	144	608	578	143	656	896	199	1081		373	1016			
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0			
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0			
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0			
Reduced v/c Ratio	0.33	0.79	0.19	0.91	0.71	0.25	0.74	0.62		0.48	0.93			

























Intersection Summary	
Area Type:	Other
Cycle Length:	123
Actuated Cycle Length:	121.5
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.95
Intersection Signal Delay (s/veh):	48.4
Intersection LOS:	D
Intersection Capacity Utilization:	80.1%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: 70th Avenue E & 20th Street E

	Ø1		Ø2		Ø3		Ø4
14.5 s		44.5 s		19.5 s		44.5 s	
	Ø5		Ø6		Ø7		Ø8
14.5 s		44.5 s		19.5 s		44.5 s	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	48	93	77	24	105	27	616	45	50	942	14
Future Volume (vph)	41	48	93	77	24	105	27	616	45	50	942	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	200		0	225		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.990			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	1597	1357	1656	1743	1482	1597	3163	0	1543	3079	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1517	1597	1357	1656	1743	1482	1597	3163	0	1543	3079	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			112		8			2	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1057			880			2032			2009	
Travel Time (s)		20.6			17.1			39.6			39.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	19%	19%	19%	9%	9%	9%	13%	13%	13%	17%	17%	17%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	51	99	82	26	112	29	703	0	53	1017	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4	4 5	3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.5	24.5		10.5	24.5		10.5	22.5		10.5	22.5	
Total Split (s)	20.0	24.5		20.0	24.5		20.0	60.0		20.0	60.0	
Total Split (%)	16.1%	19.7%		16.1%	19.7%		16.1%	48.2%		16.1%	48.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	8.5	8.8	20.8	10.4	12.9	26.5	7.5	57.3		9.0	61.2	
Actuated g/C Ratio	0.08	0.09	0.21	0.10	0.13	0.26	0.07	0.57		0.09	0.61	
v/c Ratio	0.34	0.36	0.27	0.48	0.11	0.23	0.24	0.39		0.38	0.54	
Control Delay (s/veh)	53.4	53.4	9.2	54.0	43.1	7.1	52.0	14.7		53.8	15.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	53.4	53.4	9.2	54.0	43.1	7.1	52.0	14.7		53.8	15.9	
LOS	D	D	A	D	D	A	D	B		D	B	
Approach Delay (s/veh)		30.9			28.9			16.2			17.8	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	27	32	0	51	16	0	18	130		33	212	
Queue Length 95th (ft)	68	75	43	106	44	42	51	222		77	348	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		977			800			1952			1929	
Turn Bay Length (ft)	150		150	150		150	200			225		
Base Capacity (vph)	234	318	458	256	348	560	246	1797		238	1865	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.19	0.16	0.22	0.32	0.07	0.20	0.12	0.39		0.22	0.55	

























Intersection Summary	
Area Type:	Other
Cycle Length:	124.5
Actuated Cycle Length:	101.1
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay (s/veh):	19.5
Intersection LOS:	B
Intersection Capacity Utilization	53.7%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 9: 70th Avenue E & 26th Street E



Lanes, Volumes, Timings
10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	500	158	72	292	331	137	273	41	538	492	84
Future Volume (vph)	24	500	158	72	292	331	137	273	41	538	492	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	200		0	200		130	350		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1810	1538	1626	1712	1455	1687	3374	1509	3072	3097	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	1810	1538	1626	1712	1455	1687	3374	1509	3072	3097	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			132			345			164		15	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		831			1056			750			2032	
Travel Time (s)		18.9			24.0			14.6			39.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	11%	11%	11%	7%	7%	7%	14%	14%	14%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	521	165	75	304	345	143	284	43	560	601	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0	8.0	6.0	8.0	8.0	6.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	31.0	31.0	10.5	31.0	31.0	10.5	31.0	31.0	13.0	31.0	
Total Split (s)	30.0	40.0	40.0	20.0	40.0	40.0	20.0	30.0	30.0	40.0	40.0	
Total Split (%)	21.4%	28.6%	28.6%	14.3%	28.6%	28.6%	14.3%	21.4%	21.4%	28.6%	28.6%	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	9.1	59.1	59.1	12.3	66.8	66.8	14.8	18.2	18.2	30.9	34.9	
Actuated g/C Ratio	0.07	0.42	0.42	0.09	0.48	0.48	0.11	0.13	0.13	0.22	0.25	
v/c Ratio	0.22	0.68	0.22	0.52	0.37	0.39	0.80	0.64	0.12	0.82	0.76	
Control Delay (s/veh)	66.2	40.7	9.0	73.6	28.4	4.3	92.1	64.5	0.7	62.7	54.0	
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)	66.2	40.7	9.0	73.6	28.4	4.3	92.1	64.5	0.7	62.7	54.0	
LOS	E	D	A	E	C	A	F	E	A	E	D	
Approach Delay (s/veh)		34.3			21.7			67.1			58.2	
Approach LOS		C			C			E			E	
Queue Length 50th (ft)	22	382	18	66	185	0	129	131	0	251	264	
Queue Length 95th (ft)	53	#656	76	117	308	68	#237	174	0	310	307	

Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		751			976			670			1952	
Turn Bay Length (ft)	150		250	200			200		130	350		
Base Capacity (vph)	306	763	725	183	816	874	186	602	404	768	1005	
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.68	0.23	0.41	0.37	0.39	0.77	0.47	0.11	0.73	0.60	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 30 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

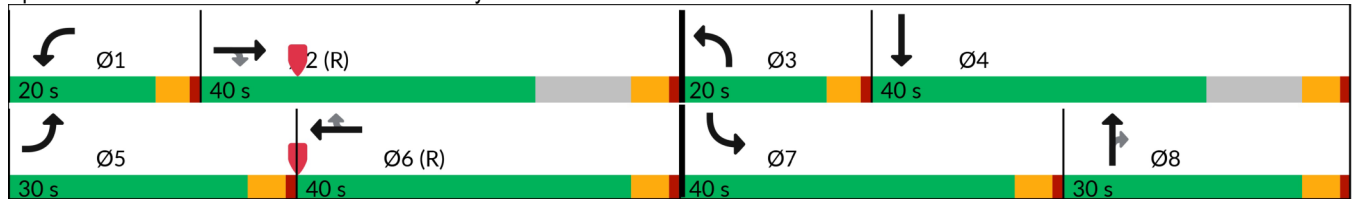
Intersection Signal Delay (s/veh): 45.4 Intersection LOS: D

Intersection Capacity Utilization 71.0% ICU Level of Service C

Analysis Period (min) 15





















95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 10: 70th Avenue E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	937	113	20	481	117	61	46	30	231	154	21
Future Volume (vph)	27	937	113	20	481	117	61	46	30	231	154	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.971			0.941				0.982
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3259	0	1612	3130	0	1671	1655	0	1736	1794	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1656	3259	0	1612	3130	0	1671	1655	0	1736	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			27			24				5
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	9%	9%	9%	12%	12%	12%	8%	8%	8%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	1180	0	22	671	0	69	86	0	260	197	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.8	41.6		7.5	38.9		9.8	9.8		18.9	18.9	
Actuated g/C Ratio	0.09	0.48		0.09	0.45		0.11	0.11		0.22	0.22	
v/c Ratio	0.20	0.75		0.15	0.47		0.36	0.41		0.68	0.50	
Control Delay (s/veh)	45.4	26.2		45.4	21.1		45.4	36.9		43.6	36.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	45.4	26.2		45.4	21.1		45.4	36.9		43.6	36.0	
LOS	D	C		D	C		D	D		D	D	
Approach Delay (s/veh)		26.7			22.0			40.7			40.3	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	15	252		11	148		34	31		123	87	
Queue Length 95th (ft)	48	#544		40	239		86	86		249	184	

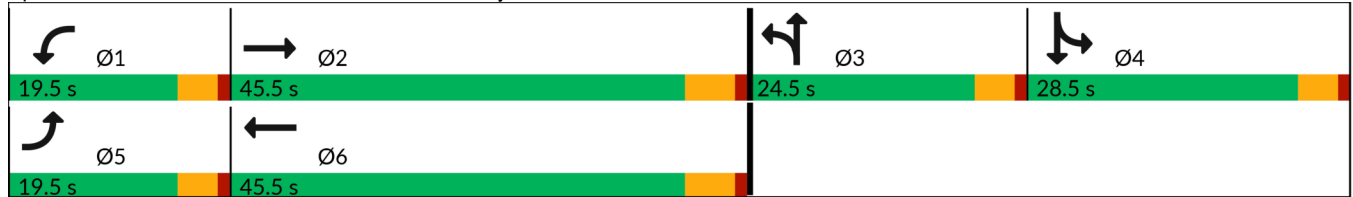
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454				414
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	297	1568		289	1514		400	415		499	519	
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	0.10	0.75		0.08	0.44		0.17	0.21		0.52	0.38	





















Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	86.7
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.75
Intersection Signal Delay (s/veh):	28.8
Intersection LOS:	C
Intersection Capacity Utilization:	59.4%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 11: Freeman Road E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	796	96	17	409	99	42	32	21	159	106	14
Future Volume (vph)	23	796	96	17	409	99	42	32	21	159	106	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984			0.971			0.940				0.982
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3259	0	1612	3130	0	1671	1654	0	1736	1794	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1656	3259	0	1612	3130	0	1671	1654	0	1736	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			27			24				5
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	9%	9%	9%	12%	12%	12%	8%	8%	8%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1002	0	19	571	0	47	60	0	179	135	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effect Green (s)	7.5	41.8		7.3	41.6		8.5	8.5		14.4	14.4	
Actuated g/C Ratio	0.09	0.52		0.09	0.51		0.10	0.10		0.18	0.18	
v/c Ratio	0.16	0.59		0.13	0.35		0.27	0.30		0.58	0.41	
Control Delay (s/veh)	42.0	19.1		42.1	15.3		42.0	30.4		40.6	34.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	42.0	19.1		42.1	15.3		42.0	30.4		40.6	34.7	
LOS	D	B		D	B		D	C		D	C	
Approach Delay (s/veh)		19.8			16.2			35.5			38.1	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	12	157		8	72		21	16		78	55	
Queue Length 95th (ft)	43	370		35	184		63	61		168	126	

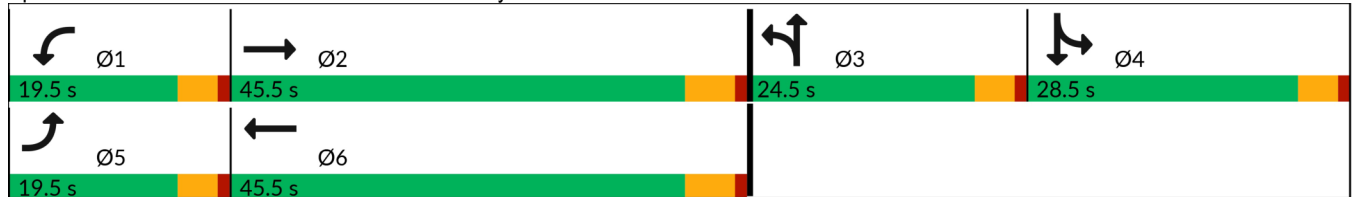
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	317	1685		309	1626		427	440		532	553	
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	0.08	0.59		0.06	0.35		0.11	0.14		0.34	0.24	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	81.1
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.59
Intersection Signal Delay (s/veh):	22.4
Intersection LOS:	C
Intersection Capacity Utilization:	48.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: Freeman Road E & Valley Avenue E



HCM 6th TWSC
 12: Freeman Road E & 48th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	4	21	11	122	247	11
Future Vol, veh/h	4	21	11	122	247	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	8	4	4
Mvmt Flow	5	25	13	144	291	13

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	468	298	304	0	0
Stage 1	298	-	-	-	-
Stage 2	170	-	-	-	-
Critical Hdwy	6.4	6.2	4.18	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.272	-	-
Pot Cap-1 Maneuver	557	746	1223	-	-
Stage 1	758	-	-	-	-
Stage 2	865	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	550	746	1223	-	-
Mov Cap-2 Maneuver	550	-	-	-	-
Stage 1	749	-	-	-	-
Stage 2	865	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.3	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1223	-	706	-	-
HCM Lane V/C Ratio	0.011	-	0.042	-	-
HCM Control Delay (s/veh)	8	0	10.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC
 13: Freeman Road E & 50th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	11	8	5	77	304	13
Future Vol, veh/h	11	8	5	77	304	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	6	6	7	7	4	4
Mvmt Flow	13	9	6	91	358	15

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	469	366	373	0	-	0
Stage 1	366	-	-	-	-	-
Stage 2	103	-	-	-	-	-
Critical Hdwy	6.46	6.26	4.17	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	2.263	-	-	-
Pot Cap-1 Maneuver	545	670	1159	-	-	-
Stage 1	693	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	542	670	1159	-	-	-
Mov Cap-2 Maneuver	542	-	-	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	911	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	11.4	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1159	-	589	-	-
HCM Lane V/C Ratio	0.005	-	0.038	-	-
HCM Control Delay (s/veh)	8.1	0	11.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC

14: Freeman Road E & 52nd Street E/19th Avenue NW 2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	2	20	0	5	1	77	5	2	308	1
Future Vol, veh/h	0	0	2	20	0	5	1	77	5	2	308	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	17	17	17	10	10	10	4	4	4
Mvmt Flow	0	0	2	24	0	6	1	93	6	2	371	1

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	477	477	372	475	474	96	372	0	0	99	0	0
Stage 1	376	376	-	98	98	-	-	-	-	-	-	-
Stage 2	101	101	-	377	376	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.27	6.67	6.37	4.2	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.653	4.153	3.453	2.29	-	-	2.236	-	-
Pot Cap-1 Maneuver	502	490	678	476	468	921	1144	-	-	1481	-	-
Stage 1	649	620	-	873	786	-	-	-	-	-	-	-
Stage 2	910	815	-	615	591	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	497	489	678	473	467	921	1144	-	-	1481	-	-
Mov Cap-2 Maneuver	497	489	-	473	467	-	-	-	-	-	-	-
Stage 1	648	619	-	872	785	-	-	-	-	-	-	-
Stage 2	903	814	-	612	590	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.3	12.3	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1144	-	-	678	524	1481	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.057	0.002	-	-
HCM Control Delay (s/veh)	8.2	0	-	10.3	12.3	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.2	0	-	-

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	19.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	41	477	141	59	295	43
Future Vol, veh/h	41	477	141	59	295	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	43	497	147	61	307	45

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	208	0	-	0	761 178
Stage 1	-	-	-	-	178 -
Stage 2	-	-	-	-	583 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1357	-	-	-	373 865
Stage 1	-	-	-	-	853 -
Stage 2	-	-	-	-	558 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1357	-	-	-	357 865
Mov Cap-2 Maneuver	-	-	-	-	357 -
Stage 1	-	-	-	-	815 -
Stage 2	-	-	-	-	558 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.6	0	59.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1357	-	-	-	386
HCM Lane V/C Ratio	0.031	-	-	-	0.912
HCM Control Delay (s/veh)	7.7	0	-	-	59.5
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q (veh)	0.1	-	-	-	9.6

HCM 6th AWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection	
Intersection Delay, s/veh	22.9
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	41	477	141	59	295	43
Future Vol, veh/h	41	477	141	59	295	43
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	43	497	147	61	307	45
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	29.8	12.2	18.8
HCM LOS	D	B	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	8%	0%	100%	0%
Vol Thru, %	92%	71%	0%	0%
Vol Right, %	0%	30%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	518	200	295	43
LT Vol	41	0	295	0
Through Vol	477	141	0	0
RT Vol	0	59	0	43
Lane Flow Rate	540	208	307	45
Geometry Grp	2	2	5	5
Degree of Util (X)	0.829	0.345	0.606	0.073
Departure Headway (Hd)	5.534	5.967	7.095	5.874
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	653	600	507	608
Service Time	3.591	4.041	4.852	3.63
HCM Lane V/C Ratio	0.827	0.347	0.606	0.074
HCM Control Delay, s/veh	29.8	12.2	20.2	9.1
HCM Lane LOS	D	B	C	A
HCM 95th-tile Q	8.9	1.5	4	0.2

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	32	321	95	42	160	36
Future Vol, veh/h	32	321	95	42	160	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	33	334	99	44	167	38


















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	143	0	-	0	521 121
Stage 1	-	-	-	-	121 -
Stage 2	-	-	-	-	400 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1434	-	-	-	516 930
Stage 1	-	-	-	-	904 -
Stage 2	-	-	-	-	677 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1434	-	-	-	502 930
Mov Cap-2 Maneuver	-	-	-	-	502 -
Stage 1	-	-	-	-	879 -
Stage 2	-	-	-	-	677 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.7	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1434	-	-	-	548
HCM Lane V/C Ratio	0.023	-	-	-	0.373
HCM Control Delay (s/veh)	7.6	0	-	-	15.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q (veh)	0.1	-	-	-	1.7

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 		 	 
Traffic Volume (vph)	960	609	516	1393	1088	861
Future Volume (vph)	960	609	516	1393	1088	861
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	2		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.88	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3303	2682	3505	1568	3335	3438
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	2682	3505	1568	3335	3438
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		318		431		
Link Speed (mph)	35		35			35
Link Distance (ft)	522		278			1175
Travel Time (s)	10.2		5.4			22.9
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	3%	3%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	980	621	527	1421	1110	879
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	10.0	6.0	10.0
Minimum Split (s)	36.6	10.6	38.9	38.9	10.6	36.9
Total Split (s)	36.6	54.6	64.9	64.9	54.6	64.9
Total Split (%)	23.4%	35.0%	41.6%	41.6%	35.0%	41.6%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9	4.9	4.6	4.9
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	32.0	86.6	60.0	60.0	50.0	114.6
Actuated g/C Ratio	0.20	0.55	0.38	0.38	0.32	0.73
v/c Ratio	1.44	0.38	0.39	1.63	1.03	0.34
Control Delay (s/veh)	252.0	9.5	35.9	315.2	89.0	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	252.0	9.5	35.9	315.2	89.0	7.8
LOS	F	A	D	F	F	A
Approach Delay (s/veh)	158.0		239.6			53.2
Approach LOS	F		F			D
Queue Length 50th (ft)	~698	89	204	~1813	~627	153
Queue Length 95th (ft)	#834	134	256	#2083	#764	183

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

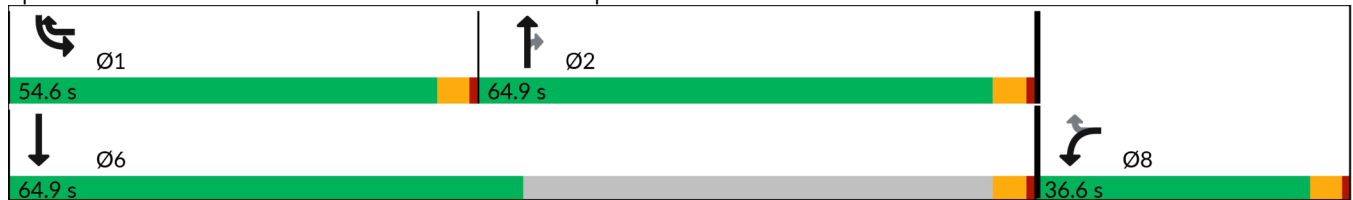


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	442		198			1095
Turn Bay Length (ft)					250	
Base Capacity (vph)	677	1629	1347	868	1068	2523
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.45	0.38	0.39	1.64	1.04	0.35

Intersection Summary

Area Type:	Other
Cycle Length:	156.1
Actuated Cycle Length:	156.1
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.64
Intersection Signal Delay (s/veh):	149.1
Intersection LOS:	F
Intersection Capacity Utilization	125.2%
ICU Level of Service	H
Analysis Period (min)	15
~ 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.	

Splits and Phases: 16: N Meridian Avenue & SR-167 Ramps



HCM 6th TWSC
 17: N Meridian Avenue & N Levee Road

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	72.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↔			↕↔	
Traffic Vol, veh/h	0	0	422	0	0	573	0	1374	63	0	1561	103
Future Vol, veh/h	0	0	422	0	0	573	0	1374	63	0	1561	103
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	440	0	0	597	0	1431	66	0	1626	107

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	867	-	-	716	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.96	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.33	-	-
Pot Cap-1 Maneuver	0	0	~ 296	0	0	~ 370	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %								
Mov Cap-1 Maneuver	-	-	~ 296	-	-	~ 370	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v267.9		\$ 314.2	0	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	296	370	-	-
HCM Lane V/C Ratio	-	1.485	1.613	-	-
HCM Control Delay (s/veh)	-	267.9	\$ 314.2	-	-
HCM Lane LOS	-	F	F	-	-
HCM 95th %tile Q (veh)	-	24.6	34.8	-	-

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

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1060	0	414	20	625	334	0	0	0	0	853	1013
Future Volume (vph)	1060	0	414	20	625	334	0	0	0	0	853	1013
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				72		348						671
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1104	0	431	21	651	348	0	0	0	0	889	1055
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2						4	
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2					4	4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	42.0		42.0	29.0	29.0	29.0					34.0	34.0
Total Split (%)	40.0%		40.0%	27.6%	27.6%	27.6%					32.4%	32.4%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	36.0		36.0	30.0	30.0	30.0					29.2	29.2
Actuated g/C Ratio	0.33		0.33	0.27	0.27	0.27					0.26	0.26
v/c Ratio	1.00		0.85	0.03	0.67	0.50					0.95	1.16
Control Delay (s/veh)	65.9		51.9	0.1	40.0	6.2					61.3	100.1
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	65.9		51.9	0.1	40.0	6.2					61.3	100.1
LOS	E		D	A	D	A					E	F
Approach Delay (s/veh)		62.0			27.7						82.4	
Approach LOS		E			C						F	
Queue Length 50th (ft)	401		283	0	218	0					330	~518
Queue Length 95th (ft)	#548		#454	0	284	71					#462	#772

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

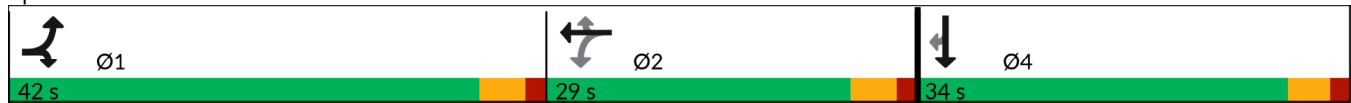


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	1128		520	534	963	684					929	908
Starvation Cap Reductn	0		0	0	0	0					0	0
Spillback Cap Reductn	0		0	0	0	0					0	0
Storage Cap Reductn	0		0	0	0	0					0	0
Reduced v/c Ratio	0.98		0.83	0.04	0.68	0.51					0.96	1.16

Intersection Summary

Area Type:	Other
Cycle Length:	105
Actuated Cycle Length:	110.2
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.16
Intersection Signal Delay (s/veh):	63.1
Intersection LOS:	E
Intersection Capacity Utilization:	88.3%
ICU Level of Service:	E
Analysis Period (min):	15
~ 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.	

Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1060	0	414	20	625	334	0	0	0	0	853	1013
Future Volume (vph)	1060	0	414	20	625	334	0	0	0	0	853	1013
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				50		338						667
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1104	0	431	21	651	348	0	0	0	0	889	1055
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2							4
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2						4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	53.1		53.1	36.3	36.3	36.3					60.6	60.6
Total Split (%)	35.4%		35.4%	24.2%	24.2%	24.2%					40.4%	40.4%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	48.0		48.0	31.2	31.2	31.2					55.8	55.8
Actuated g/C Ratio	0.32		0.32	0.21	0.21	0.21					0.37	0.37
v/c Ratio	1.02		0.86	0.05	0.88	0.58					0.68	1.05
Control Delay (s/veh)	83.4		66.8	0.2	72.3	9.8					42.9	60.4
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	83.4		66.8	0.2	72.3	9.8					42.9	60.4
LOS	F		E	A	E	A					D	E
Approach Delay (s/veh)		78.8			49.5						52.4	
Approach LOS		E			D						D	
Queue Length 50th (ft)	~591		398	0	328	8					384	~689
Queue Length 95th (ft)	#727		#587	2	#430	101					461	#956

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	1077		496	407	736	596					1303	1002
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	1.03		0.87	0.05	0.88	0.58					0.68	1.05

Intersection Summary



















Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.05
Intersection Signal Delay (s/veh):	60.8
Intersection LOS:	E
Intersection Capacity Utilization:	88.3%
ICU Level of Service:	E
Analysis Period (min):	15
~ 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.	

Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	206	63	141	291	0	0	0	0	142	1060	47
Future Volume (vph)	0	206	63	141	291	0	0	0	0	142	1060	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	125		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt			0.850									0.994
Flt Protected				0.950								0.994
Satd. Flow (prot)	0	1792	1524	1770	1863	0	0	0	0	0	3531	0
Flt Permitted				0.259								0.994
Satd. Flow (perm)	0	1792	1524	482	1863	0	0	0	0	0	3531	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51									6
Link Speed (mph)		25			25			25				25
Link Distance (ft)		393			385			1349				2133
Travel Time (s)		10.7			10.5			36.8				58.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	0%	0%	0%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	217	66	148	306	0	0	0	0	0	1314	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		8		7	4							2
Permitted Phases			8	4						2		
Detector Phase		8	8	7	4					2	2	
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					10.0	10.0	
Minimum Split (s)		21.0	21.0	9.0	21.0					23.0	23.0	
Total Split (s)		31.0	31.0	11.0	41.0					66.0	66.0	
Total Split (%)		28.7%	28.7%	10.2%	38.0%					61.1%	61.1%	
Yellow Time (s)		3.0	3.0	3.0	3.0					3.0	3.0	
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0							0.0
Total Lost Time (s)		4.0	4.0	4.0	4.0							4.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		None	None	None	None					Max	Max	
Act Effct Green (s)		15.0	15.0	25.8	25.8							62.2
Actuated g/C Ratio		0.16	0.16	0.27	0.27							0.65
v/c Ratio		0.77	0.23	0.66	0.61							0.57
Control Delay (s/veh)		57.8	15.7	43.7	36.1							11.3
Queue Delay		0.0	0.0	0.0	0.1							0.0
Total Delay (s/veh)		57.8	15.7	43.7	36.3							11.3
LOS		E	B	D	D							B
Approach Delay (s/veh)		48.1			38.8							11.3
Approach LOS		D			D							B
Queue Length 50th (ft)		129	8	72	163							213
Queue Length 95th (ft)		206	44	123	247							332

Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		313			305			1269			2053	
Turn Bay Length (ft)			50	125								
Base Capacity (vph)		505	466	223	739						2289	
Starvation Cap Reductn		0	0	0	76						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.43	0.14	0.66	0.46						0.57	

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	96
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay (s/veh):	22.5
Intersection LOS:	C
Intersection Capacity Utilization:	63.6%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue



Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	281	0	0	336	259	222	678	2	0	0	0
Future Volume (vph)	47	281	0	0	336	259	222	678	2	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	0		125	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850						
Flt Protected	0.950							0.988				
Satd. Flow (prot)	1752	1845	0	0	1845	1568	0	3531	0	0	0	0
Flt Permitted	0.174							0.988				
Satd. Flow (perm)	321	1845	0	0	1845	1568	0	3531	0	0	0	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		385			615			394				343
Travel Time (s)		10.5			16.8			10.7				9.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	296	0	0	354	273	0	950	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	3	8			4			2				
Permitted Phases	8					4	2					
Detector Phase	3	8			4	4	2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	10.0	10.0				
Minimum Split (s)	9.5	28.0			28.0	28.0	26.0	26.0				
Total Split (s)	10.0	45.0			29.0	29.0	53.0	53.0				
Total Split (%)	10.2%	45.9%			29.6%	29.6%	54.1%	54.1%				
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0				
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	None			None	None	Max	Max				
Act Effct Green (s)	24.3	24.3			19.0	19.0		49.7				
Actuated g/C Ratio	0.30	0.30			0.23	0.23		0.61				
v/c Ratio	0.25	0.54			0.83	0.75		0.44				
Control Delay (s/veh)	22.4	27.1			47.8	43.8		11.2				
Queue Delay	0.0	0.1			0.0	0.0		0.0				
Total Delay (s/veh)	22.4	27.2			47.8	43.8		11.2				
LOS	C	C			D	D		B				
Approach Delay (s/veh)		26.6			46.1			11.3				
Approach LOS		C			D			B				
Queue Length 50th (ft)	18	125			183	138		146				
Queue Length 95th (ft)	41	196			285	227		227				

Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

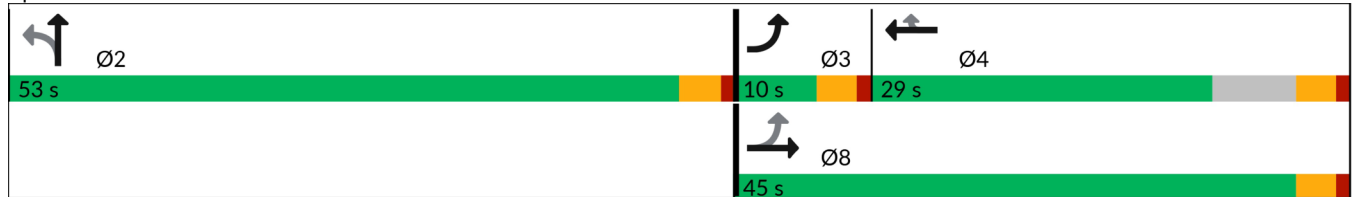


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		305			535			314			263	
Turn Bay Length (ft)	50					125						
Base Capacity (vph)	200	934			706	600		2138				
Starvation Cap Reductn	0	124			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.25	0.37			0.50	0.46		0.44				

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	82.1
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay (s/veh):	25.4
Intersection LOS:	C
Intersection Capacity Utilization:	63.6%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 20: 2nd Street NE & E Stewart Avenue/E Main Avenue



HCM 6th TWSC
 21: Freeman Road E & Site Access

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	3.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT		TT	TT
Traffic Vol, veh/h	66	64	69	18	12	256
Future Vol, veh/h	66	64	69	18	12	256
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	70	75	20	13	278

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	389	85	0	0	95
Stage 1	85	-	-	-	-
Stage 2	304	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	615	974	-	-	1499
Stage 1	938	-	-	-	-
Stage 2	748	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	609	974	-	-	1499
Mov Cap-2 Maneuver	609	-	-	-	-
Stage 1	938	-	-	-	-
Stage 2	741	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	10.9	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	747	1499
HCM Lane V/C Ratio	-	-	0.189	0.009
HCM Control Delay (s/veh)	-	-	10.9	7.4
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q (veh)	-	-	0.7	0

APPENDIX G

LUC 140 – MANUFACTURING ANALYSIS

Trip Generation for: Development Peak Weekday
(a.k.a.): Average Weekday Daily Trips (AWDT)

NET EXTERNAL TRIPS BY TYPE																				
											IN BOTH DIRECTIONS				DIRECTIONAL ASSIGNMENTS					
			Gross Trips				Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
Manufacturing Building A (Total)	238.525 KSF	140	4.75	50%	50%	1,132.99	0%	0.00	1,132.99	0%	0.00	0%	0.00	1,132.99	0.00	0.00	0.00	0.00	566.50	566.49
Manufacturing Building B (Total)	266.911 KSF	140	4.75	50%	50%	1,267.83	0%	0.00	1,267.83	0%	0.00	0%	0.00	1,267.83	0.00	0.00	0.00	0.00	633.92	633.91
Single-Family Detached	-14 Units	210	9.43	50%	50%	-132.02	0%	0.00	-132.02	0%	0.00	0%	0.00	-132.02	0.00	0.00	0.00	0.00	-66.01	-66.01
Total Vehicle Trips						2,268.80		0.00	2,268.80		0.00		0.00	2,268.80	0.00	0.00	0.00	0.00	1,134.41	1,134.39

											Gross Truck Trips				Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Truck Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out								
Manufacturing Building A (Truck)	238.525 KSF	140	0.45	50%	50%	107.34	0%	0.00	107.34	0%	0.00	0%	0.00	107.34	0.00	0.00	0.00	0.00	53.67	53.67								
Manufacturing Building B (Truck)	266.911 KSF	140	0.45	50%	50%	120.11	0%	0.00	120.11	0%	0.00	0%	0.00	120.11	0.00	0.00	0.00	0.00	60.06	60.05								
Total Truck Trips						227.45		0.00	227.45		0.00		0.00	227.45	0.00	0.00	0.00	0.00	113.73	113.72								

Total Passenger Car Trips:	2,041.35	1,020.68	1,020.67
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Trip Generation for: Development Peak Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 7 and 9 AM
(a.k.a.): Weekday AM Peak Hour

NET EXTERNAL TRIPS BY TYPE																					
		Gross Trips							Internal Crossover		IN BOTH DIRECTIONS				DIRECTIONAL ASSIGNMENTS						
LAND USES	VARIABLE	ITE LU code	Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	TOTAL In+Out (Total)	PASS-BY % of Ext. Trips	PASS-BY In+Out (Total)	DIVERTED LINK % of Ext. Trips	DIVERTED LINK In+Out (Total)	NEW In+Out (Total)	PASS-BY In Out		DIVERTED LINK In Out		NEW In Out		
Manufacturing Building A (Total)	238.525 KSF	140	0.68	76%	24%	162.20	0%	0.00	162.20	0%	0.00	0%	0.00	162.20	0.00	0.00	0.00	0.00	123.27	38.93	
Manufacturing Building B (Total)	266.911 KSF	140	0.68	76%	24%	181.50	0%	0.00	181.50	0%	0.00	0%	0.00	181.50	0.00	0.00	0.00	0.00	137.94	43.56	
Single-Family Detached	-14 Units	210	0.70	26%	74%	-9.80	0%	0.00	-9.80	0%	0.00	0%	0.00	-9.80	0.00	0.00	0.00	0.00	-2.55	-7.25	
Total Vehicle Trips						333.90		0.00	333.90		0.00		0.00	333.90	0.00	0.00	0.00	0.00	258.66	75.24	

		Gross Truck Trips					Internal Crossover		TOTAL	PASS-BY		DIVERTED LINK		NEW	PASS-BY		DIVERTED LINK		NEW	
LAND USES	VARIABLE	ITE LU code	Truck Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	In+Out (Total)	% of Ext. Trips	In+Out (Total)	% of Ext. Trips	In+Out (Total)	In+Out (Total)	In	Out	In	Out	In	Out
Manufacturing Building A (Truck)	238.525 KSF	140	0.03	56%	44%	7.16	0%	0.00	7.16	0%	0.00	0%	0.00	7.16	0.00	0.00	0.00	0.00	4.01	3.15
Manufacturing Building B (Truck)	266.911 KSF	140	0.03	56%	44%	8.01	0%	0.00	8.01	0%	0.00	0%	0.00	8.01	0.00	0.00	0.00	0.00	4.49	3.52
Total Truck Trips						15.17		0.00	15.17		0.00		0.00	15.17	0.00	0.00	0.00	0.00	8.50	6.67

Total Passenger Car Trips:	318.73	250.16	68.57
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Trip Generation for: Development Peak Weekday, Peak Hour of Adjacent Street Traffic, One Hour between 4 and 6 PM
(a.k.a.): Weekday PM Peak Hour

NET EXTERNAL TRIPS BY TYPE																						
LAND USES		VARIABLE	ITE LU code	Gross Trips					Internal Crossover		TOTAL In+Out (Total)	PASS-BY		DIVERTED LINK		NEW In+Out (Total)	PASS-BY		DIVERTED LINK		NEW	
				Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	% of Ext. Trips		In+Out (Total)	% of Ext. Trips	In+Out (Total)	In		Out	In	Out	In	Out	
Manufacturing Building A (Total)		238.525 KSF	140	0.74	31%	69%	176.51	0%	0.00	176.51	0%	0.00	0%	0.00	176.51	0.00	0.00	0.00	0.00	54.72	121.79	
Manufacturing Building B (Total)		266.911 KSF	140	0.74	31%	69%	197.51	0%	0.00	197.51	0%	0.00	0%	0.00	197.51	0.00	0.00	0.00	0.00	61.23	136.28	
Single-Family Detached		-14 Units	210	0.94	63%	37%	-13.16	0%	0.00	-13.16	0%	0.00	0%	0.00	-13.16	0.00	0.00	0.00	0.00	-8.29	-4.87	
Total Vehicle Trips							360.86		0.00	360.86		0.00		0.00	360.86	0.00	0.00	0.00	0.00	107.66	253.20	

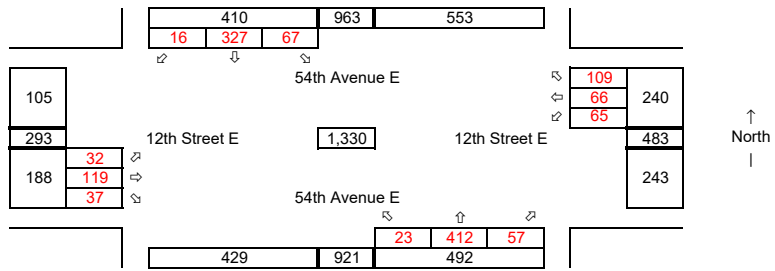
LAND USES		VARIABLE	ITE LU code	Gross Truck Trips					Internal Crossover		TOTAL In+Out (Total)	PASS-BY		DIVERTED LINK		NEW In+Out (Total)	PASS-BY		DIVERTED LINK		NEW	
				Truck Trip Rate	% IN	% OUT	In+Out (Total)	% of Gross Trips	Trips In+Out (Total)	% of Ext. Trips		In+Out (Total)	% of Ext. Trips	In+Out (Total)	In		Out	In	Out	In	Out	
Manufacturing Building A (Truck)		238.525 KSF	140	0.03	41%	59%	7.16	0%	0.00	7.16	0%	0.00	0%	0.00	7.16	0.00	0.00	0.00	0.00	2.94	4.22	
Manufacturing Building B (Truck)		266.911 KSF	140	0.03	41%	59%	8.01	0%	0.00	8.01	0%	0.00	0%	0.00	8.01	0.00	0.00	0.00	0.00	3.28	4.73	
Total Truck Trips							15.17		0.00	15.17		0.00		0.00	15.17	0.00	0.00	0.00	0.00	6.22	8.95	

Total Passenger Car Trips:	345.69	101.44	244.25
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Synchro ID: 1
Existing
Average Weekday
AM Peak Hour

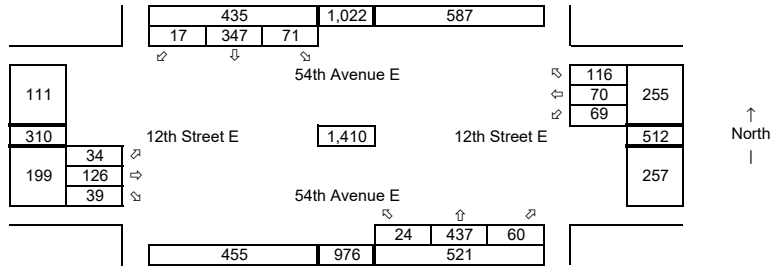
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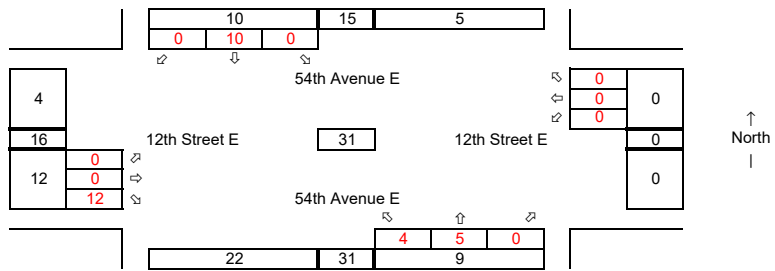


Future without Project
Average Weekday
AM Peak Hour

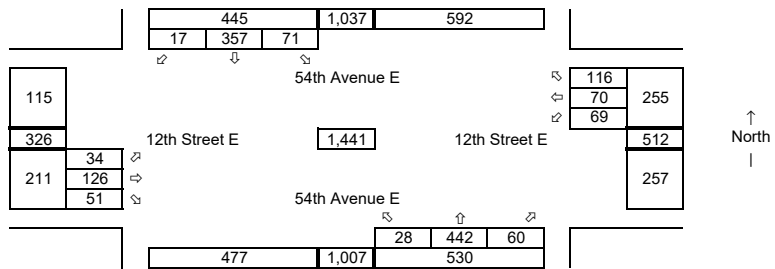
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Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



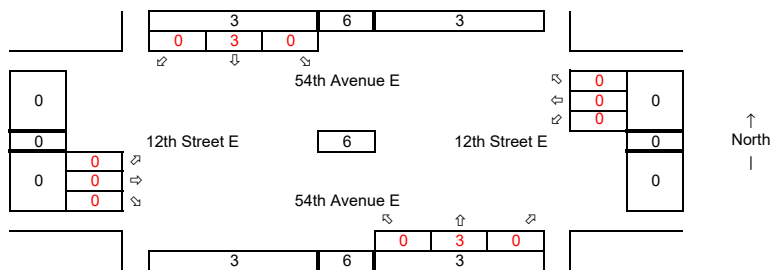
Total Development Trips
Average Weekday
AM Peak Hour



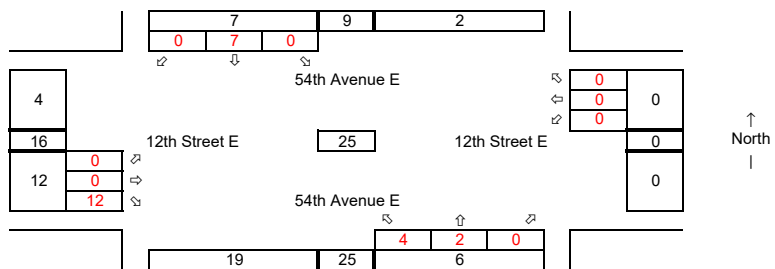
Future with Project
Average Weekday
AM Peak Hour

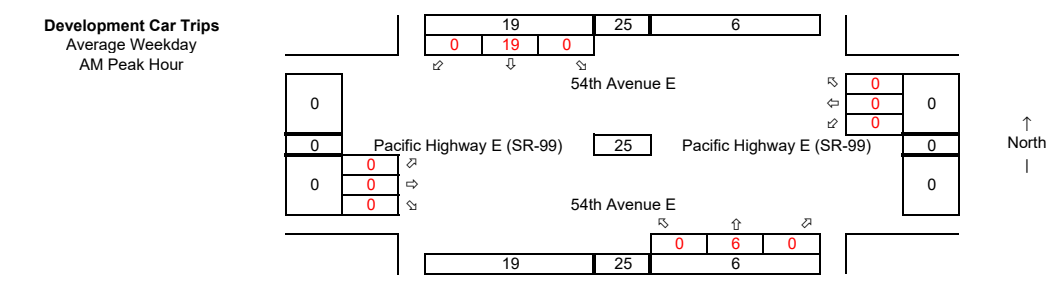
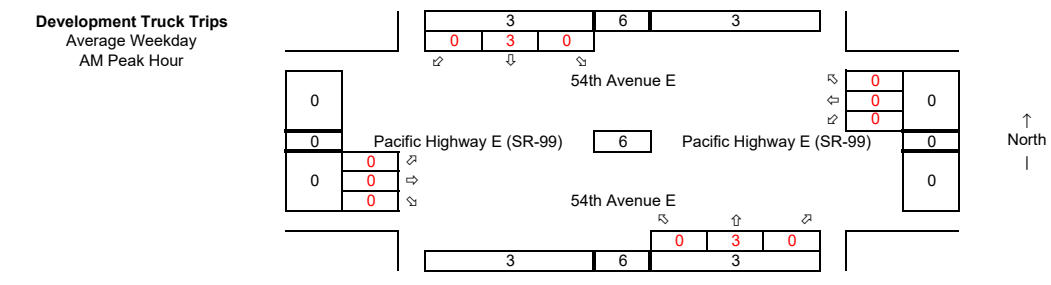
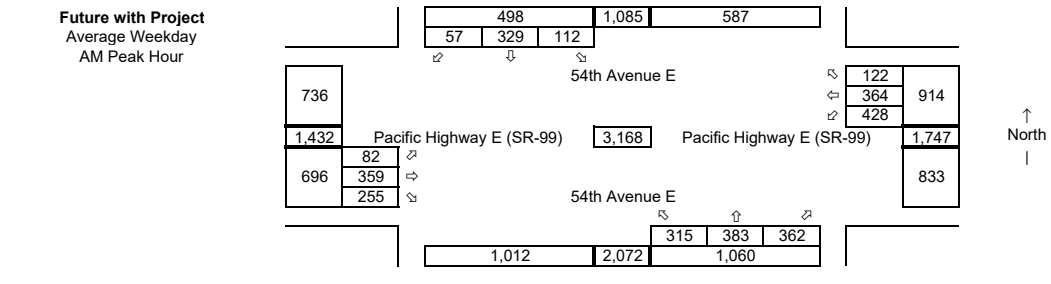
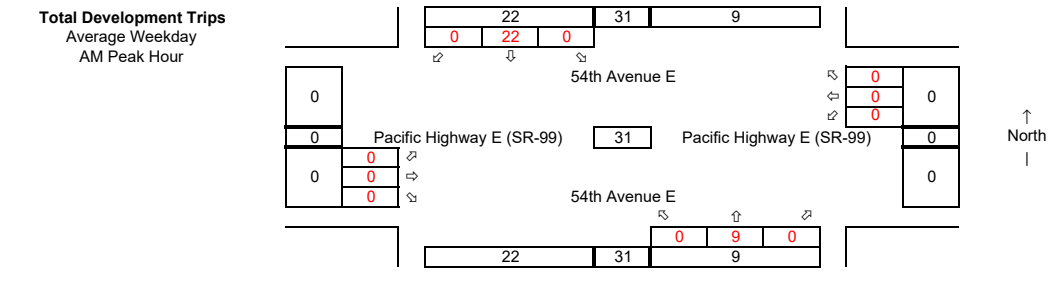
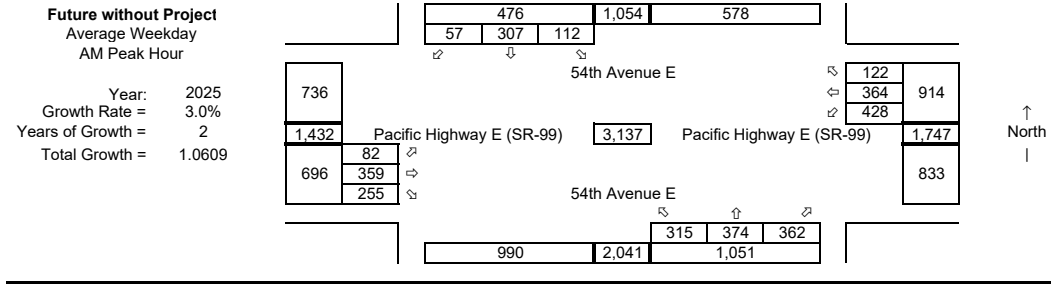
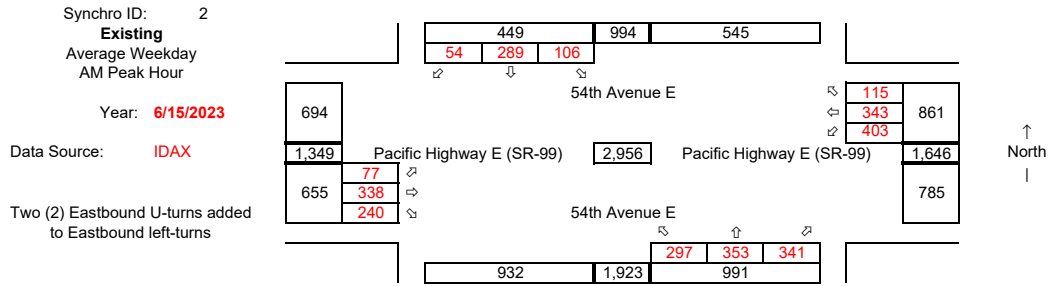


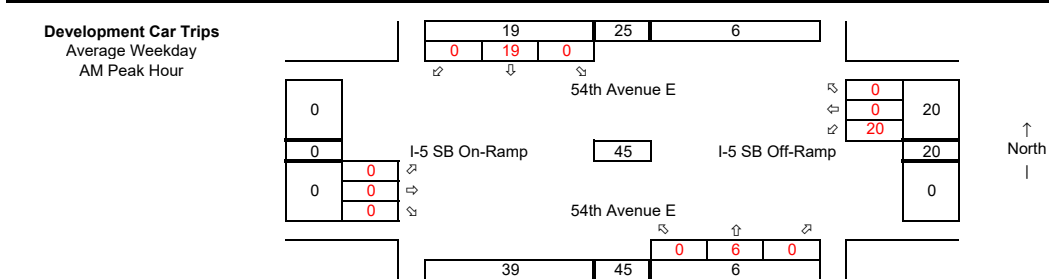
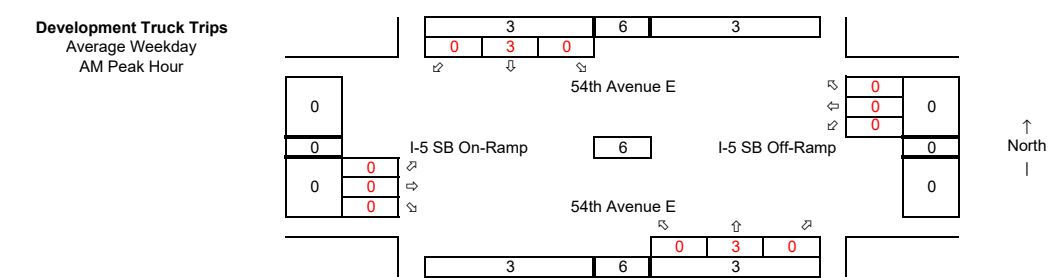
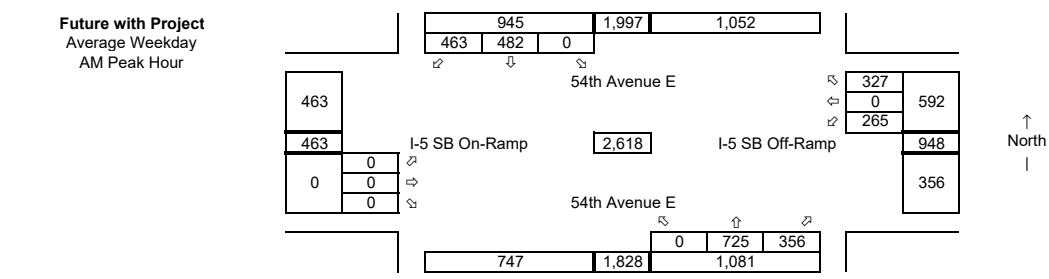
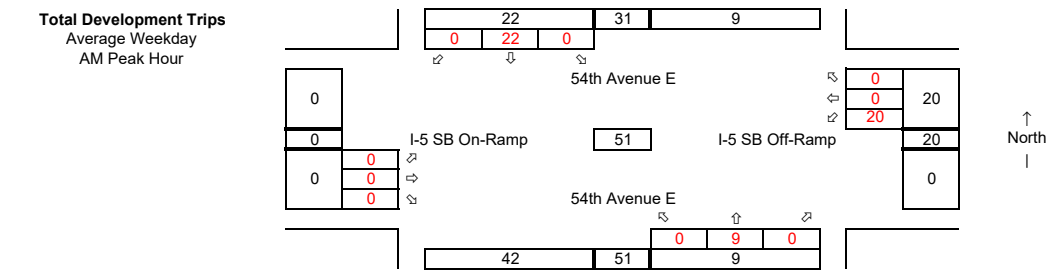
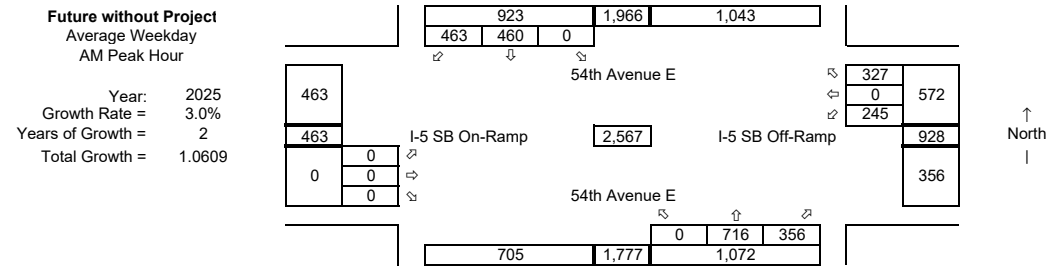
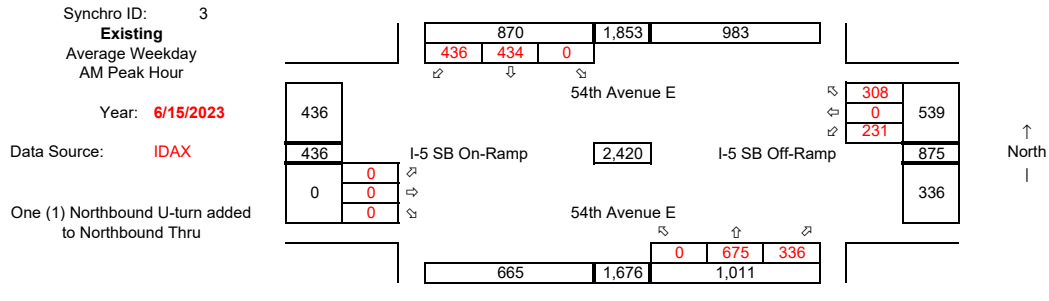
Development Truck Trips
Average Weekday
AM Peak Hour



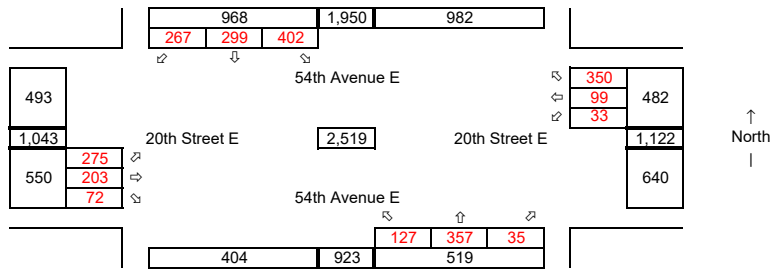
Development Car Trips
Average Weekday
AM Peak Hour



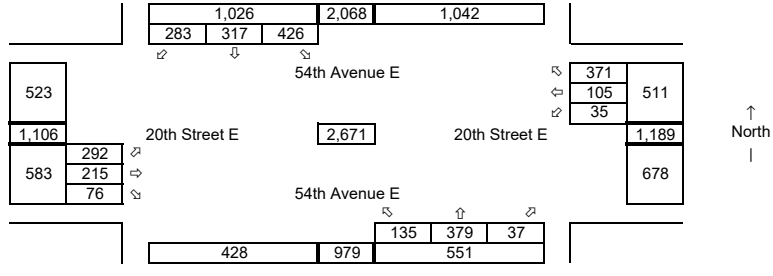




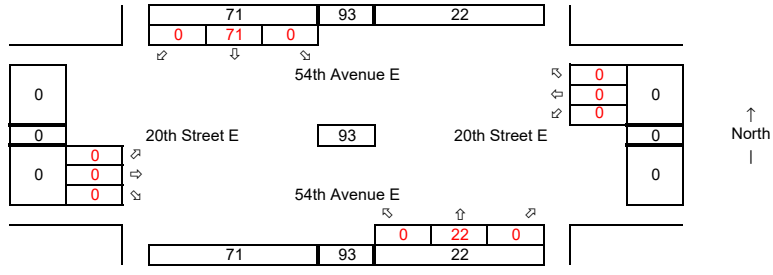
Synchro ID: 4
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/15/2023**
 Data Source: **IDAX**



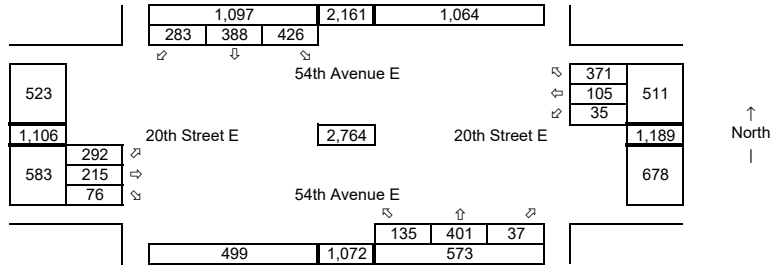
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



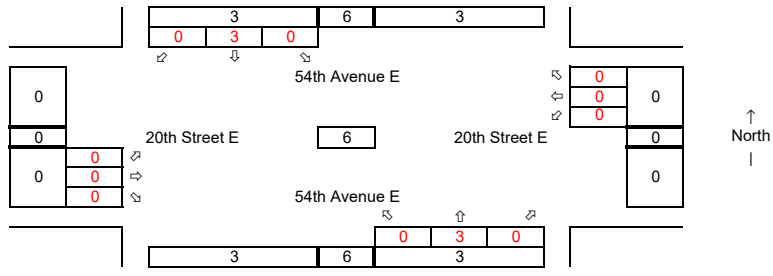
Total Development Trips
 Average Weekday
 AM Peak Hour



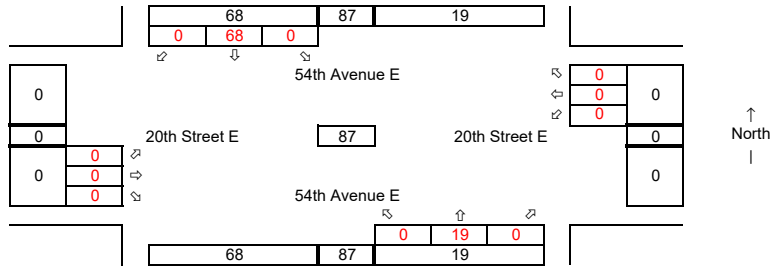
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour

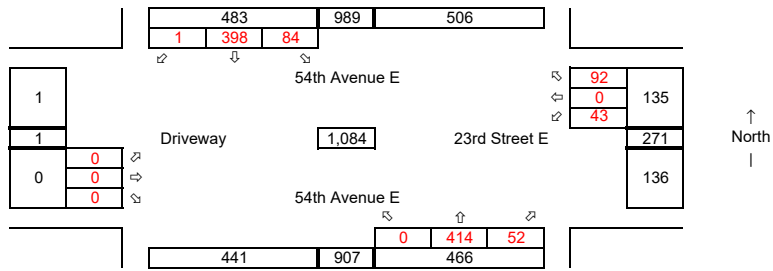


Development Car Trips
 Average Weekday
 AM Peak Hour



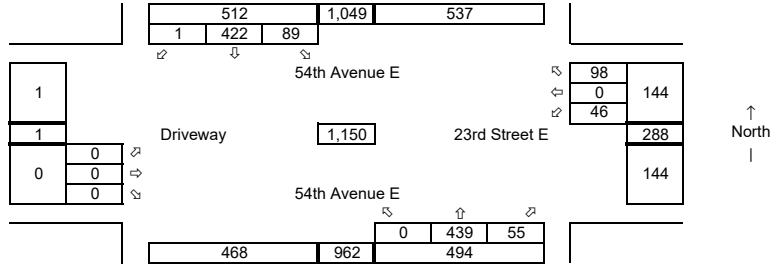
Synchro ID: 5
Existing
Average Weekday
AM Peak Hour

Year: 6/8/2023
Data Source: IDAX

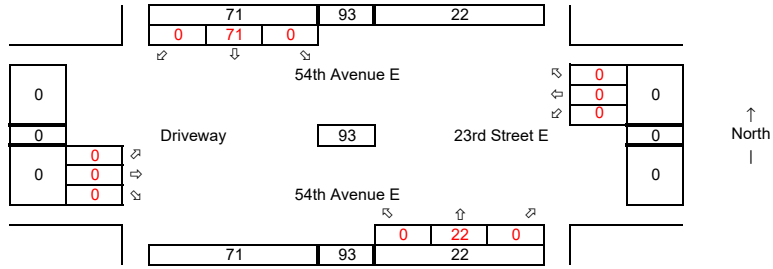


Future without Project
Average Weekday
AM Peak Hour

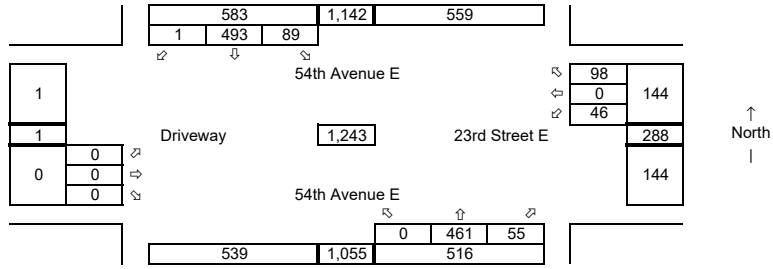
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



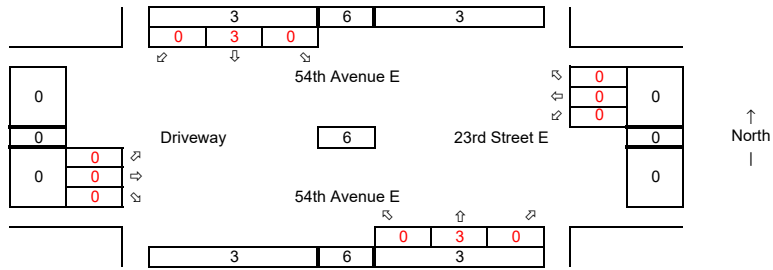
Total Development Trips
Average Weekday
AM Peak Hour



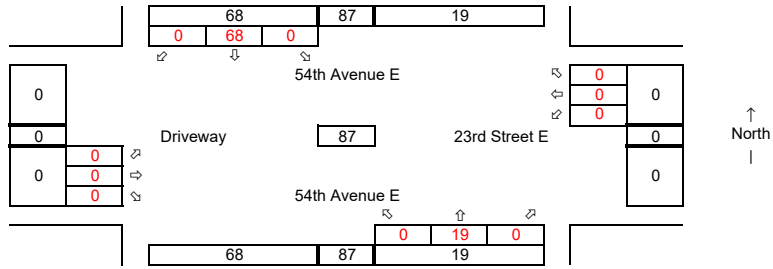
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



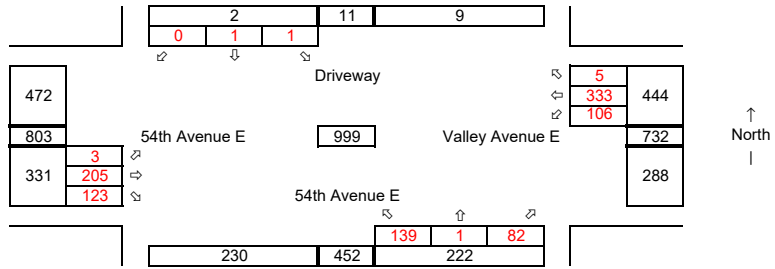
Development Car Trips
Average Weekday
AM Peak Hour



Synchro ID: 6
Existing
Average Weekday
AM Peak Hour

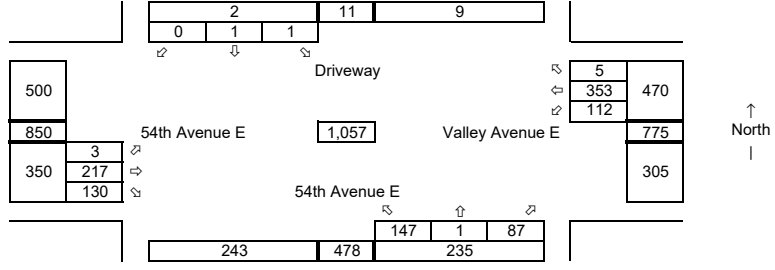
Year: 6/15/2023

Data Source: IDAX

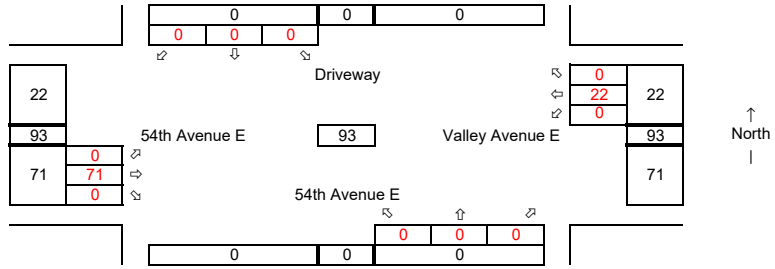


Future without Project
Average Weekday
AM Peak Hour

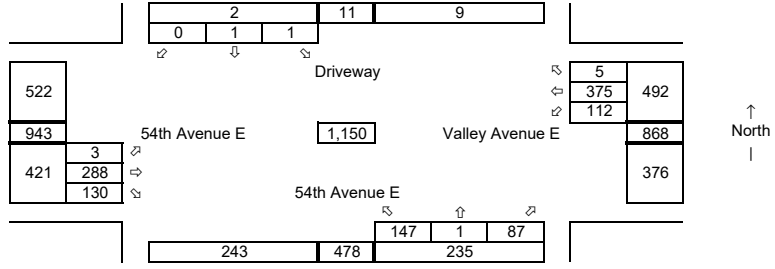
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



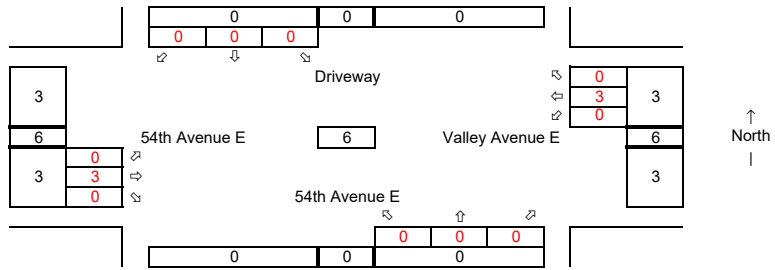
Total Development Trips
Average Weekday
AM Peak Hour



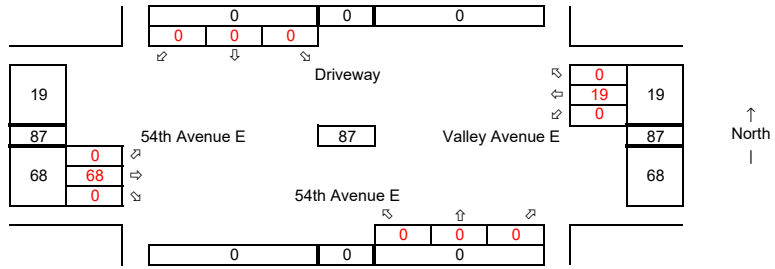
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour

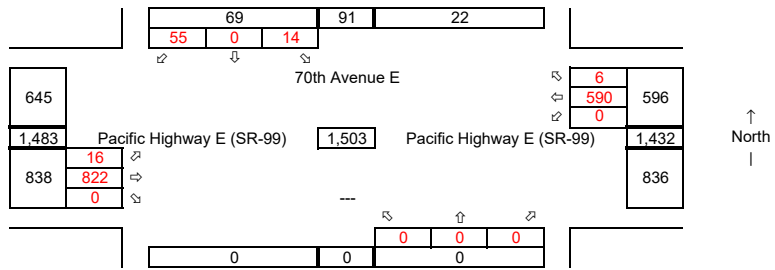


Synchro ID: 7

Existing
Average Weekday
AM Peak Hour

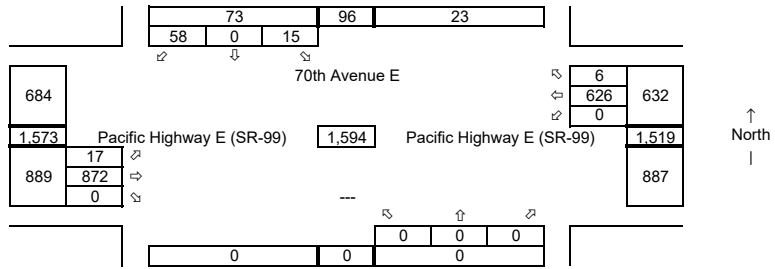
Year: 6/15/2023

Data Source: IDAX

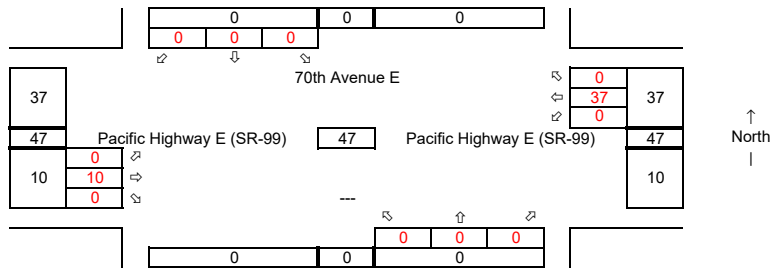


Future without Project
Average Weekday
AM Peak Hour

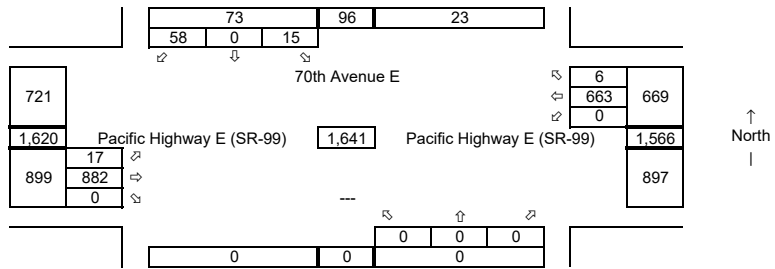
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



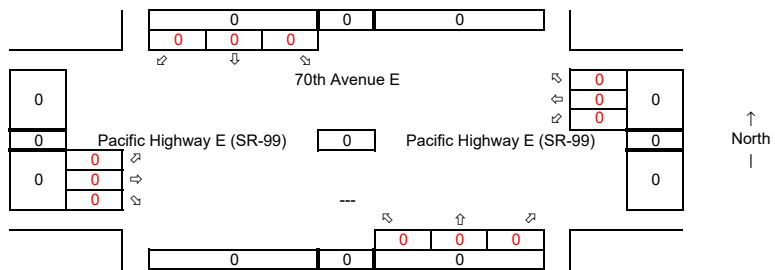
Total Development Trips
Average Weekday
AM Peak Hour



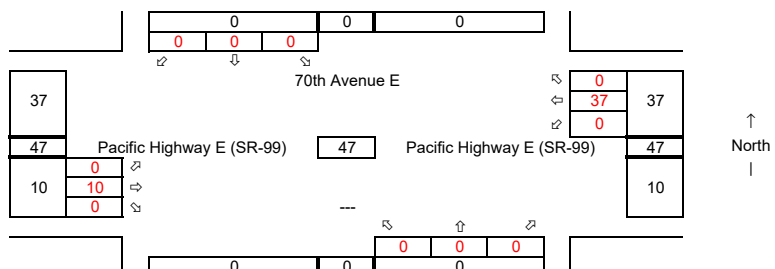
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



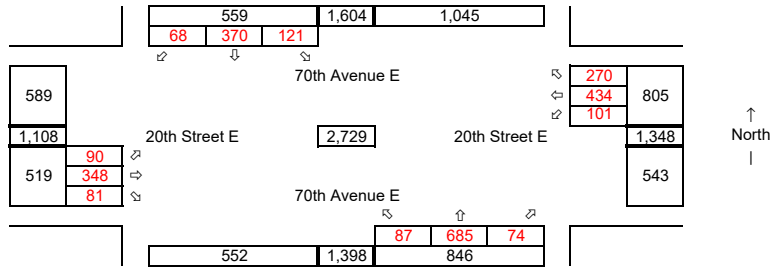
Development Car Trips
Average Weekday
AM Peak Hour



Synchro ID: 8
Existing
Average Weekday
AM Peak Hour

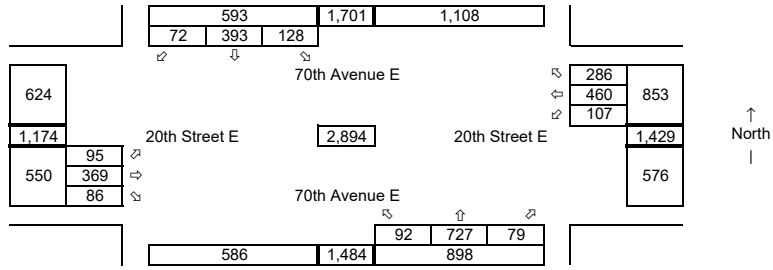
Year: 6/8/2023

Data Source: IDAX

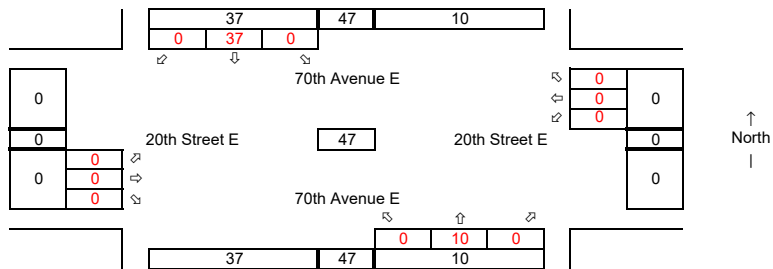


Future without Project
Average Weekday
AM Peak Hour

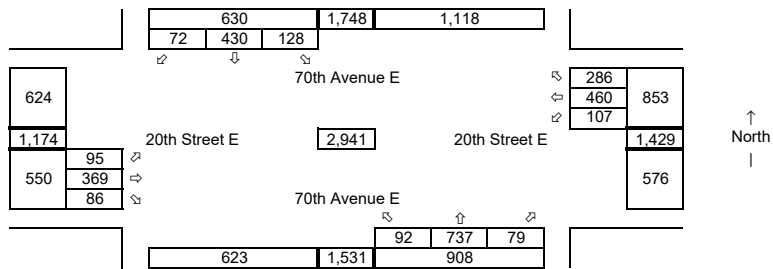
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



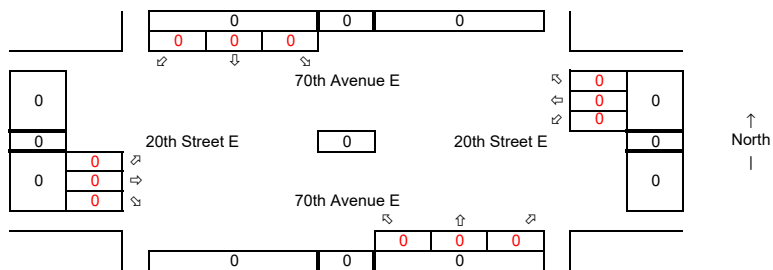
Total Development Trips
Average Weekday
AM Peak Hour



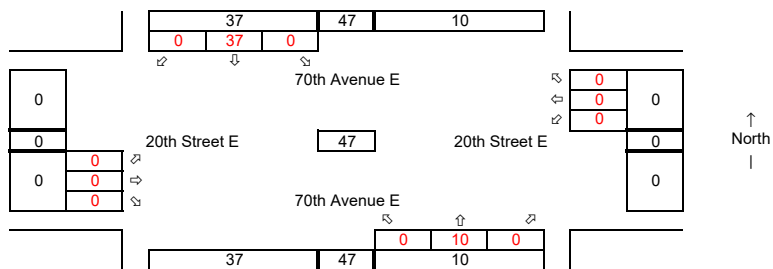
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



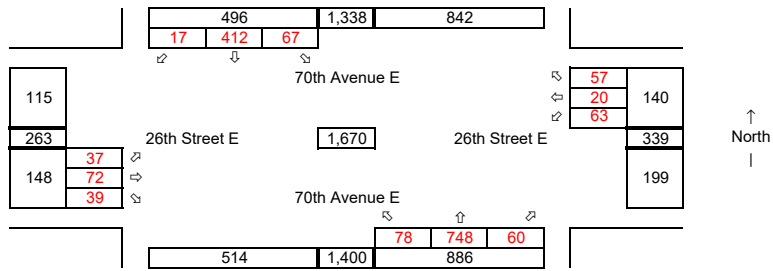
Development Car Trips
Average Weekday
AM Peak Hour



Synchro ID: 9
Existing
Average Weekday
AM Peak Hour

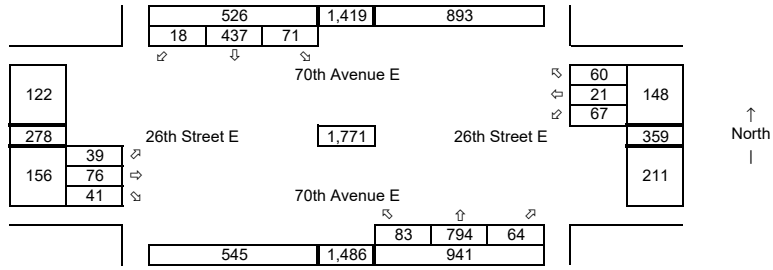
Year: 6/8/2023

Data Source: IDAX

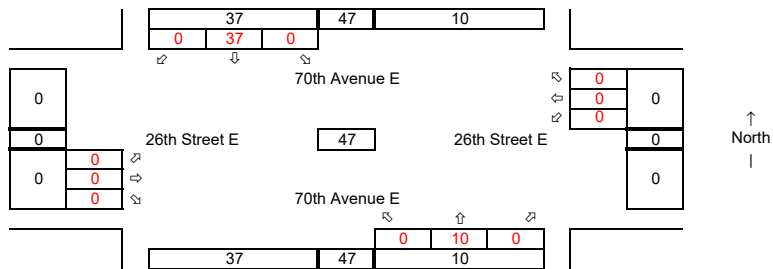


Future without Project
Average Weekday
AM Peak Hour

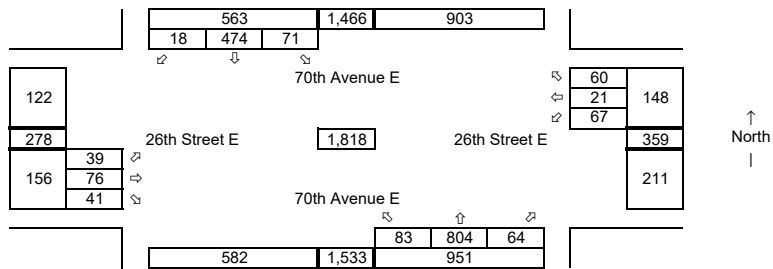
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



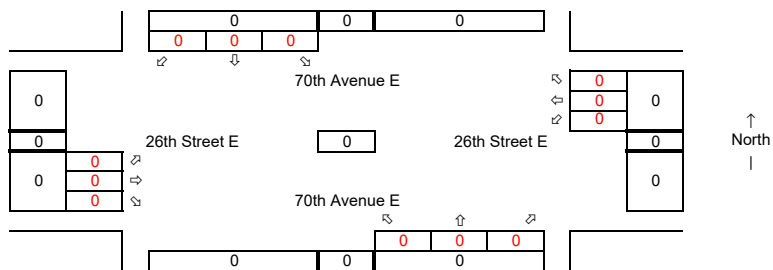
Total Development Trips
Average Weekday
AM Peak Hour



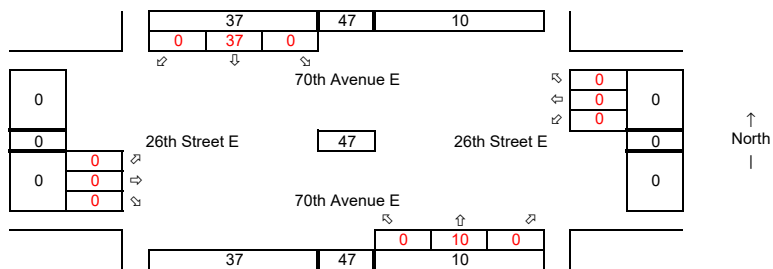
Future with Project
Average Weekday
AM Peak Hour



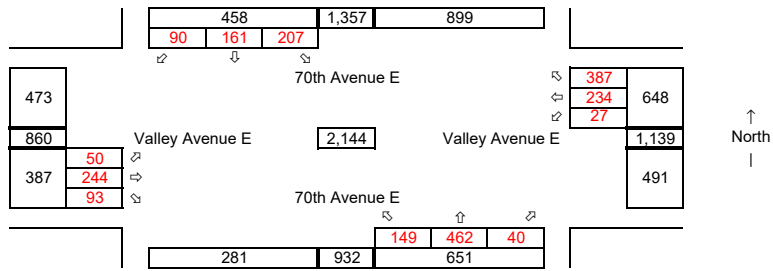
Development Truck Trips
Average Weekday
AM Peak Hour



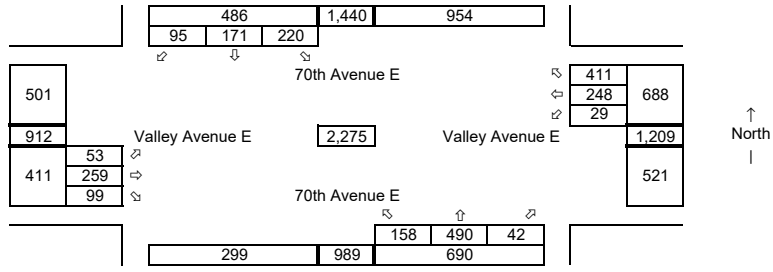
Development Car Trips
Average Weekday
AM Peak Hour



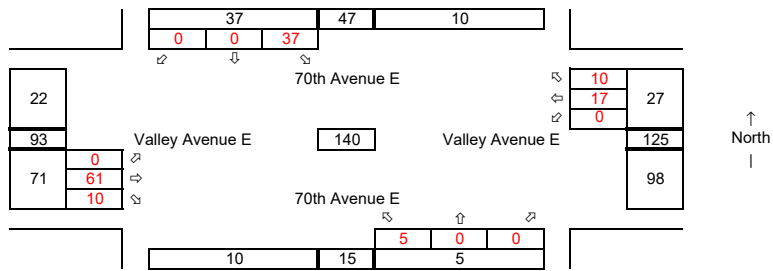
Synchro ID: 10
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



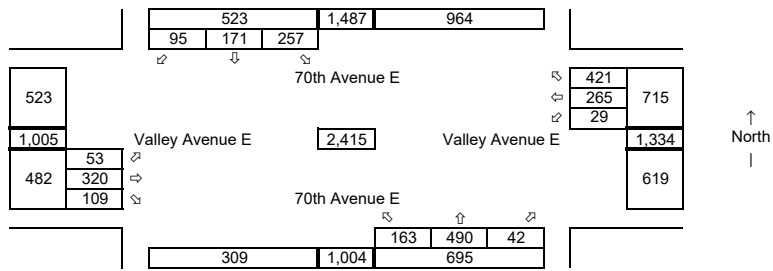
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



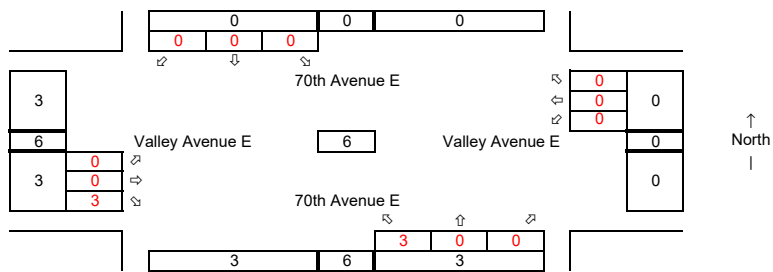
Total Development Trips
 Average Weekday
 AM Peak Hour



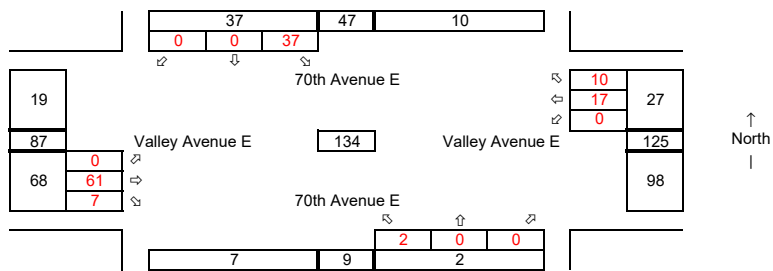
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



**Freeman Logistics
140 - Manufacturing**

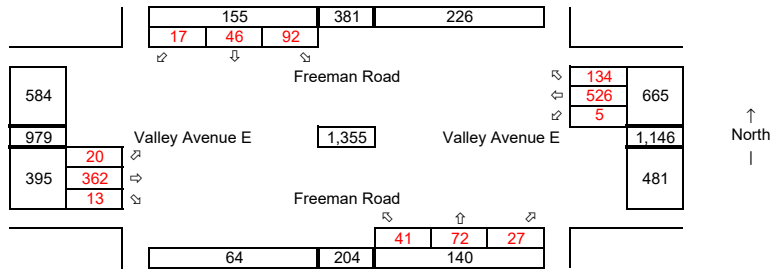
11 Freeman Rd @ Valley Ave E

AM Peak-Hour

Synchro ID: 11
Existing
 Average Weekday
 AM Peak Hour

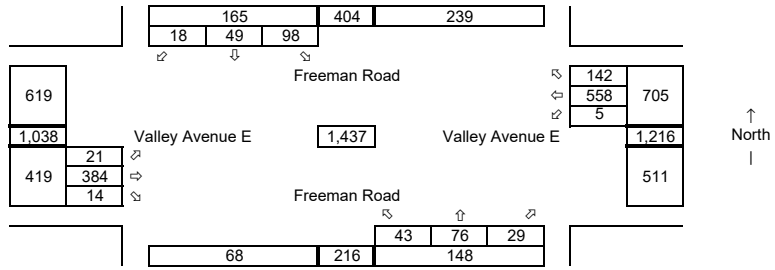
Year: **6/14/2023**

Data Source: **IDAX**

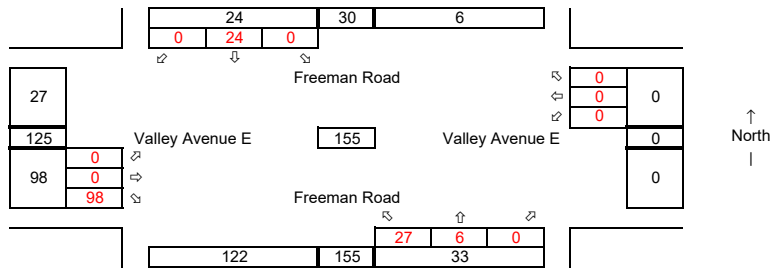


Future without Project
 Average Weekday
 AM Peak Hour

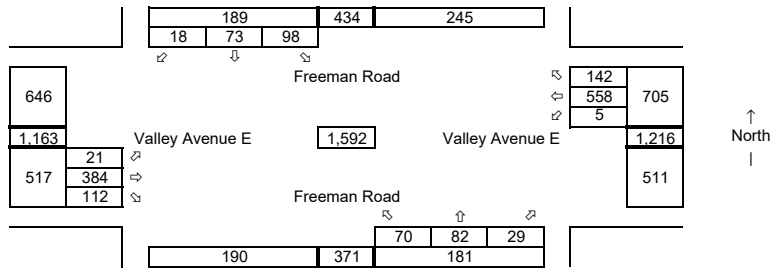
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



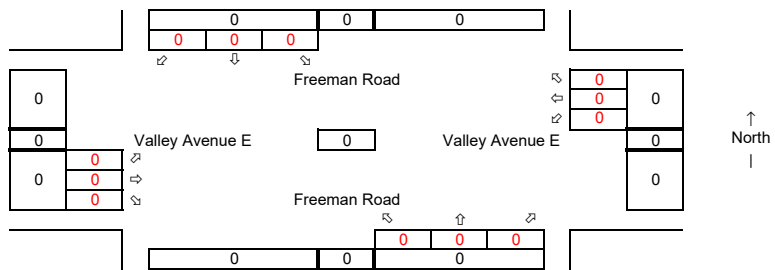
Total Development Trips
 Average Weekday
 AM Peak Hour



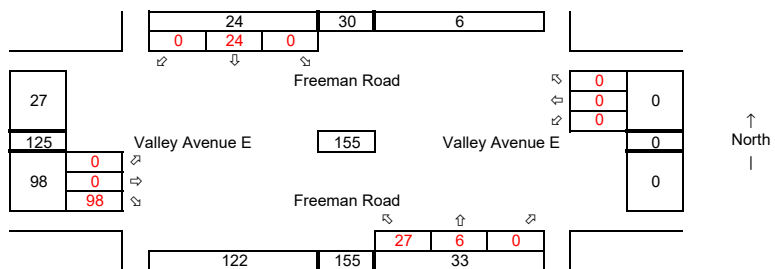
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



**Freeman Logistics
140 - Manufacturing**

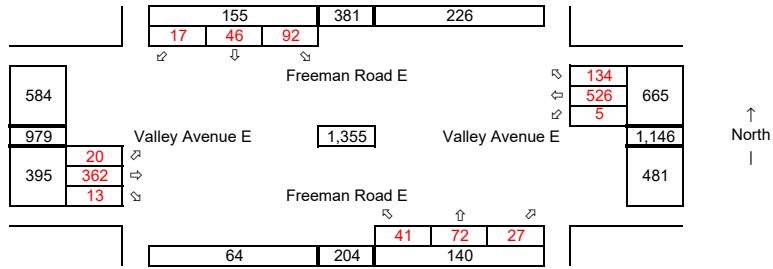
11 Freeman Rd E @ Valley Ave E

AM Peak-Hour

Synchro ID: 11
With SR-167 Extension **Existing**
Average Weekday
AM Peak Hour

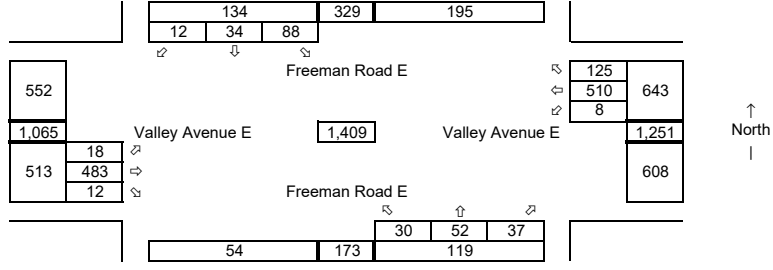
Year: **6/14/23**

Data Source: **IDAX**

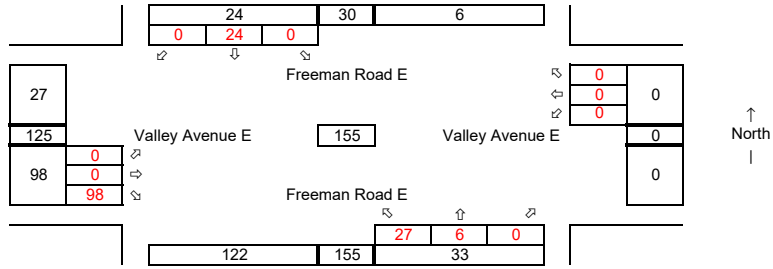


Future without Project
Average Weekday
AM Peak Hour

Year: **2025**
Growth Rate = **3.0%**
Years of Growth = **2**
Total Growth = **1.0609**

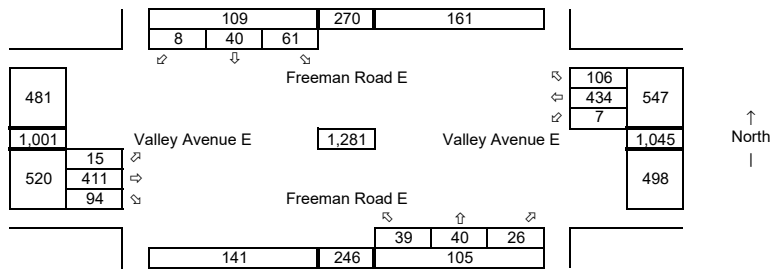


Total Development Trips
Average Weekday
AM Peak Hour

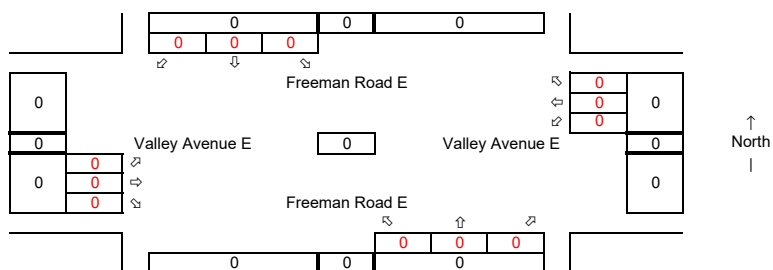


Future with Project
Average Weekday
AM Peak Hour

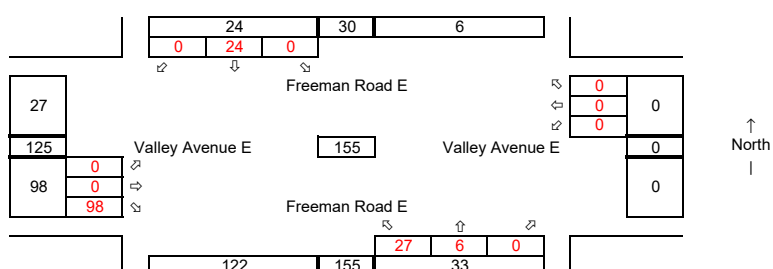
N/S Diversion % **31%**
E/W Diversion % **15%**



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour



**Freeman Logistics
140 - Manufacturing**

12 Freeman Rd E @ 48th St E

AM Peak-Hour

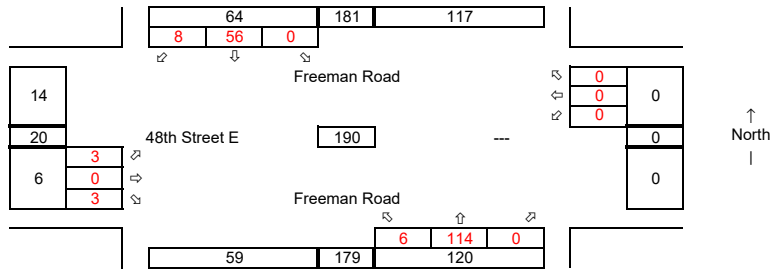
Synchro ID: 12

Existing

Average Weekday
AM Peak Hour

Year: **6/8/2023**

Data Source: **IDAX**



Future without Project

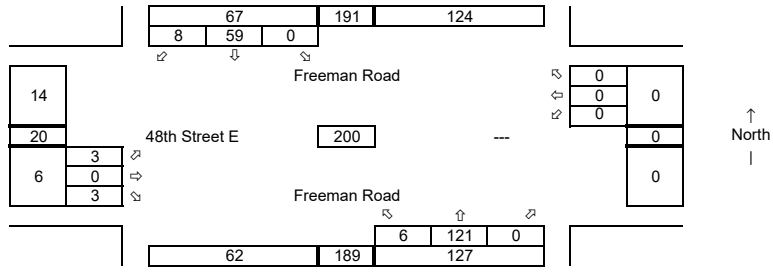
Average Weekday
AM Peak Hour

Year: 2025

Growth Rate = 3.0%

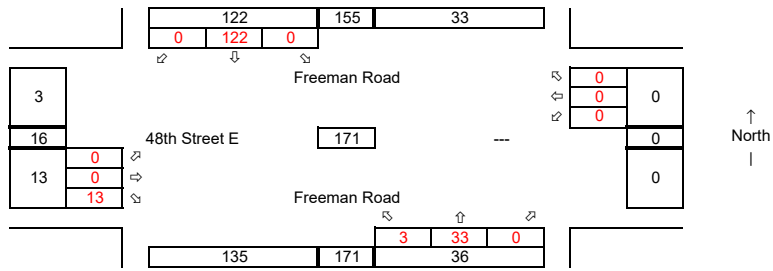
Years of Growth = 2

Total Growth = 1.0609



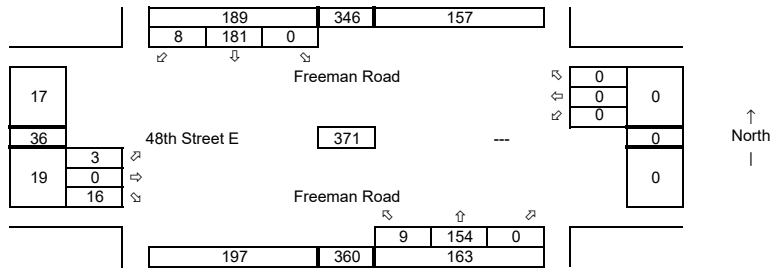
Total Development Trips

Average Weekday
AM Peak Hour



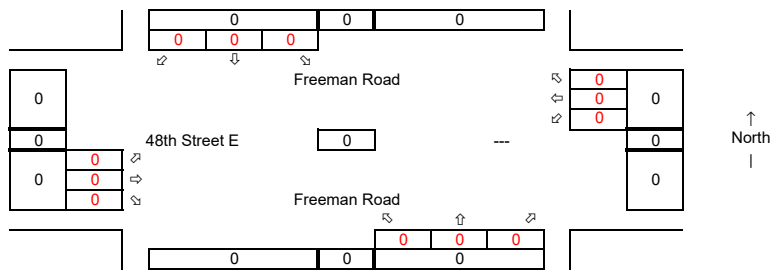
Future with Project

Average Weekday
AM Peak Hour



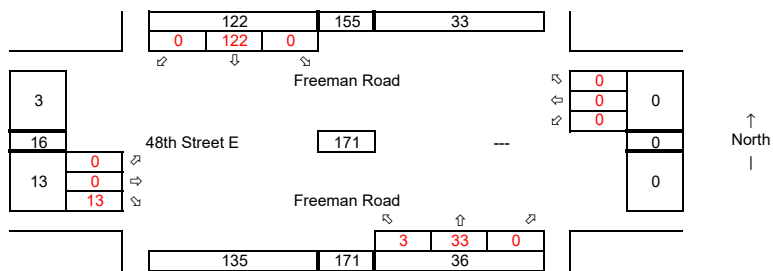
Development Truck Trips

Average Weekday
AM Peak Hour



Development Car Trips

Average Weekday
AM Peak Hour



**Freeman Logistics
140 - Manufacturing**

13 Freeman Rd @ 50th St E

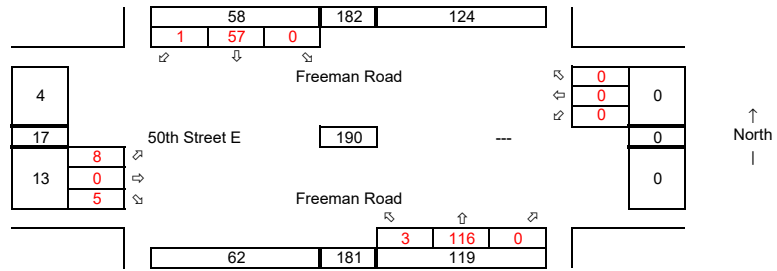
AM Peak-Hour

Synchro ID: 13

Existing
Average Weekday
AM Peak Hour

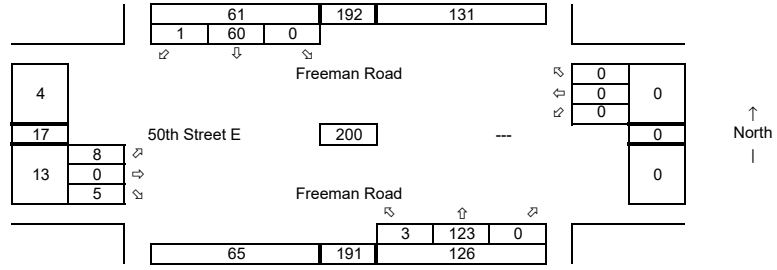
Year: **6/8/2023**

Data Source: **IDAX**

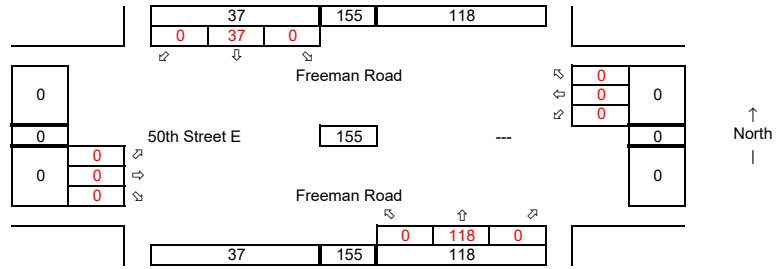


Future without Project
Average Weekday
AM Peak Hour

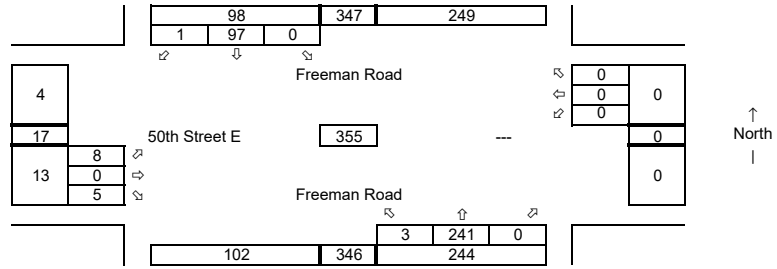
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



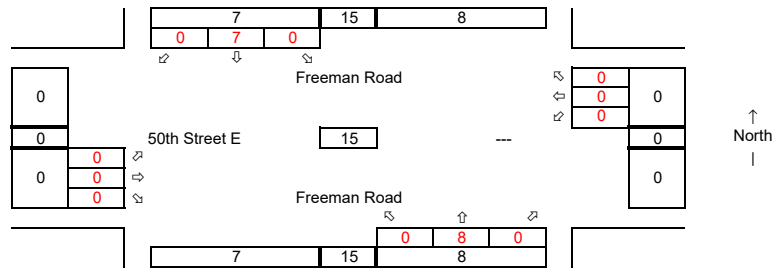
Total Development Trips
Average Weekday
AM Peak Hour



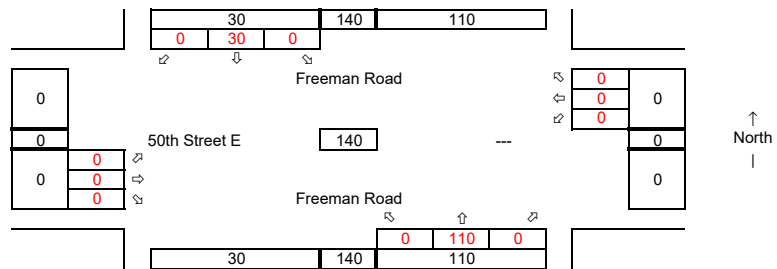
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour

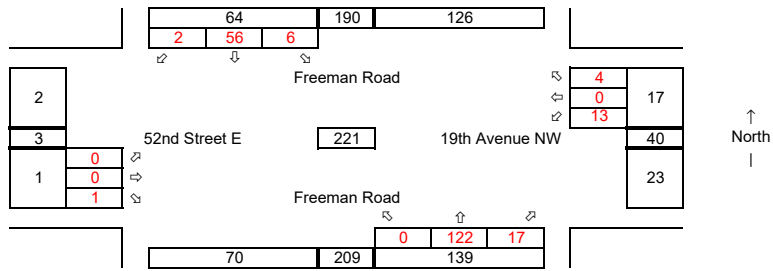


**Freeman Logistics
140 - Manufacturing**

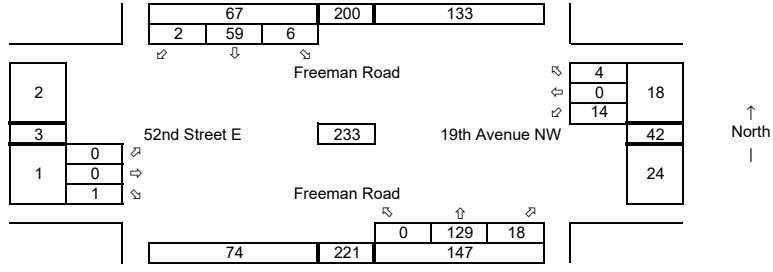
14 Freeman Rd @ 52nd St E

AM Peak-Hour

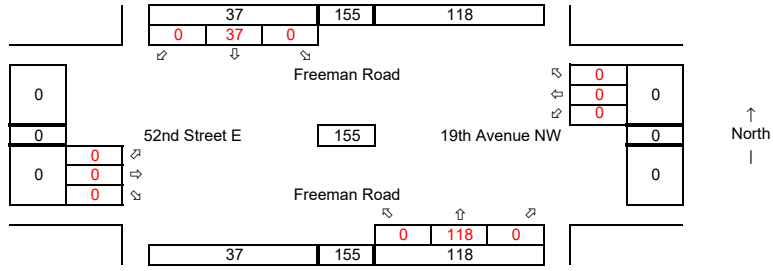
Synchro ID: 14
Existing
 Average Weekday
 AM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**
 Two (2) Westbound U-turns
 added to Westbound Left-turns



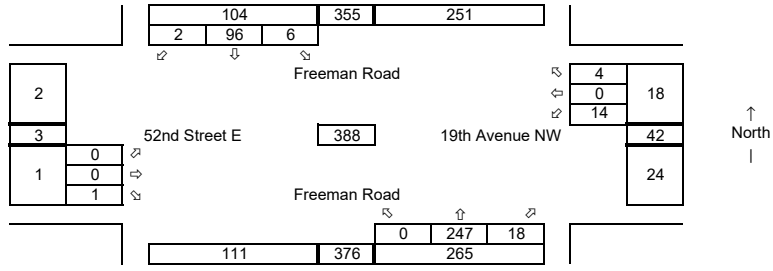
Future without Project
 Average Weekday
 AM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



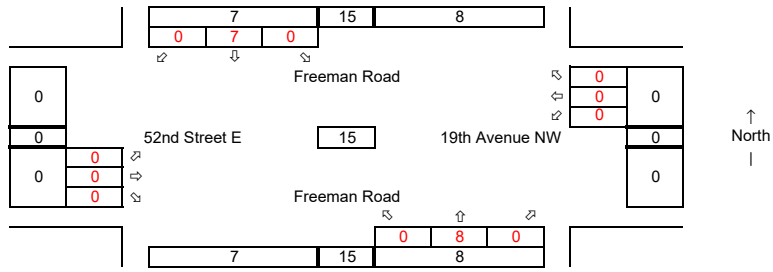
Total Development Trips
 Average Weekday
 AM Peak Hour



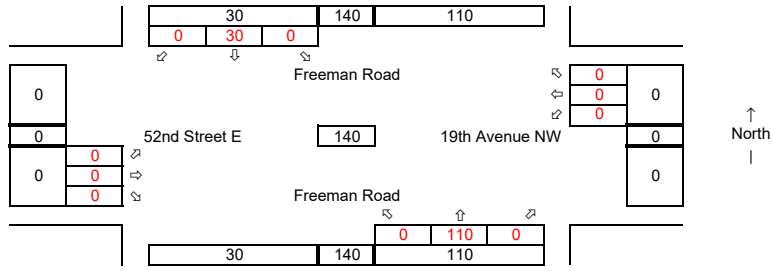
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



Development Car Trips
 Average Weekday
 AM Peak Hour



**Freeman Logistics
140 - Manufacturing**

15 Freeman Rd @ N Levee Rd E

AM Peak-Hour

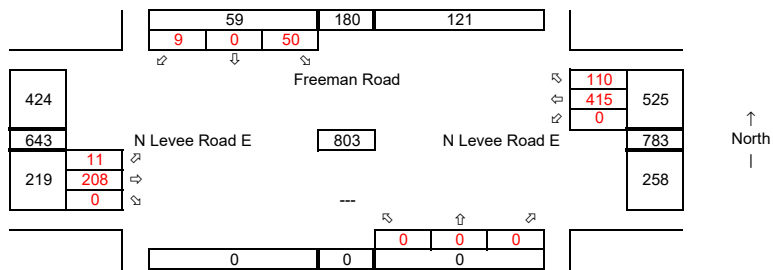
Synchro ID: 15

Existing
Average Weekday
AM Peak Hour

Year: **6/15/2023**

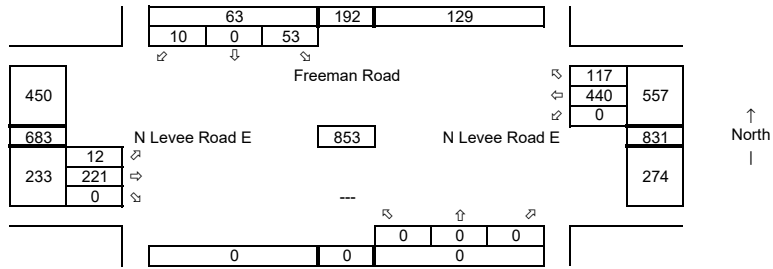
Data Source: **IDAX**

One (1) Westbound U-turn added
to Southbound Left-turns

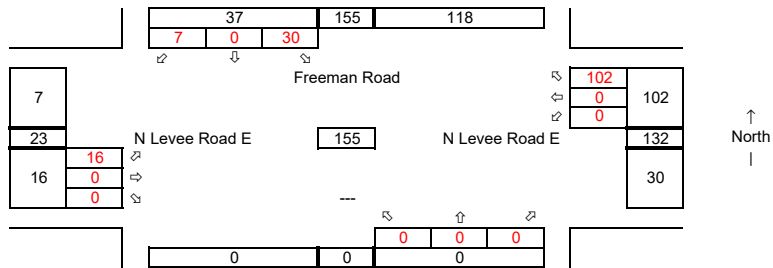


Future without Project
Average Weekday
AM Peak Hour

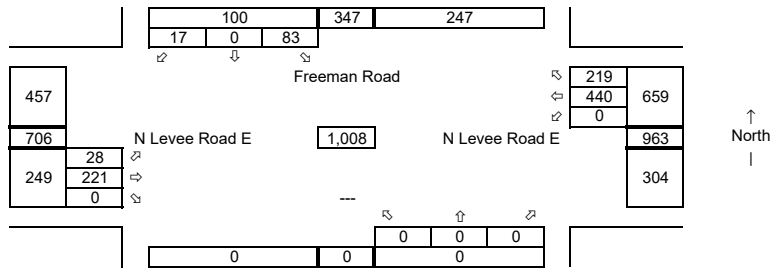
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



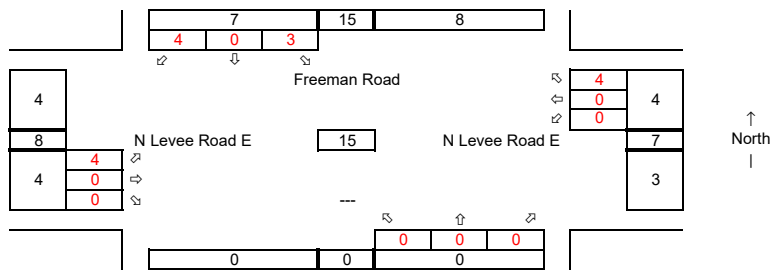
Total Development Trips
Average Weekday
AM Peak Hour



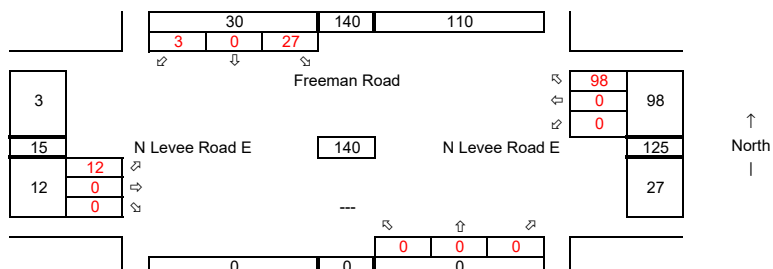
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour



**Freeman Logistics
140 - Manufacturing**

15 Freeman Rd E @ N Levee Rd

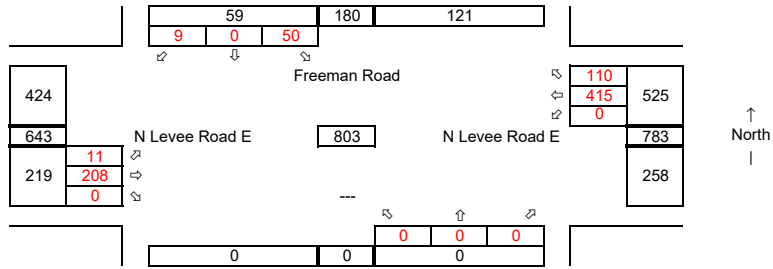
AM Peak-Hour

Synchro ID: 15
 With SR-167 Extension **Existing**
 Average Weekday
 AM Peak Hour

Year: **6/15/2023**

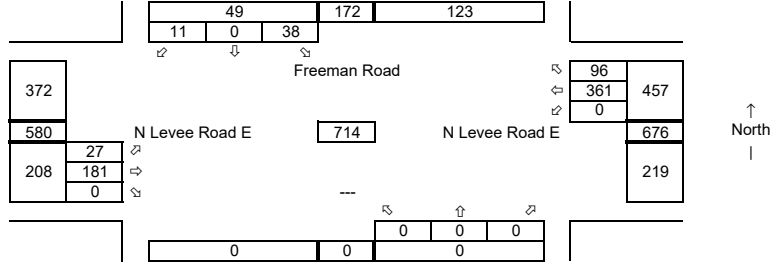
Data Source: **IDAX**

One (1) Westbound U-turn added
 to Southbound Left-turns

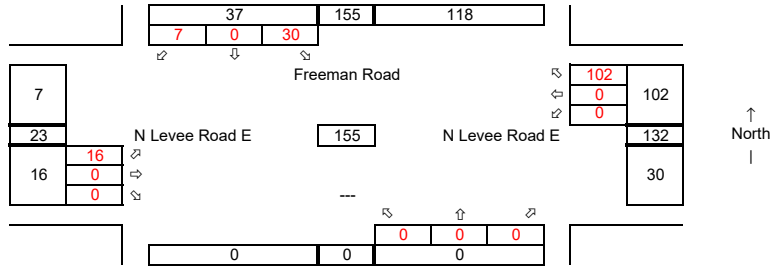


Future without Project
 Average Weekday
 AM Peak Hour

Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609

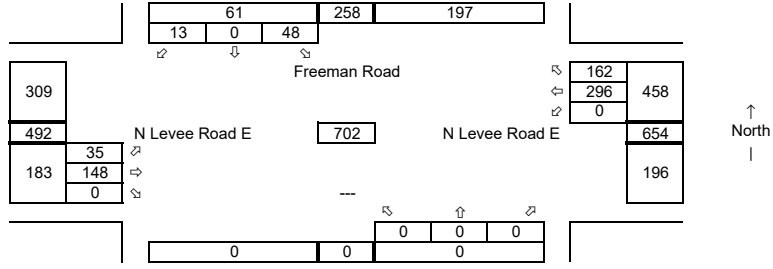


Total Development Trips
 Average Weekday
 AM Peak Hour

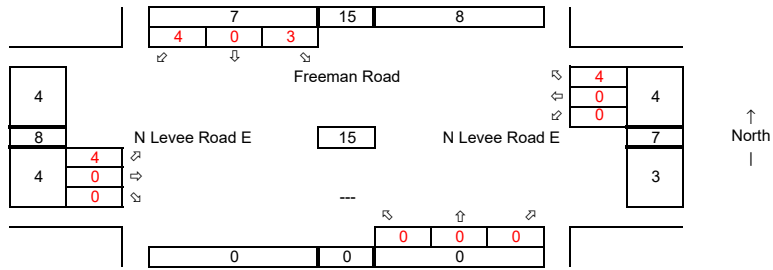


Future with Project
 Average Weekday
 AM Peak Hour

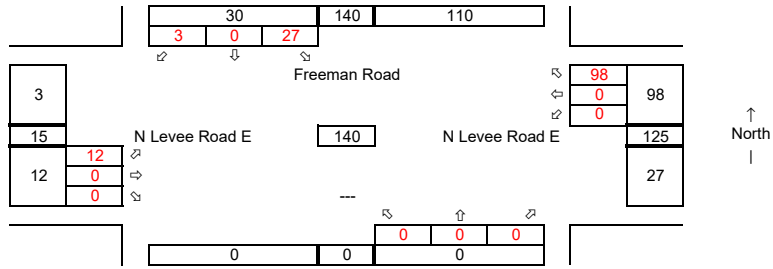
N/S Diversion % 29%
 E/W Diversion % 18%



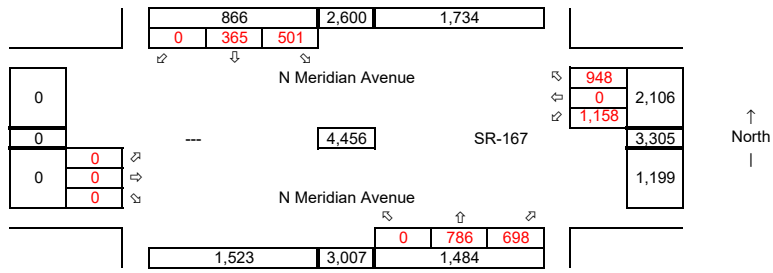
Development Truck Trips
 Average Weekday
 AM Peak Hour



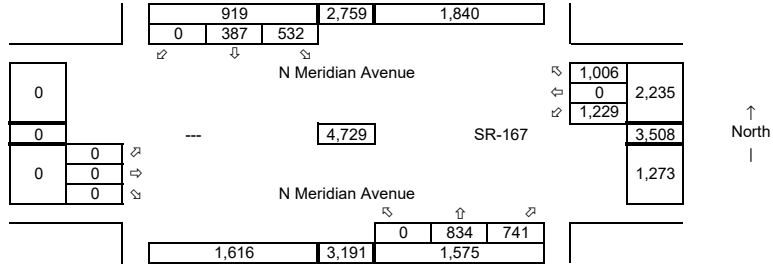
Development Car Trips
 Average Weekday
 AM Peak Hour



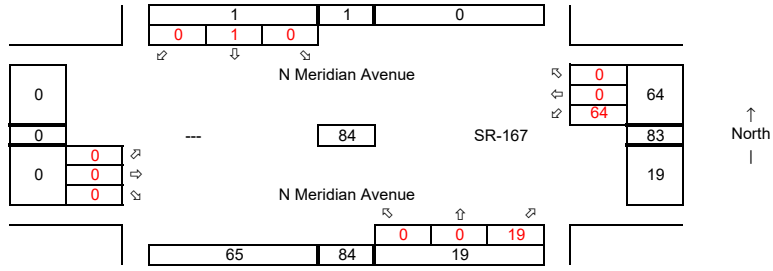
Synchro ID: 16
Existing
Average Weekday
AM Peak Hour
Year: 6/14/2023
Data Source: IDAX



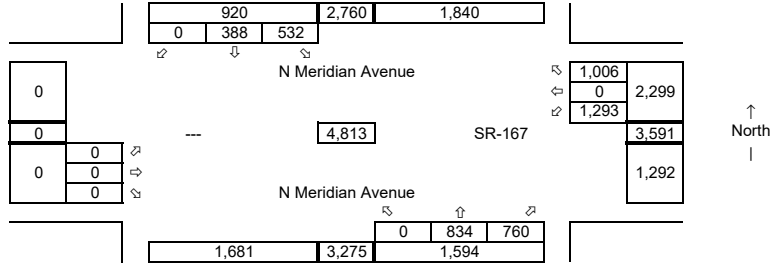
Future without Project
Average Weekday
AM Peak Hour
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



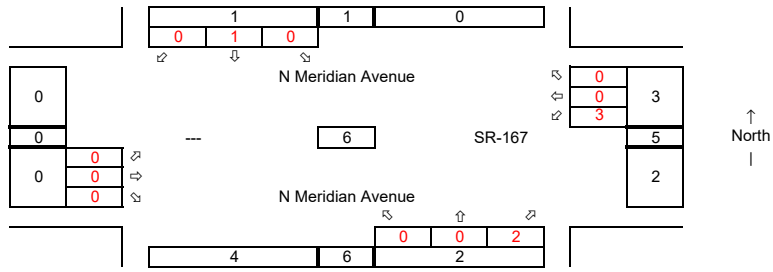
Total Development Trips
Average Weekday
AM Peak Hour



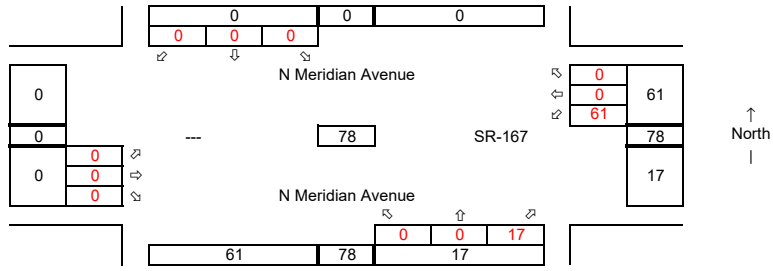
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour

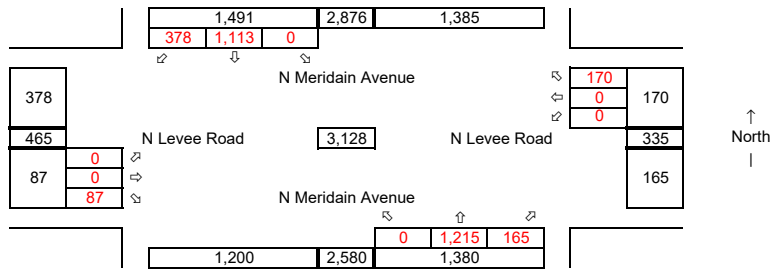


Development Car Trips
Average Weekday
AM Peak Hour



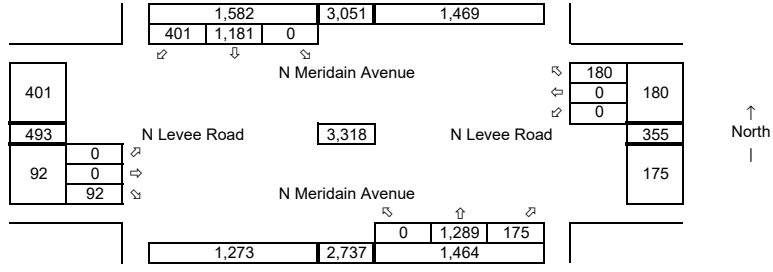
Synchro ID: 17
Existing
 Average Weekday
 AM Peak Hour

 Year: **6/14/2023**
 Data Source: **IDAX**

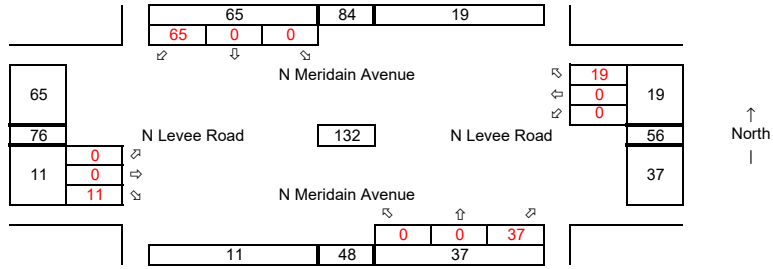


Future without Project
 Average Weekday
 AM Peak Hour

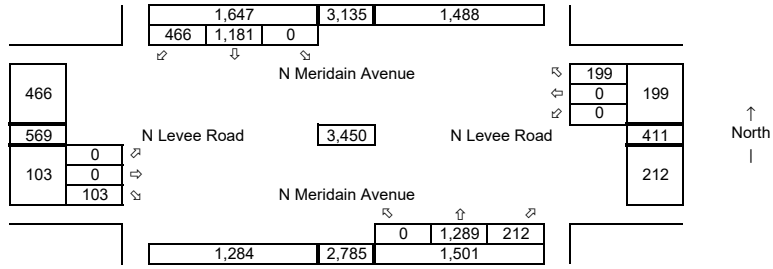
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



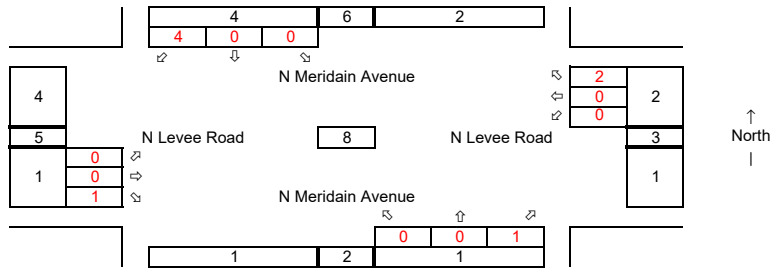
Total Development Trips
 Average Weekday
 AM Peak Hour



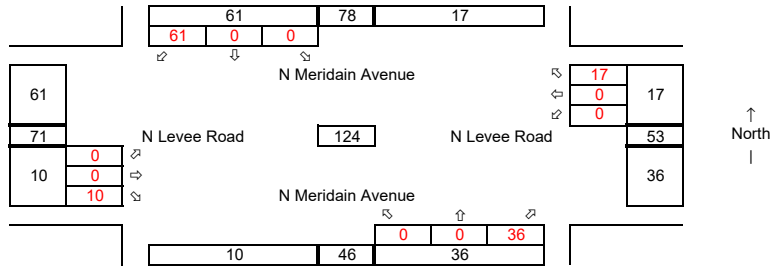
Future with Project
 Average Weekday
 AM Peak Hour



Development Truck Trips
 Average Weekday
 AM Peak Hour



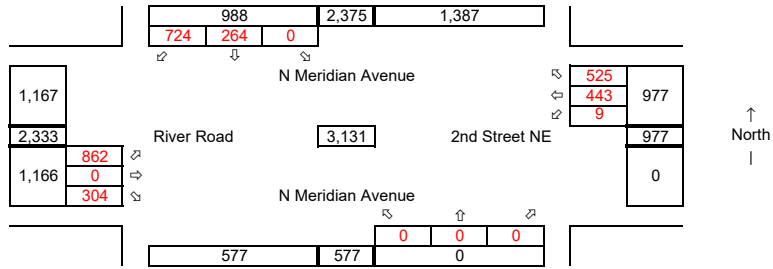
Development Car Trips
 Average Weekday
 AM Peak Hour



Synchro ID: 18
Existing
Average Weekday
AM Peak Hour

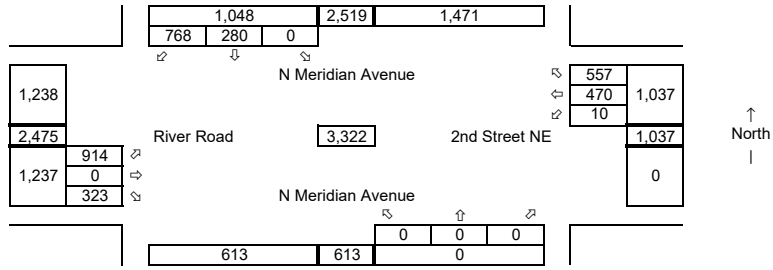
Year: 6/14/2023

Data Source: IDAX

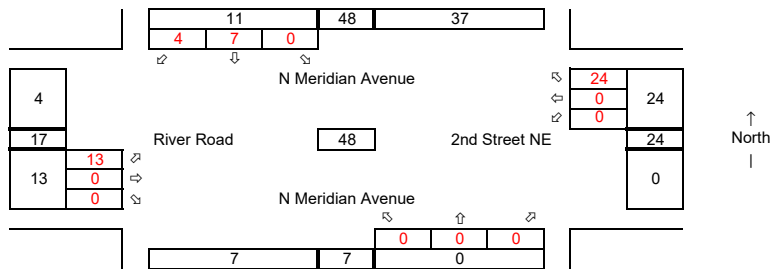


Future without Project
Average Weekday
AM Peak Hour

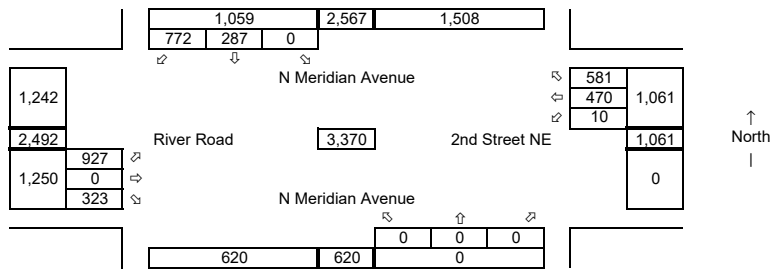
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



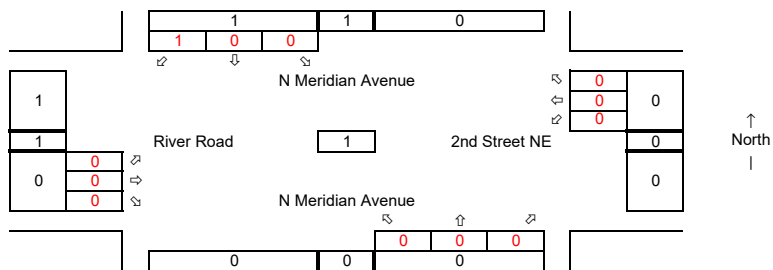
Total Development Trips
Average Weekday
AM Peak Hour



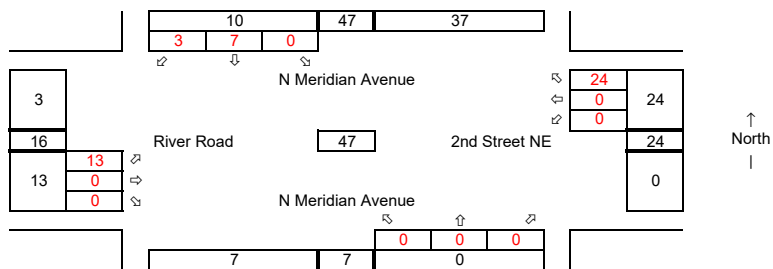
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



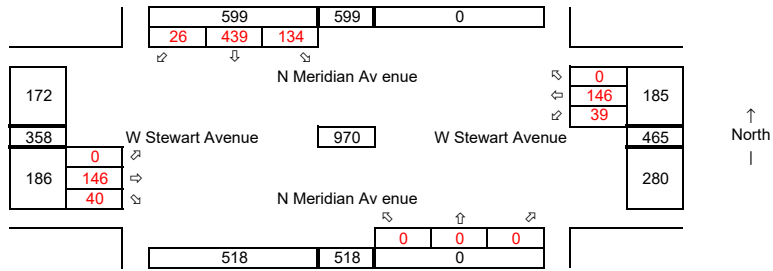
Development Car Trips
Average Weekday
AM Peak Hour



Synchro ID: 19
Existing
Average Weekday
AM Peak Hour

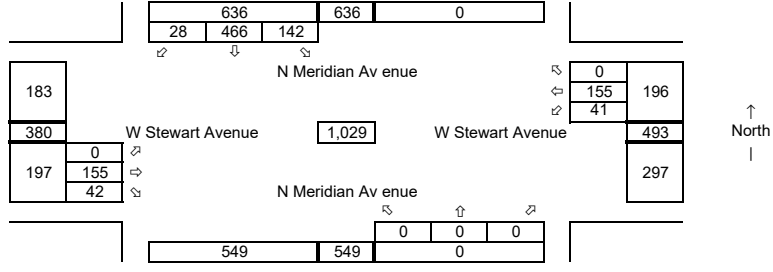
Year: **6/14/2023**

Data Source: **IDAX**

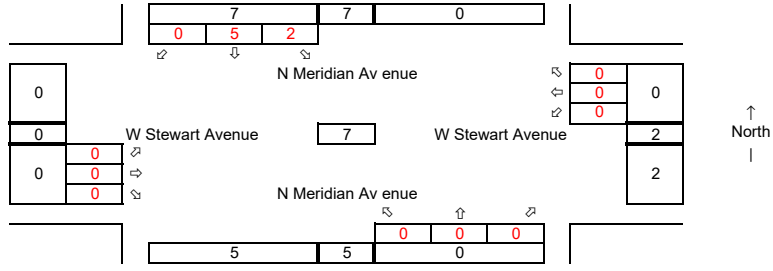


Future without Project
Average Weekday
AM Peak Hour

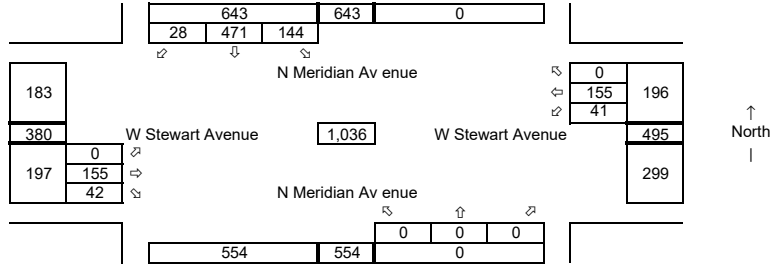
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



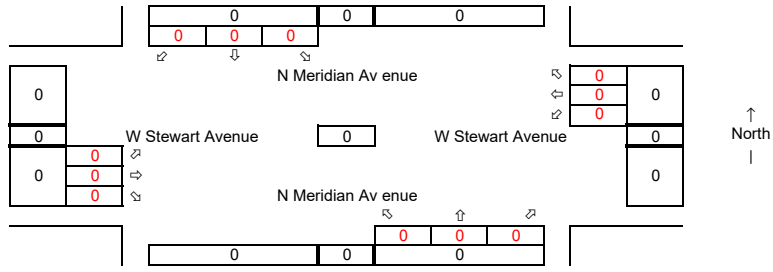
Total Development Trips
Average Weekday
AM Peak Hour



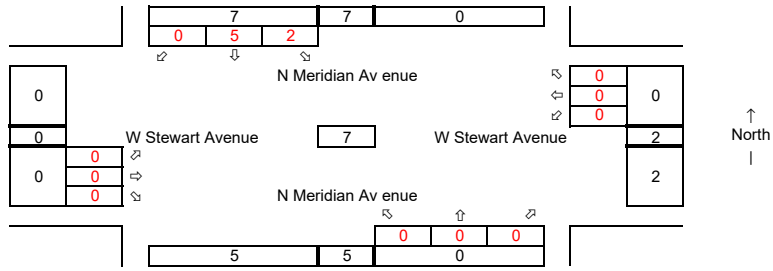
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour



**Freeman Logistics
140 - Manufacturing**

20 2nd St NE @ w Stewart Ave

AM Peak-Hour

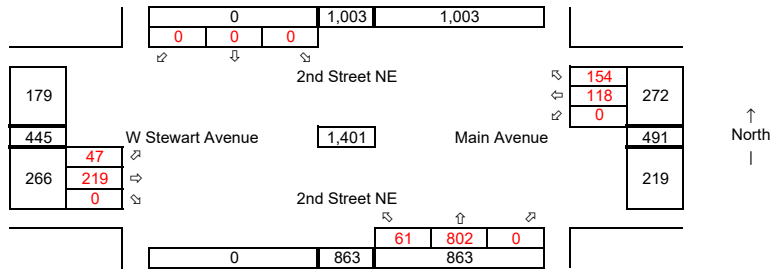
Synchro ID: 20

Existing

Average Weekday
AM Peak Hour

Year: **6/15/2023**

Data Source: **IDAX**



Future without Project

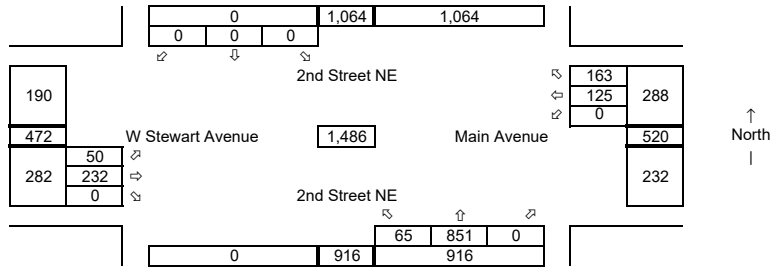
Average Weekday
AM Peak Hour

Year: 2025

Growth Rate = 3.0%

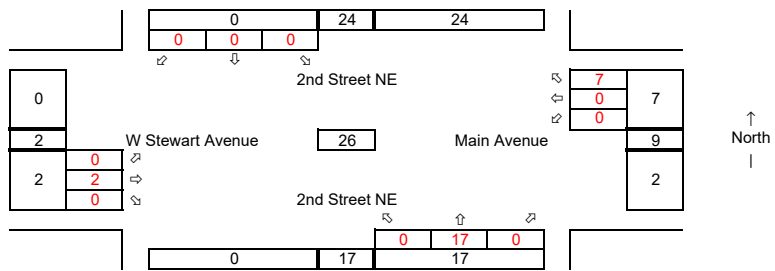
Years of Growth = 2

Total Growth = 1.0609



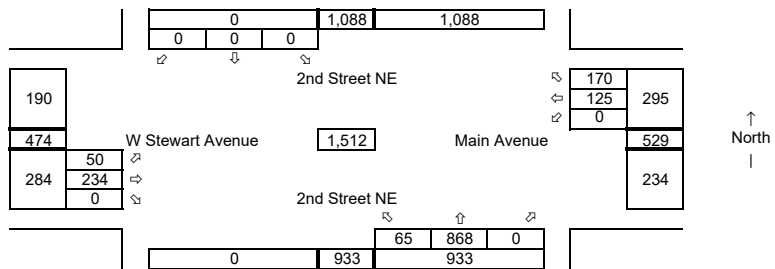
Total Development Trips

Average Weekday
AM Peak Hour



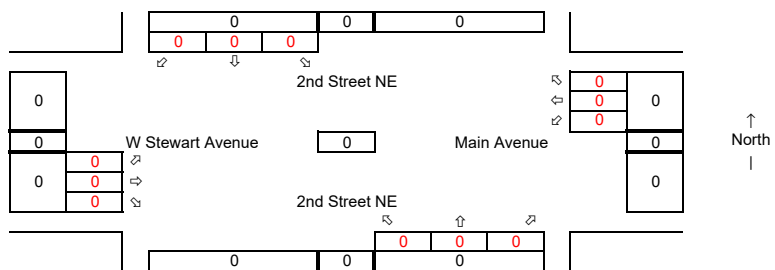
Future with Project

Average Weekday
AM Peak Hour



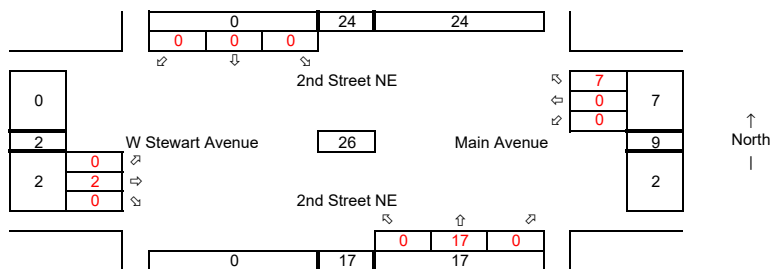
Development Truck Trips

Average Weekday
AM Peak Hour



Development Car Trips

Average Weekday
AM Peak Hour



Freeman Logistics
140 - Manufacturing

21 Freeman Rd E @ Site Access

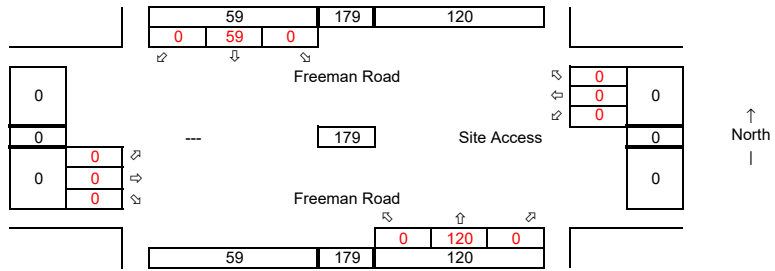
AM Peak-Hour

Synchro ID: 21
Existing
Average Weekday
AM Peak Hour

Year: **6/8/2023**

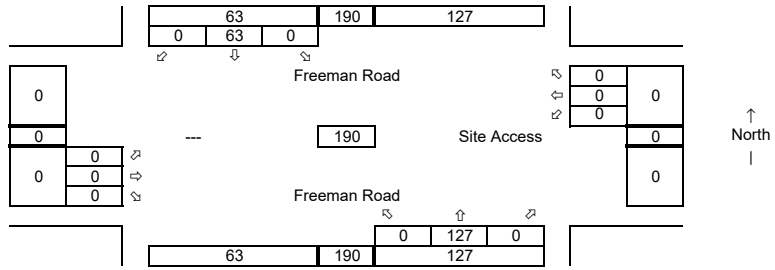
Data Source: **IDAX**

NB/SB volumes extrapolated
from Freeman at 48th Street E

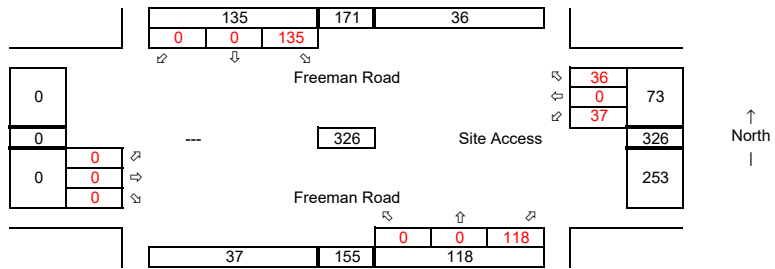


Future without Project
Average Weekday
AM Peak Hour

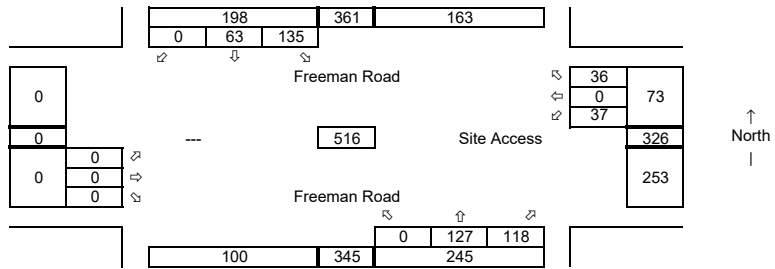
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



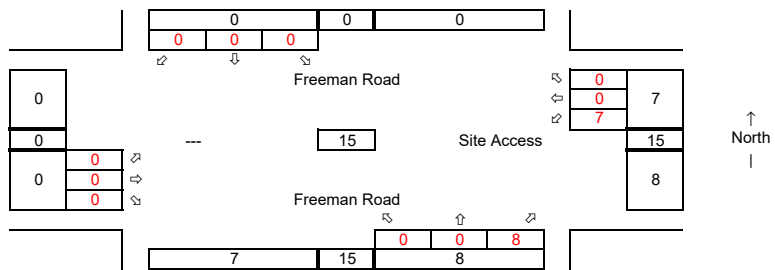
Total Development Trips
Average Weekday
AM Peak Hour



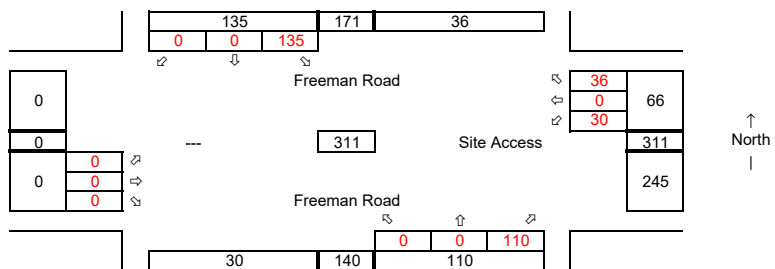
Future with Project
Average Weekday
AM Peak Hour



Development Truck Trips
Average Weekday
AM Peak Hour



Development Car Trips
Average Weekday
AM Peak Hour



Lanes, Volumes, Timings
1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	126	52	69	70	116	28	442	60	71	357	17
Future Volume (vph)	34	126	52	69	70	116	28	442	60	71	357	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.956			0.907			0.982			0.993	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1698	0	1671	1596	0	1347	2646	0	1433	2845	0
Flt Permitted	0.582			0.606			0.504			0.432		
Satd. Flow (perm)	1033	1698	0	1066	1596	0	715	2646	0	651	2845	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23			94			22			7	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		727			778			1175			536	
Travel Time (s)		19.8			15.2			22.9			10.4	
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	7%	7%	7%	8%	8%	8%	34%	34%	34%	26%	26%	26%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	202	0	78	212	0	32	570	0	81	425	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		10.0	19.0		10.0	17.0	
Total Split (s)	25.0	25.0		25.0	25.0		19.0	40.0		19.0	40.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		22.6%	47.6%		22.6%	47.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effct Green (s)	12.5	12.5		12.1	12.1		26.2	22.9		25.5	25.3	
Actuated g/C Ratio	0.28	0.28		0.27	0.27		0.58	0.51		0.57	0.56	
v/c Ratio	0.13	0.41		0.27	0.42		0.06	0.41		0.15	0.26	
Control Delay (s/veh)	18.5	18.3		20.2	13.4		5.3	12.7		6.0	9.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	18.5	18.3		20.2	13.4		5.3	12.7		6.0	9.7	
LOS	B	B		C	B		A	B		A	A	
Approach Delay (s/veh)		18.4			15.3			12.4			9.1	
Approach LOS		B			B			B			A	
Queue Length 50th (ft)	9	43		18	27		3	64		8	26	
Queue Length 95th (ft)	34	113		58	90		14	130		27	90	

Lanes, Volumes, Timings
 1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		647			698			1095			456	
Turn Bay Length (ft)	100			200			100			100		
Base Capacity (vph)	560	932		578	909		692	2053		713	2204	
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	0.07	0.22		0.13	0.23		0.05	0.28		0.11	0.19	























Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	44.9
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.43
Intersection Signal Delay (s/veh):	12.8
Intersection LOS:	B
Intersection Capacity Utilization:	49.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 1: 54th Avenue E & 12th Street E



Lanes, Volumes, Timings
2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	359	255	428	364	122	315	383	362	112	330	57
Future Volume (vph)	82	359	255	428	364	122	315	383	362	112	330	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.962			0.927				0.978
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3167	1417	2993	2968	0	2918	2789	0	1357	2655	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3167	1417	2993	2968	0	2918	2789	0	1357	2655	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			133		32			164				13
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1085			1070			320				1175
Travel Time (s)		21.1			20.8			6.2				22.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	14%	14%	17%	17%	17%	20%	20%	20%	33%	33%	33%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	374	266	446	506	0	328	776	0	117	403	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.0	40.0	40.0	20.0	42.0		40.0	40.0		40.0	40.0	
Total Split (%)	12.9%	28.6%	28.6%	14.3%	30.0%		28.6%	28.6%		28.6%	28.6%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	11.6	34.0	77.9	15.5	37.9		43.9	43.9		28.0	28.0	
Actuated g/C Ratio	0.08	0.24	0.56	0.11	0.27		0.31	0.31		0.20	0.20	
v/c Ratio	0.64	0.48	0.31	1.34	0.61		0.35	0.78		0.43	0.74	
Control Delay (s/veh)	84.5	48.0	5.6	220.8	45.8		42.4	43.9		52.8	59.1	
Queue Delay	0.0	0.0	0.0	1.7	0.0		1.0	37.9		0.0	0.0	
Total Delay (s/veh)	84.5	48.0	5.7	222.6	45.8		43.4	81.8		52.8	59.1	
LOS	F	D	A	F	D		D	F		D	E	
Approach Delay (s/veh)		36.8			128.6			70.5			57.7	
Approach LOS		D			F			E			E	
Queue Length 50th (ft)	76	154	32	~273	202		126	289		94	177	
Queue Length 95th (ft)	135	207	77	#384	268		189	#425		147	222	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

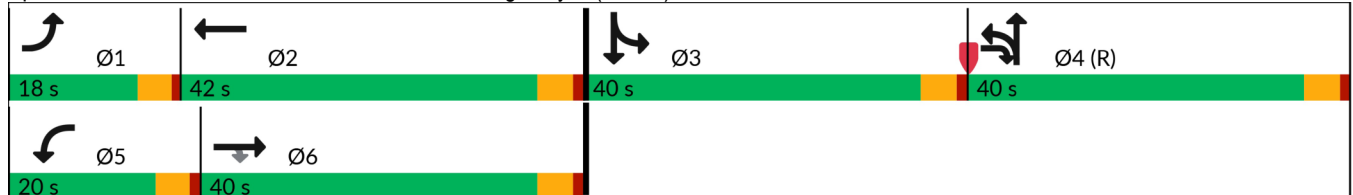
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	152	798	847	331	839		914	986		343	681	
Starvation Cap Reductn	0	0	0	0	0		352	260		0	0	
Spillback Cap Reductn	0	0	83	46	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.56	0.47	0.35	1.56	0.60		0.58	1.07		0.34	0.59	

Intersection Summary























Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 14 (10%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.35
 Intersection Signal Delay (s/veh): 77.8 Intersection LOS: E
 Intersection Capacity Utilization 66.1% ICU Level of Service C
 Analysis Period (min) 15
 ~ 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.

Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings
 2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	359	255	428	364	122	315	383	362	112	330	57
Future Volume (vph)	82	359	255	428	364	122	315	383	362	112	330	57
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.962			0.927				0.978
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1583	3167	1417	2993	2968	0	2918	2789	0	1357	2655	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1583	3167	1417	2993	2968	0	2918	2789	0	1357	2655	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			129		33			167				14
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1085			1070			320				1175
Travel Time (s)		21.1			20.8			6.2				22.9
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	14%	14%	14%	17%	17%	17%	20%	20%	20%	33%	33%	33%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	85	374	266	446	506	0	328	776	0	117	403	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	19.0	38.7	36.6	21.0	40.7		36.6	36.6		38.7	38.7	
Total Split (%)	14.1%	28.7%	27.1%	15.6%	30.1%		27.1%	27.1%		28.7%	28.7%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	11.9	34.0	72.9	16.5	38.6		38.9	38.9		27.0	27.0	
Actuated g/C Ratio	0.09	0.25	0.54	0.12	0.29		0.29	0.29		0.20	0.20	
v/c Ratio	0.61	0.46	0.32	1.22	0.58		0.39	0.84		0.43	0.74	
Control Delay (s/veh)	77.2	45.1	5.9	170.5	42.1		41.4	45.2		51.1	57.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.8	36.9		0.0	0.0	
Total Delay (s/veh)	77.2	45.1	5.9	170.5	42.1		42.3	82.2		51.1	57.1	
LOS	E	D	A	F	D		D	F		D	E	
Approach Delay (s/veh)		34.5			102.3			70.4				55.8
Approach LOS		C			F			E				E
Queue Length 50th (ft)	73	147	32	~246	188		119	272		91	170	
Queue Length 95th (ft)	129	198	76	#356	255		177	#435		144	216	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

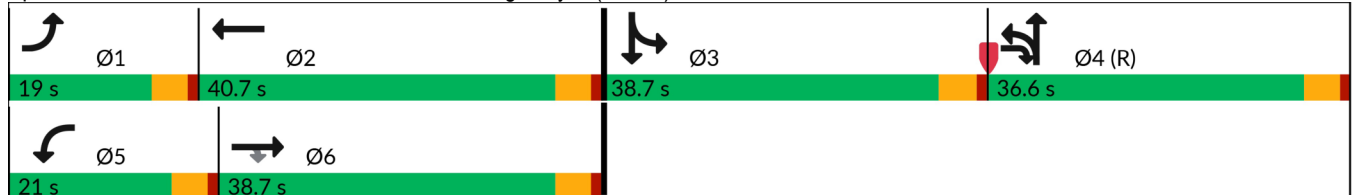
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	170	797	824	365	872		839	921		341	679	
Starvation Cap Reductn	0	0	0	0	0		272	195		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.50	0.47	0.32	1.22	0.58		0.58	1.07		0.34	0.59	

Intersection Summary

Area Type: Other
 Cycle Length: 135
 Actuated Cycle Length: 135
 Offset: 0 (0%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.22
 Intersection Signal Delay (s/veh): 69.4 Intersection LOS: E
 Intersection Capacity Utilization 66.1% ICU Level of Service C
 Analysis Period (min) 15
 ~ 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.



















Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	265	0	327	0	725	356	0	483	463
Future Volume (vph)	0	0	0	265	0	327	0	725	356	0	483	463
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		50	0		0
Storage Lanes	0		0	1		1	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850		0.987	0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1433	0	1282	0	3282	1468	0	1510	1300
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1433	0	1282	0	3282	1468	0	1510	1300
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						225			195		7	438
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1083			1080			827			320	
Travel Time (s)		21.1			21.0			16.1			6.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	26%	26%	26%	10%	10%	10%	18%	18%	18%
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	0	0	279	0	344	0	763	375	0	557	438
Turn Type				Prot		custom		NA	Perm		NA	custom
Protected Phases				3		3		6			2	2
Permitted Phases									6			Free
Detector Phase				3		3		6	6		2	2
Switch Phase												
Minimum Initial (s)				5.0				10.0	10.0		10.0	
Minimum Split (s)				9.5				14.7	14.7		14.5	
Total Split (s)				35.0				93.0	93.0		93.0	
Total Split (%)				25.0%				66.4%	66.4%		66.4%	
Yellow Time (s)				3.5				3.7	3.7		3.5	
All-Red Time (s)				1.0				1.0	1.0		1.0	
Lost Time Adjust (s)				0.0				0.0	0.0		0.0	
Total Lost Time (s)				4.5				4.7	4.7		4.5	
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Recall Mode				None				C-Max	C-Max		C-Max	
Act Effct Green (s)				29.3		40.5		90.3	90.3		90.5	140.0
Actuated g/C Ratio				0.21		0.29		0.65	0.65		0.65	1.00
v/c Ratio				0.93		0.64		0.36	0.36		0.56	0.33
Control Delay (s/veh)				90.8		20.3		12.3	6.4		14.0	1.8
Queue Delay				0.0		1.0		0.3	0.0		6.4	0.0
Total Delay (s/veh)				90.8		21.3		12.6	6.4		20.5	1.8
LOS				F		C		B	A		C	A
Approach Delay (s/veh)					52.5			10.6			12.3	
Approach LOS					D			B			B	
Queue Length 50th (ft)				249		91		164	65		317	46
Queue Length 95th (ft)				#416		205		205	124		m343	m55

Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	12.0
Total Split (%)	9%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

Lanes, Volumes, Timings

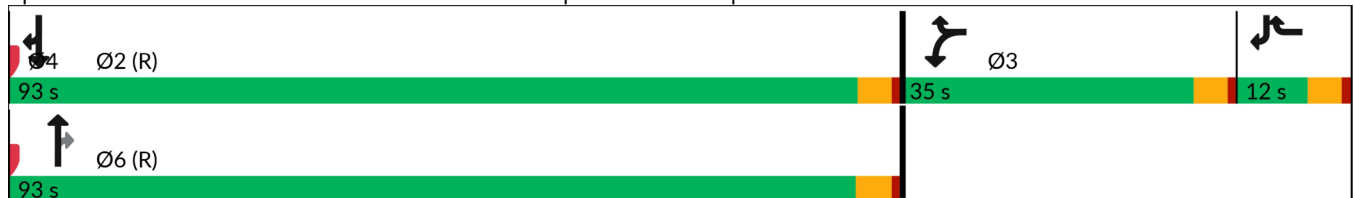
3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1003			1000			747			240	
Turn Bay Length (ft)									50			
Base Capacity (vph)				312		536		2117	1016		979	1300
Starvation Cap Reductn				0		0		0	0		364	0
Spillback Cap Reductn				0		57		717	0		0	0
Storage Cap Reductn				0		0		0	0		0	0
Reduced v/c Ratio				0.89		0.72		0.55	0.37		0.91	0.34

Intersection Summary	
Area Type:	Other
Cycle Length:	140
Actuated Cycle Length:	140
Offset:	75 (54%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.93
Intersection Signal Delay (s/veh):	20.7
Intersection LOS:	C
Intersection Capacity Utilization	56.6%
ICU Level of Service	B
Analysis Period (min)	15
#	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.

Splits and Phases: 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp



Lanes, Volumes, Timings























3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	215	76	35	105	371	135	401	37	426	390	283
Future Volume (vph)	292	215	76	35	105	371	135	401	37	426	390	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.971					0.850		0.987			0.942
Flt Protected	0.950	0.987			0.988		0.950			0.950	0.996	
Satd. Flow (prot)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2755	0
Flt Permitted	0.950	0.987			0.988		0.950			0.950	0.996	
Satd. Flow (perm)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2755	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18				94		6				95
Link Speed (mph)		35			35			30				30
Link Distance (ft)		738			676			783				335
Travel Time (s)		14.4			13.2			17.8				7.6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	8%	8%	8%	6%	6%	6%
Shared Lane Traffic (%)	34%									13%		
Lane Group Flow (vph)	214	433	0	0	156	412	150	487	0	412	808	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	34.0	34.0		24.0	24.0	53.0	29.0	29.0		53.0	53.0	
Total Split (%)	24.3%	24.3%		17.1%	17.1%	37.9%	20.7%	20.7%		37.9%	37.9%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	26.1	26.1			17.4	76.0	24.4	24.4		54.1	54.1	
Actuated g/C Ratio	0.19	0.19			0.12	0.54	0.17	0.17		0.39	0.39	
v/c Ratio	0.86	0.84			0.83	0.55	0.57	0.93		0.76	0.71	
Control Delay (s/veh)	86.8	68.4			93.2	19.6	62.4	81.5		49.8	37.6	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	86.8	68.4			93.2	19.6	62.4	81.5		49.8	37.6	
LOS	F	E			F	B	E	F		D	D	
Approach Delay (s/veh)		74.5			39.9			77.1			41.8	
Approach LOS		E			D			E			D	
Queue Length 50th (ft)	205	198			139	190	127	230		376	321	
Queue Length 95th (ft)	#338	264			#244	300	203	#338		#584	415	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	278	575			210	747	267	532		539	1123	
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	0.77	0.75			0.74	0.55	0.56	0.92		0.76	0.72	

Intersection Summary

Area Type: CBD

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 0 (0%), Referenced to phase 6:, Start of Green

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay (s/veh): 55.6 Intersection LOS: E

Intersection Capacity Utilization 73.3% ICU Level of Service D

Analysis Period (min) 15























95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	215	76	35	105	371	135	401	37	426	390	283
Future Volume (vph)	292	215	76	35	105	371	135	401	37	426	390	283
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.971				0.850		0.987			0.942	
Flt Protected	0.950	0.987			0.988		0.950			0.950	0.996	
Satd. Flow (prot)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2755	0
Flt Permitted	0.950	0.987			0.988		0.950			0.950	0.996	
Satd. Flow (perm)	1320	2663	0	0	1508	1298	1504	2969	0	1395	2755	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		23				76		8			118	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	8%	8%	8%	6%	6%	6%
Shared Lane Traffic (%)	34%									13%		
Lane Group Flow (vph)	214	433	0	0	156	412	150	487	0	412	808	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	24.5	24.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	24.5	24.5		22.5	22.5	35.5	22.5	22.5		35.5	35.5	
Total Split (%)	23.3%	23.3%		21.4%	21.4%	33.8%	21.4%	21.4%		33.8%	33.8%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	19.0	19.0			14.4	53.2	19.3	19.3		34.3	34.3	
Actuated g/C Ratio	0.18	0.18			0.14	0.51	0.18	0.18		0.33	0.33	
v/c Ratio	0.89	0.86			0.75	0.59	0.54	0.88		0.90	0.82	
Control Delay (s/veh)	80.0	57.9			65.5	19.0	47.3	60.2		60.8	37.1	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	80.0	57.9			65.5	19.0	47.3	60.2		60.8	37.1	
LOS	F	E			E	B	D	E		E	D	
Approach Delay (s/veh)		65.2			31.8			57.2			45.2	
Approach LOS		E			C			E			D	
Queue Length 50th (ft)	153	147			101	161	90	163		~303	249	
Queue Length 95th (ft)	#300	#230			167	252	162	#274		#526	#373	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	251	525			258	695	276	552		455	979	
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	0.85	0.82			0.60	0.59	0.54	0.88		0.91	0.83	

Intersection Summary	
Area Type:	CBD
Cycle Length:	105
Actuated Cycle Length:	105
Offset:	0 (0%), Referenced to phase 6:, Start of Green
Natural Cycle:	105
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.91
Intersection Signal Delay (s/veh):	49.4
Intersection LOS:	D
Intersection Capacity Utilization:	73.3%
ICU Level of Service:	D
Analysis Period (min):	15
~ 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.	





















Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	46	0	98	0	461	55	89	495	1
Future Volume (vph)	0	0	0	46	0	98	0	461	55	89	495	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	210		0	100		0
Storage Lanes	0		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.850			0.984				0.850
Flt Protected				0.950						0.950		
Satd. Flow (prot)	0	1900	0	1736	1553	0	1759	1731	0	1752	1845	1568
Flt Permitted				0.714						0.269		
Satd. Flow (perm)	0	1900	0	1304	1553	0	1759	1731	0	496	1845	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					532			8				128
Link Speed (mph)		25			25			30				30
Link Distance (ft)		362			838			563				783
Travel Time (s)		9.9			22.9			12.8				17.8
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	4%	4%	4%	8%	8%	8%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	54	115	0	0	607	0	105	582	1
Turn Type				pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	6.0		4.0	6.0	6.0
Minimum Split (s)	8.0	24.5		8.0	24.0		8.0	14.5		8.0	14.5	14.5
Total Split (s)	14.0	16.5		14.0	16.0		14.0	34.5		16.0	34.5	34.5
Total Split (%)	17.3%	20.4%		17.3%	19.8%		17.3%	42.6%		19.8%	42.6%	42.6%
Yellow Time (s)	3.0	3.5		3.0	3.0		3.0	3.5		3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5		4.0	4.0		4.0	4.5		4.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effect Green (s)				7.2	7.2			34.6		43.6	44.1	44.1
Actuated g/C Ratio				0.13	0.13			0.61		0.77	0.78	0.78
v/c Ratio				0.24	0.17			0.57		0.18	0.40	0.00
Control Delay (s/veh)				25.8	0.5			12.8		3.1	4.0	0.0
Queue Delay				0.0	0.0			0.0		0.0	0.0	0.0
Total Delay (s/veh)				25.8	0.5			12.8		3.1	4.0	0.0
LOS				C	A			B		A	A	A
Approach Delay (s/veh)					8.7			12.9			3.9	
Approach LOS					A			B			A	
Queue Length 50th (ft)				17	0			136		7	57	0
Queue Length 95th (ft)				43	0			250		18	105	0

Lanes, Volumes, Timings

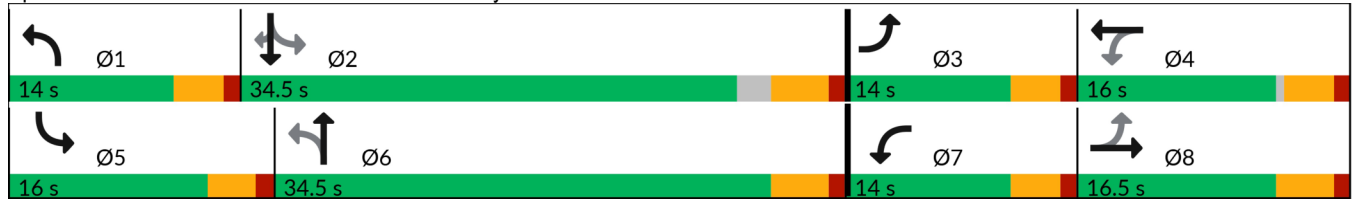
5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	282			758			483			703		
Turn Bay Length (ft)				100						100		
Base Capacity (vph)				308			758			1061		
Starvation Cap Reductn				0			0			0		
Spillback Cap Reductn				0			0			0		
Storage Cap Reductn				0			0			0		
Reduced v/c Ratio				0.18			0.15			0.57		

Intersection Summary	
Area Type:	Other
Cycle Length:	81
Actuated Cycle Length:	56.6
Natural Cycle:	75
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.57
Intersection Signal Delay (s/veh):	8.2
Intersection LOS:	A
Intersection Capacity Utilization:	49.0%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 5: 54th Avenue E & Driveway/23rd Street E



Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	290	130	112	375	5	147	1	87	1	1	0
Future Volume (vph)	3	290	130	112	375	5	147	1	87	1	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.954			0.998			0.950				
Flt Protected	0.950			0.950				0.970				0.976
Satd. Flow (prot)	1656	1663	0	1641	1724	0	0	1700	0	0	1854	0
Flt Permitted	0.368			0.318				0.809			0.882	
Satd. Flow (perm)	641	1663	0	549	1724	0	0	1418	0	0	1676	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			2			55				
Link Speed (mph)		30			30			25				25
Link Distance (ft)		563			491			578				252
Travel Time (s)		12.8			11.2			15.8				6.9
Peak Hour Factor	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72
Heavy Vehicles (%)	9%	9%	9%	10%	10%	10%	3%	3%	3%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	584	0	156	528	0	0	326	0	0	2	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4				8
Permitted Phases	6			2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.5	30.5		22.5	22.5		32.0	32.0		32.0	32.0	
Total Split (s)	34.5	34.5		34.5	34.5		19.0	19.0		19.0	19.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effct Green (s)	19.7	19.7		19.7	19.7			12.6				12.6
Actuated g/C Ratio	0.48	0.48		0.48	0.48			0.31				0.31
v/c Ratio	0.01	0.70		0.59	0.64			0.69				0.00
Control Delay (s/veh)	5.6	12.7		18.9	12.1			22.6				13.0
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay (s/veh)	5.6	12.7		18.9	12.1			22.6				13.0
LOS	A	B		B	B			C				B
Approach Delay (s/veh)		12.7			13.7			22.6				13.0
Approach LOS		B			B			C				B
Queue Length 50th (ft)	0	87		25	88			52				0
Queue Length 95th (ft)	3	113		50	112			110				3

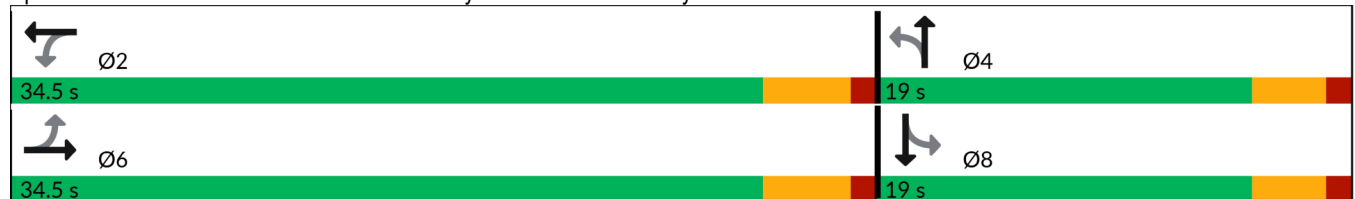
Lanes, Volumes, Timings
 6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		483			411			498			172	
Turn Bay Length (ft)	200			125								
Base Capacity (vph)	479	1260		410	1289			581			647	
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	0.01	0.46		0.38	0.41			0.56			0.00	

Intersection Summary	
Area Type:	Other
Cycle Length:	53.5
Actuated Cycle Length:	41.3
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.70
Intersection Signal Delay (s/veh):	15.2
Intersection LOS:	B
Intersection Capacity Utilization	58.8%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 6: 54th Avenue E & Valley Avenue E & Driveway



Lanes, Volumes, Timings

7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	17	0	0	0	0	58
Future Volume (vph)	17	0	0	0	0	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	290			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.850	
Flt Protected	0.950					
Satd. Flow (prot)	1641	0	1545	2935	2692	0
Flt Permitted	0.950					
Satd. Flow (perm)	1641	0	1545	2935	2692	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1091	
Link Speed (mph)	30			30	30	
Link Distance (ft)	592			513	541	
Travel Time (s)	13.5			11.7	12.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	23%	23%	14%	14%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	0	0	0	60	0
Turn Type	Prot		Prot		NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	5.0		6.0	10.0	10.0	
Minimum Split (s)	40.0		10.5	23.7	33.7	
Total Split (s)	40.0		20.0	66.0	66.0	
Total Split (%)	31.7%		15.9%	52.4%	52.4%	
Yellow Time (s)	3.5		3.5	4.7	4.7	
All-Red Time (s)	1.0		1.0	1.5	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	6.2	6.2	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	Max		None	Max	None	
Act Effct Green (s)	35.5				59.8	
Actuated g/C Ratio	0.33				0.56	
v/c Ratio	0.03				0.03	
Control Delay (s/veh)	24.0				0.0	
Queue Delay	0.0				0.0	
Total Delay (s/veh)	24.0				0.0	
LOS	C				A	
Approach Delay (s/veh)	24.1					
Approach LOS	C					
Queue Length 50th (ft)	8				0	
Queue Length 95th (ft)	25				0	

Lanes, Volumes, Timings

7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

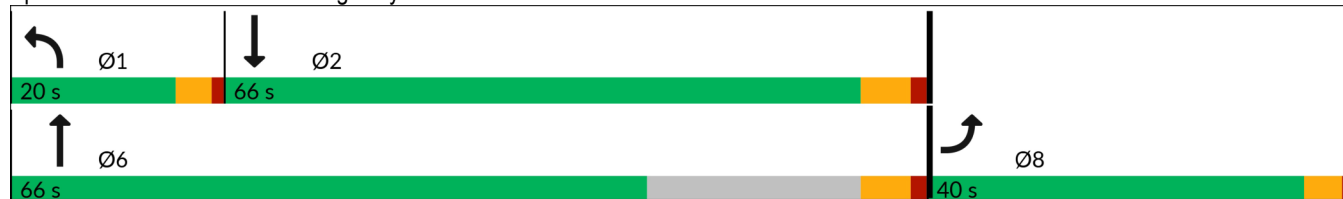


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	512			433	461	
Turn Bay Length (ft)						
Base Capacity (vph)	549				1994	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.03				0.03	

Intersection Summary

























Area Type:	Other
Cycle Length:	126
Actuated Cycle Length:	106
Natural Cycle:	85
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.03
Intersection Signal Delay (s/veh):	5.6
Intersection LOS:	A
Intersection Capacity Utilization	21.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 7: Pacific Highway E & 70th Avenue E



Lanes, Volumes, Timings
8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	369	86	107	460	286	92	737	79	128	430	72
Future Volume (vph)	95	369	86	107	460	286	92	737	79	128	430	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	400		400	250		0	225		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.986			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1671	1759	1495	1656	1743	1482	1467	2894	0	2870	2897	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1671	1759	1495	1656	1743	1482	1467	2894	0	2870	2897	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			83		10			16	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1295			1073			2009			522	
Travel Time (s)		25.2			20.9			39.1			10.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	8%	8%	8%	9%	9%	9%	23%	23%	23%	22%	22%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	380	89	110	474	295	95	841	0	132	517	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2						
Detector Phase	1	6	6	5	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	14.5	22.5	14.5	14.5	24.5		14.5	24.5	
Total Split (s)	14.5	44.5	44.5	14.5	44.5	19.5	19.5	44.4		19.5	44.5	
Total Split (%)	11.8%	36.2%	36.2%	11.8%	36.2%	15.9%	15.9%	36.1%		15.9%	36.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	None	None	None		None	None	
Act Effct Green (s)	9.7	40.1	40.1	10.0	40.4	56.1	12.4	37.8		11.2	36.6	
Actuated g/C Ratio	0.08	0.34	0.34	0.09	0.35	0.48	0.11	0.32		0.10	0.31	
v/c Ratio	0.71	0.63	0.15	0.78	0.79	0.39	0.61	0.89		0.48	0.56	
Control Delay (s/veh)	81.0	38.9	6.1	88.8	46.5	15.7	67.8	50.6		56.6	35.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	81.0	38.9	6.1	88.8	46.5	15.7	67.8	50.6		56.6	35.4	
LOS	F	D	A	F	D	B	E	D		E	D	
Approach Delay (s/veh)		41.1			41.5			52.4			39.8	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	75	247	0	85	331	101	70	313		50	167	
Queue Length 95th (ft)	#163	371	35	#191	#523	171	130	#444		82	228	

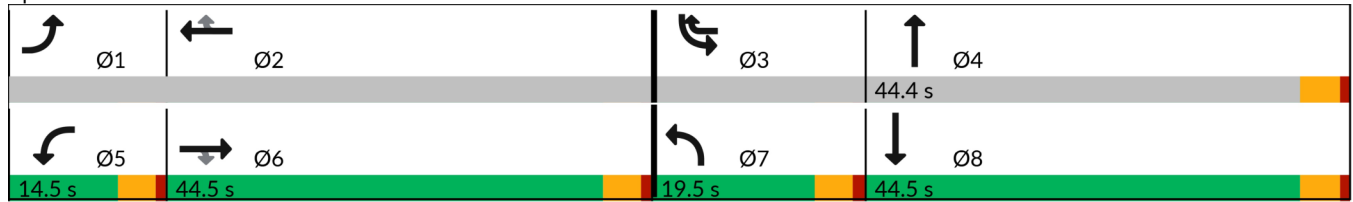
Lanes, Volumes, Timings
 8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1215			993			1929			442	
Turn Bay Length (ft)	250		200	400		400	250			225		
Base Capacity (vph)	143	602	573	141	600	798	188	997		368	1002	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.69	0.63	0.16	0.78	0.79	0.37	0.51	0.84		0.36	0.52	

























Intersection Summary	
Area Type:	Other
Cycle Length:	123
Actuated Cycle Length:	117.1
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay (s/veh):	44.4
Intersection LOS:	D
Intersection Capacity Utilization:	72.4%
ICU Level of Service:	C
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: 70th Avenue E & 20th Street E



Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	76	41	67	21	60	83	804	64	71	474	18
Future Volume (vph)	39	76	41	67	21	60	83	804	64	71	474	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	200		0	225		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850				0.850		0.989			0.995
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1543	1624	1380	1492	1570	1335	1480	2926	0	1530	3044	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1543	1624	1380	1492	1570	1335	1480	2926	0	1530	3044	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53			67		8				4
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1057			880			2032				2009
Travel Time (s)		20.6			17.1			39.6				39.1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	17%	17%	17%	21%	21%	21%	22%	22%	22%	18%	18%	18%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	84	46	74	23	67	92	964	0	79	547	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4	4 5	3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.5	24.5		10.5	24.5		10.5	22.5		10.5	22.5	
Total Split (s)	20.0	24.5		20.0	24.5		20.0	60.0		20.0	60.0	
Total Split (%)	16.1%	19.7%		16.1%	19.7%		16.1%	48.2%		16.1%	48.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effct Green (s)	8.6	10.9	24.0	10.6	15.0	27.4	11.5	63.1		10.7	62.4	
Actuated g/C Ratio	0.08	0.11	0.23	0.10	0.14	0.26	0.11	0.61		0.10	0.60	
v/c Ratio	0.33	0.49	0.12	0.48	0.10	0.16	0.56	0.54		0.50	0.29	
Control Delay (s/veh)	56.2	57.2	7.8	58.4	43.4	8.0	60.4	19.3		58.5	15.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	56.2	57.2	7.8	58.4	43.4	8.0	60.4	19.3		58.5	15.8	
LOS	E	E	A	E	D	A	E	B		E	B	
Approach Delay (s/veh)		43.8			35.8			23.0			21.3	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	28	56	0	49	14	0	61	232		52	110	
Queue Length 95th (ft)	70	112	24	103	41	33	124	388		109	188	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	977			800			1952			1929		
Turn Bay Length (ft)	150		150	150		150	200			225		
Base Capacity (vph)	237	322	431	229	319	473	227	1785		235	1837	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.18	0.26	0.11	0.32	0.07	0.14	0.41	0.54		0.34	0.30	

Intersection Summary	
Area Type:	Other
Cycle Length:	124.5
Actuated Cycle Length:	103.5
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.56
Intersection Signal Delay (s/veh):	25.3
Intersection LOS:	C
Intersection Capacity Utilization	50.9%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 9: 70th Avenue E & 26th Street E



Lanes, Volumes, Timings
10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	322	109	29	265	421	163	490	42	257	171	95
Future Volume (vph)	53	322	109	29	265	421	163	490	42	257	171	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	200		0	200		130	350		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.946	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	1776	1509	1492	1570	1335	1641	3282	1468	2870	2799	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1687	1776	1509	1492	1570	1335	1641	3282	1468	2870	2799	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			439			164		80	
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		831			1056			750			2032	
Travel Time (s)		18.9			24.0			14.6			39.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	7%	7%	7%	21%	21%	21%	10%	10%	10%	22%	22%	22%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	55	335	114	30	276	439	170	510	44	268	277	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0	8.0	6.0	8.0	8.0	6.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	31.0	31.0	10.5	31.0	31.0	10.5	31.0	31.0	13.0	31.0	
Total Split (s)	30.0	40.0	40.0	20.0	40.0	40.0	20.0	30.0	30.0	40.0	40.0	
Total Split (%)	21.4%	28.6%	28.6%	14.3%	28.6%	28.6%	14.3%	21.4%	21.4%	28.6%	28.6%	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	11.4	67.7	67.7	8.8	62.6	62.6	15.5	29.2	29.2	19.3	33.5	
Actuated g/C Ratio	0.08	0.48	0.48	0.06	0.45	0.45	0.11	0.21	0.21	0.14	0.24	
v/c Ratio	0.40	0.39	0.14	0.32	0.39	0.52	0.93	0.74	0.10	0.67	0.37	
Control Delay (s/veh)	68.8	28.5	4.3	70.8	32.0	5.4	113.7	58.7	0.4	65.9	31.2	
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)	68.8	28.5	4.3	70.8	32.0	5.4	113.7	58.7	0.4	65.9	31.2	
LOS	E	C	A	E	C	A	F	E	A	E	C	
Approach Delay (s/veh)		27.4			17.9			68.1			48.3	
Approach LOS		C			B			E			D	
Queue Length 50th (ft)	48	203	0	27	172	0	156	231	0	121	78	
Queue Length 95th (ft)	92	347	36	60	305	89	#303	279	0	163	108	

Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		751			976			670				1952
Turn Bay Length (ft)	150		250	200			200		130	350		
Base Capacity (vph)	301	858	793	165	702	840	181	696	440	717	953	
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.39	0.14	0.18	0.39	0.52	0.94	0.73	0.10	0.37	0.29	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 30 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

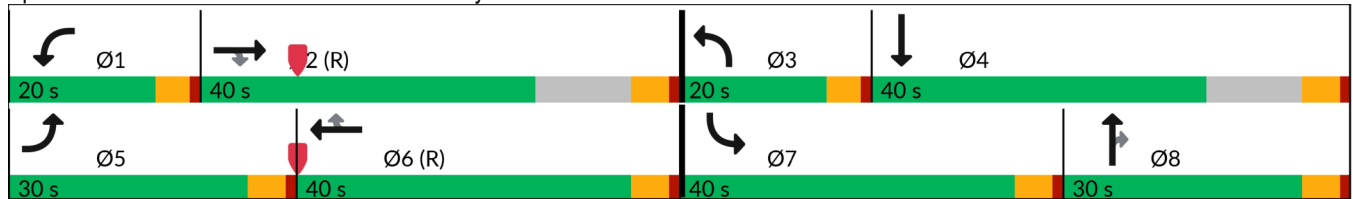
Intersection Signal Delay (s/veh): 40.8 Intersection LOS: D

Intersection Capacity Utilization 59.1% ICU Level of Service B

Analysis Period (min) 15






















95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 10: 70th Avenue E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	384	114	5	558	142	70	83	29	98	74	18
Future Volume (vph)	21	384	114	5	558	142	70	83	29	98	74	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.966			0.970			0.961				0.971
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1492	2882	0	1530	2968	0	1703	1723	0	1641	1677	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1492	2882	0	1530	2968	0	1703	1723	0	1641	1677	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		35			29			13				9
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	21%	21%	21%	18%	18%	18%	6%	6%	6%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	530	0	5	745	0	74	119	0	104	98	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.4	42.1		6.5	39.4		11.1	11.1		11.2	11.2	
Actuated g/C Ratio	0.09	0.52		0.08	0.49		0.14	0.14		0.14	0.14	
v/c Ratio	0.16	0.35		0.04	0.51		0.31	0.48		0.46	0.41	
Control Delay (s/veh)	41.1	13.2		41.2	17.9		37.5	37.3		41.0	36.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	41.1	13.2		41.2	17.9		37.5	37.3		41.0	36.3	
LOS	D	B		D	B		D	D		D	D	
Approach Delay (s/veh)		14.3			18.1			37.5			38.8	
Approach LOS		B			B			D			D	
Queue Length 50th (ft)	10	65		2	102		32	47		45	39	
Queue Length 95th (ft)	38	164		15	259		85	118		114	102	

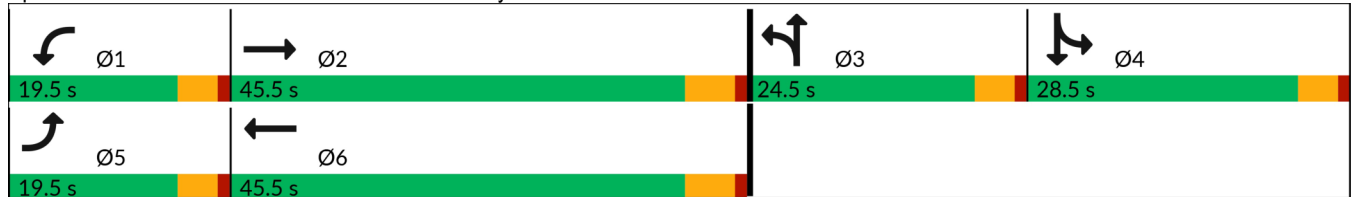
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454				414
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	281	1514		288	1507		428	443		495	512	
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	0.08	0.35		0.02	0.49		0.17	0.27		0.21	0.19	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	81.1
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.51
Intersection Signal Delay (s/veh):	21.5
Intersection LOS:	C
Intersection Capacity Utilization:	40.4%
ICU Level of Service:	A
Analysis Period (min):	15





















Splits and Phases: 11: Freeman Road E & Valley Avenue E



Lanes, Volumes, Timings

11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	411	95	7	434	106	39	41	26	61	41	8
Future Volume (vph)	15	411	95	7	434	106	39	41	26	61	41	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.972			0.971			0.942				0.975
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1492	2900	0	1530	2971	0	1703	1688	0	1641	1684	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1492	2900	0	1530	2971	0	1703	1688	0	1641	1684	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			27			23				8
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	21%	21%	21%	18%	18%	18%	6%	6%	6%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	538	0	7	575	0	41	72	0	65	53	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effect Green (s)	7.0	45.7		6.5	45.5		8.3	8.3		8.9	8.9	
Actuated g/C Ratio	0.10	0.63		0.09	0.62		0.11	0.11		0.12	0.12	
v/c Ratio	0.11	0.29		0.05	0.30		0.21	0.33		0.32	0.25	
Control Delay (s/veh)	35.9	10.3		35.7	10.6		34.6	28.5		36.2	30.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	35.9	10.3		35.7	10.6		34.6	28.5		36.2	30.7	
LOS	D	B		D	B		C	C		D	C	
Approach Delay (s/veh)		11.1			10.9			30.7			33.8	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	7	57		3	62		17	20		27	18	
Queue Length 95th (ft)	28	144		17	158		52	66		73	57	

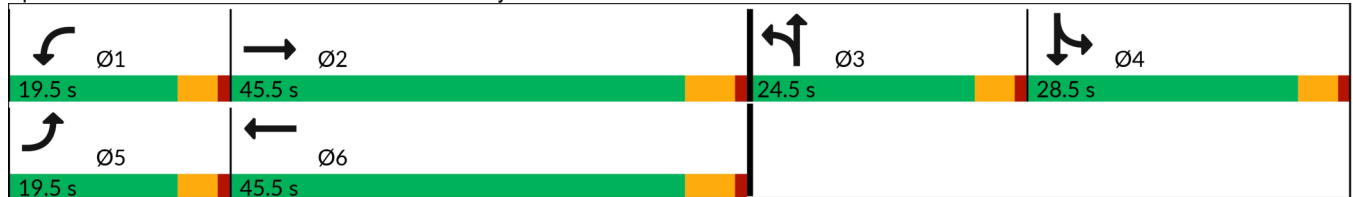
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	311	1821		319	1866		474	486		548	567	
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	0.05	0.30		0.02	0.31		0.09	0.15		0.12	0.09	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	73.1
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.34
Intersection Signal Delay (s/veh):	14.6
Intersection LOS:	B
Intersection Capacity Utilization:	33.8%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 11: Freeman Road E & Valley Avenue E



HCM 6th TWSC
 12: Freeman Road E & 48th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	3	16	10	155	184	8
Future Vol, veh/h	3	16	10	155	184	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	5	5	8	8
Mvmt Flow	4	20	12	189	224	10

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	442	229	234	0	0
Stage 1	229	-	-	-	-
Stage 2	213	-	-	-	-
Critical Hdwy	6.4	6.2	4.15	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.245	-	-
Pot Cap-1 Maneuver	577	815	1316	-	-
Stage 1	814	-	-	-	-
Stage 2	827	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	571	815	1316	-	-
Mov Cap-2 Maneuver	571	-	-	-	-
Stage 1	806	-	-	-	-
Stage 2	827	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	9.9	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1316	-	763	-	-
HCM Lane V/C Ratio	0.009	-	0.03	-	-
HCM Control Delay (s/veh)	7.8	0	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC
 13: Freeman Road E & 50th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	5	3	244	98	1
Future Vol, veh/h	8	5	3	244	98	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	8	8	6	6	10	10
Mvmt Flow	9	6	3	277	111	1

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	395	112	112	0	0
Stage 1	112	-	-	-	-
Stage 2	283	-	-	-	-
Critical Hdwy	6.48	6.28	4.16	-	-
Critical Hdwy Stg 1	5.48	-	-	-	-
Critical Hdwy Stg 2	5.48	-	-	-	-
Follow-up Hdwy	3.572	3.372	2.254	-	-
Pot Cap-1 Maneuver	598	925	1453	-	-
Stage 1	898	-	-	-	-
Stage 2	751	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	597	925	1453	-	-
Mov Cap-2 Maneuver	597	-	-	-	-
Stage 1	896	-	-	-	-
Stage 2	751	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.3	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1453	-	691	-	-
HCM Lane V/C Ratio	0.002	-	0.021	-	-
HCM Control Delay (s/veh)	7.5	0	10.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC

14: Freeman Road E & 52nd Street E/19th Avenue NW 2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	1	14	0	4	0	250	18	6	97	2
Future Vol, veh/h	0	0	1	14	0	4	0	250	18	6	97	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	84	84	84	84	84	84	84	84	84
Heavy Vehicles, %	0	0	0	59	59	59	5	5	5	9	9	9
Mvmt Flow	0	0	1	17	0	5	0	298	21	7	115	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	441	449	116	440	440	309	117	0	0	319	0	0
Stage 1	130	130	-	309	309	-	-	-	-	-	-	-
Stage 2	311	319	-	131	131	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.69	7.09	6.79	4.15	-	-	4.19	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.69	6.09	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.69	6.09	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	4.031	4.531	3.831	2.245	-	-	2.281	-	-
Pot Cap-1 Maneuver	530	508	942	442	435	616	1453	-	-	1202	-	-
Stage 1	878	792	-	595	569	-	-	-	-	-	-	-
Stage 2	704	657	-	753	691	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	524	505	942	439	432	616	1453	-	-	1202	-	-
Mov Cap-2 Maneuver	524	505	-	439	432	-	-	-	-	-	-	-
Stage 1	878	787	-	595	569	-	-	-	-	-	-	-
Stage 2	699	657	-	748	687	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	8.8	13	0	0.5
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1453	-	-	942	469	1202	-	-
HCM Lane V/C Ratio	-	-	-	0.001	0.046	0.006	-	-
HCM Control Delay (s/veh)	0	-	-	8.8	13	8	0	-
HCM Lane LOS	A	-	-	A	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.1	0	-	-

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	29	221	440	221	83	18
Future Vol, veh/h	29	221	440	221	83	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	33	248	494	248	93	20

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	742	0	-	0	932 618
Stage 1	-	-	-	-	618 -
Stage 2	-	-	-	-	314 -
Critical Hdwy	4.26	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.344	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	805	-	-	-	286 475
Stage 1	-	-	-	-	523 -
Stage 2	-	-	-	-	723 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	805	-	-	-	272 475
Mov Cap-2 Maneuver	-	-	-	-	272 -
Stage 1	-	-	-	-	498 -
Stage 2	-	-	-	-	723 -

Approach	EB	WB	SB
HCM Control Delay, s/v	1.1	0	24.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	805	-	-	-	294
HCM Lane V/C Ratio	0.04	-	-	-	0.386
HCM Control Delay (s/veh)	9.7	0	-	-	24.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q (veh)	0.1	-	-	-	1.8

HCM 6th AWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection	
Intersection Delay, s/veh	32.2
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	29	221	440	221	83	18
Future Vol, veh/h	29	221	440	221	83	18
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	33	248	494	248	93	20
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	12.6	42.8	11.7
HCM LOS	B	E	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	12%	0%	100%	0%
Vol Thru, %	88%	67%	0%	0%
Vol Right, %	0%	33%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	250	661	83	18
LT Vol	29	0	83	0
Through Vol	221	440	0	0
RT Vol	0	221	0	18
Lane Flow Rate	281	743	93	20
Geometry Grp	2	2	5	5
Degree of Util (X)	0.43	0.951	0.197	0.036
Departure Headway (Hd)	5.517	4.609	7.604	6.379
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	654	780	474	564
Service Time	3.528	2.694	5.315	4.089
HCM Lane V/C Ratio	0.43	0.953	0.196	0.035
HCM Control Delay, s/veh	12.6	42.8	12.2	9.3
HCM Lane LOS	B	E	B	A
HCM 95th-tile Q	2.2	14.4	0.7	0.1

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	35	148	296	164	48	13
Future Vol, veh/h	35	148	296	164	48	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	16	16	9	9	10	10
Mvmt Flow	39	166	333	184	54	15


















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	517	0	-	0	669 425
Stage 1	-	-	-	-	425 -
Stage 2	-	-	-	-	244 -
Critical Hdwy	4.26	-	-	-	6.5 6.3
Critical Hdwy Stg 1	-	-	-	-	5.5 -
Critical Hdwy Stg 2	-	-	-	-	5.5 -
Follow-up Hdwy	2.344	-	-	-	3.59 3.39
Pot Cap-1 Maneuver	981	-	-	-	411 612
Stage 1	-	-	-	-	643 -
Stage 2	-	-	-	-	778 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	981	-	-	-	393 612
Mov Cap-2 Maneuver	-	-	-	-	393 -
Stage 1	-	-	-	-	615 -
Stage 2	-	-	-	-	778 -

Approach	EB	WB	SB
HCM Control Delay, s/v	1.7	0	15.1
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	981	-	-	-	425
HCM Lane V/C Ratio	0.04	-	-	-	0.161
HCM Control Delay (s/veh)	8.8	0	-	-	15.1
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q (veh)	0.1	-	-	-	0.6

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 		 	 
Traffic Volume (vph)	1294	1006	834	760	532	388
Future Volume (vph)	1294	1006	834	760	532	388
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	2		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.88	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3183	2584	3282	1468	3019	3112
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3183	2584	3282	1468	3019	3112
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		90		491		
Link Speed (mph)	35		35			35
Link Distance (ft)	522		278			1175
Travel Time (s)	10.2		5.4			22.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	10%	10%	10%	10%	16%	16%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1362	1059	878	800	560	408
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	10.0	6.0	10.0
Minimum Split (s)	36.6	10.6	38.9	38.9	10.6	36.9
Total Split (s)	36.6	54.6	64.9	64.9	54.6	64.9
Total Split (%)	23.4%	35.0%	41.6%	41.6%	35.0%	41.6%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9	4.9	4.6	4.9
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	32.1	70.0	60.2	60.2	33.3	98.1
Actuated g/C Ratio	0.23	0.50	0.43	0.43	0.24	0.70
v/c Ratio	1.86	0.79	0.62	0.87	0.77	0.18
Control Delay (s/veh)	424.7	30.9	34.2	26.2	57.5	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	424.7	30.9	34.2	26.2	57.5	7.2
LOS	F	C	C	C	E	A
Approach Delay (s/veh)	252.5		30.4			36.4
Approach LOS	F		C			D
Queue Length 50th (ft)	~960	407	318	299	246	61
Queue Length 95th (ft)	#1222	505	452	#684	311	79

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

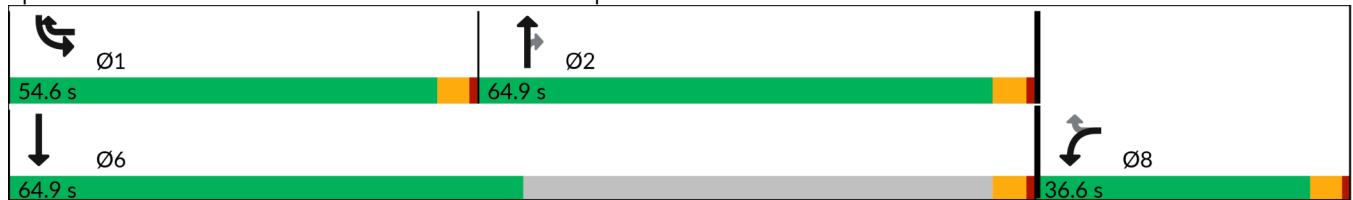


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	442		198			1095
Turn Bay Length (ft)					250	
Base Capacity (vph)	730	1640	1413	911	1083	2560
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.87	0.65	0.62	0.88	0.52	0.16

Intersection Summary

Area Type:	Other
Cycle Length:	156.1
Actuated Cycle Length:	139.7
Natural Cycle:	120
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.87
Intersection Signal Delay (s/veh):	137.7
Intersection LOS:	F
Intersection Capacity Utilization	86.9%
ICU Level of Service	E
Analysis Period (min)	15
~ 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.	

Splits and Phases: 16: N Meridian Avenue & SR-167 Ramps



HCM 6th TWSC
 17: N Meridian Avenue & N Levee Road

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	2.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↔			↕↔	
Traffic Vol, veh/h	0	0	103	0	0	199	0	1289	213	0	1181	467
Future Vol, veh/h	0	0	103	0	0	199	0	1289	213	0	1181	467
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	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, %	6	6	6	10	10	10	9	9	9	9	9	9
Mvmt Flow	0	0	108	0	0	209	0	1357	224	0	1243	492

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	868	-	-	679	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.02	-	-	7.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.36	-	-	3.4	-	-
Pot Cap-1 Maneuver	0	0	288	0	0	376	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	288	-	-	376	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	24.9	26	0	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	288	376	-	-
HCM Lane V/C Ratio	-	0.376	0.557	-	-
HCM Control Delay (s/veh)	-	24.9	26	-	-
HCM Lane LOS	-	C	D	-	-
HCM 95th %tile Q (veh)	-	1.7	3.3	-	-

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	927	0	323	10	470	582	0	0	0	0	287	772
Future Volume (vph)	927	0	323	10	470	582	0	0	0	0	287	772
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3242	0	1495	1736	3471	1553	0	0	0	0	3282	1468
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3242	0	1495	1736	3471	1553	0	0	0	0	3282	1468
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				90		444						610
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	8%	8%	8%	4%	4%	4%	0%	0%	0%	10%	10%	10%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	986	0	344	11	500	619	0	0	0	0	305	821
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2						4	
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2					4	4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	31.0		31.0	31.0	31.0	31.0					22.0	22.0
Total Split (%)	36.9%		36.9%	36.9%	36.9%	36.9%					26.2%	26.2%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	25.9		25.9	30.0	30.0	30.0					17.2	17.2
Actuated g/C Ratio	0.29		0.29	0.34	0.34	0.34					0.20	0.20
v/c Ratio	1.03		0.78	0.01	0.42	0.75					0.47	1.05
Control Delay (s/veh)	70.5		43.0	0.0	23.7	13.9					34.3	59.6
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	70.5		43.0	0.0	23.7	13.9					34.3	59.6
LOS	E		D	A	C	B					C	E
Approach Delay (s/veh)		63.4			18.1						52.8	
Approach LOS		E			B						D	
Queue Length 50th (ft)	~306		174	0	111	75					80	~206
Queue Length 95th (ft)	#426		#310	0	155	220					120	#432

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	953		439	650	1181	821					640	777
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	1.03		0.78	0.02	0.42	0.75					0.48	1.06

Intersection Summary













Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	88.1
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.06
Intersection Signal Delay (s/veh):	45.8
Intersection LOS:	D
Intersection Capacity Utilization:	70.1%
ICU Level of Service:	C
Analysis Period (min):	15
~ 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.	

Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑						↖↗	
Traffic Volume (vph)	0	155	42	41	155	0	0	0	0	144	471	28
Future Volume (vph)	0	155	42	41	155	0	0	0	0	144	471	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	125		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt			0.850								0.994	
Flt Protected				0.950							0.989	
Satd. Flow (prot)	0	1776	1509	1703	1792	0	0	0	0	0	3412	0
Flt Permitted				0.421							0.989	
Satd. Flow (perm)	0	1776	1509	755	1792	0	0	0	0	0	3412	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91								16	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		393			385			1349			2133	
Travel Time (s)		10.7			10.5			36.8			58.2	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	7%	7%	7%	6%	6%	6%	0%	0%	0%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	178	48	47	178	0	0	0	0	0	739	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		8		7	4						2	
Permitted Phases			8	4						2		
Detector Phase		8	8	7	4					2	2	
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					10.0	10.0	
Minimum Split (s)		21.0	21.0	9.0	21.0					23.0	23.0	
Total Split (s)		9.0	9.0	7.0	13.0					44.0	44.0	
Total Split (%)		15.0%	15.0%	11.7%	21.7%					73.3%	73.3%	
Yellow Time (s)		3.0	3.0	3.0	3.0					3.0	3.0	
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0						0.0	
Total Lost Time (s)		4.0	4.0	4.0	4.0						4.0	
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		None	None	None	None					Max	Max	
Act Effct Green (s)		5.5	5.5	9.7	9.7						42.5	
Actuated g/C Ratio		0.09	0.09	0.16	0.16						0.70	
v/c Ratio		1.09	0.21	0.27	0.61						0.30	
Control Delay (s/veh)		132.7	4.8	24.3	32.2						4.0	
Queue Delay		0.0	0.0	0.0	0.0						0.0	
Total Delay (s/veh)		132.7	4.8	24.3	32.2						4.0	
LOS		F	A	C	C						A	
Approach Delay (s/veh)		105.6			30.6						4.0	
Approach LOS		F			C						A	
Queue Length 50th (ft)		~81	0	14	58						47	
Queue Length 95th (ft)		#178	9	37	106						65	

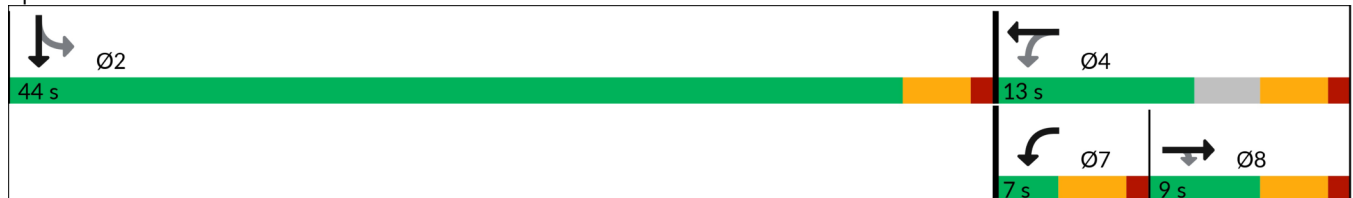
Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		313			305			1269			2053	
Turn Bay Length (ft)			50	125								
Base Capacity (vph)		162	220	169	357						2412	
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		1.10	0.22	0.28	0.50						0.31	

Intersection Summary	
Area Type:	Other
Cycle Length:	60
Actuated Cycle Length:	60.3
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.10
Intersection Signal Delay (s/veh):	28.3
Intersection LOS:	C
Intersection Capacity Utilization	50.6%
ICU Level of Service	A
Analysis Period (min)	15
~ 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.	



















Splits and Phases: 19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue



Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	234	0	0	125	171	65	868	0	0	0	0
Future Volume (vph)	50	234	0	0	125	171	65	868	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	0		125	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850						
Flt Protected	0.950							0.997				
Satd. Flow (prot)	1719	1810	0	0	1792	1524	0	3461	0	0	0	0
Flt Permitted	0.468							0.997				
Satd. Flow (perm)	847	1810	0	0	1792	1524	0	3461	0	0	0	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		385			615			394				343
Travel Time (s)		10.5			16.8			10.7				9.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	6%	6%	6%	4%	4%	4%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	246	0	0	132	180	0	982	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	3	8			4			2				
Permitted Phases	8					4	2					
Detector Phase	3	8			4	4	2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	10.0	10.0				
Minimum Split (s)	9.5	28.0			28.0	28.0	26.0	26.0				
Total Split (s)	10.0	45.0			29.0	29.0	53.0	53.0				
Total Split (%)	10.2%	45.9%			29.6%	29.6%	54.1%	54.1%				
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0				
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	None			None	None	Max	Max				
Act Effct Green (s)	18.3	18.3			12.9	12.9		49.6				
Actuated g/C Ratio	0.24	0.24			0.17	0.17		0.65				
v/c Ratio	0.19	0.56			0.43	0.69		0.43				
Control Delay (s/veh)	22.5	29.6			33.5	45.1		8.6				
Queue Delay	0.0	0.0			0.0	0.0		0.0				
Total Delay (s/veh)	22.5	29.6			33.5	45.1		8.6				
LOS	C	C			C	D		A				
Approach Delay (s/veh)		28.4			40.2			8.6				
Approach LOS		C			D			A				
Queue Length 50th (ft)	19	101			60	85		120				
Queue Length 95th (ft)	44	166			111	152		206				

Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		305			535			314			263	
Turn Bay Length (ft)	50					125						
Base Capacity (vph)	273	988			739	629		2258				
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	0.19	0.25			0.18	0.29		0.43				

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	76.1
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.69
Intersection Signal Delay (s/veh):	18.5
Intersection LOS:	B
Intersection Capacity Utilization	50.6%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 20: 2nd Street NE & E Stewart Avenue/E Main Avenue



HCM 6th TWSC
 21: Freeman Road E & Site Access

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	TT		TT		TT	TT
Traffic Vol, veh/h	38	38	127	121	138	63
Future Vol, veh/h	38	38	127	121	138	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	41	138	132	150	68

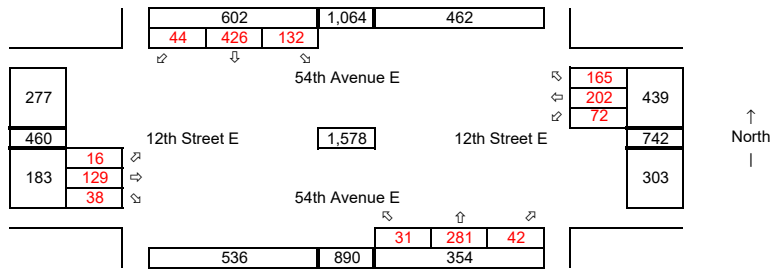
Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	572	204	0	0	270
Stage 1	204	-	-	-	-
Stage 2	368	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	482	837	-	-	1293
Stage 1	830	-	-	-	-
Stage 2	700	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	426	837	-	-	1293
Mov Cap-2 Maneuver	426	-	-	-	-
Stage 1	830	-	-	-	-
Stage 2	619	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	12.5	0	5.6
HCM LOS	B		

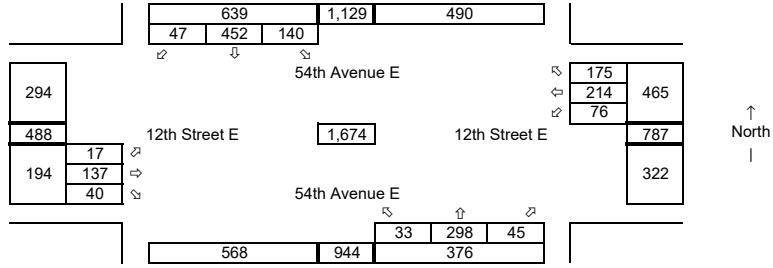
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	565	1293
HCM Lane V/C Ratio	-	-	0.146	0.116
HCM Control Delay (s/veh)	-	-	12.5	8.1
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q (veh)	-	-	0.5	0.4

Synchro ID: 1
Existing
Average Weekday
PM Peak Hour

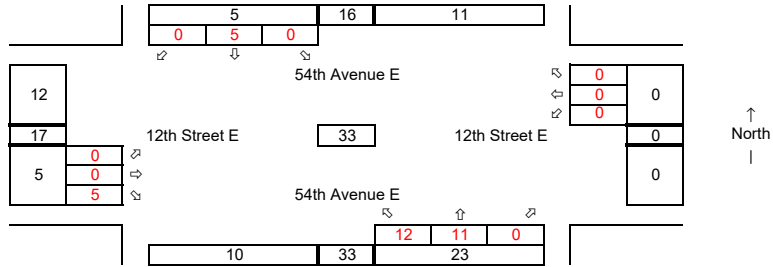
Year: 6/8/2023
Data Source: IDAX



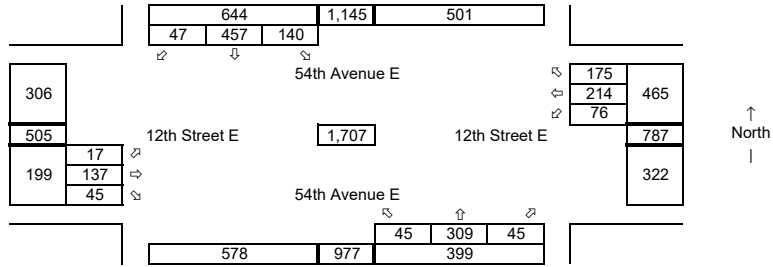
Future without Project
Average Weekday
PM Peak Hour
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



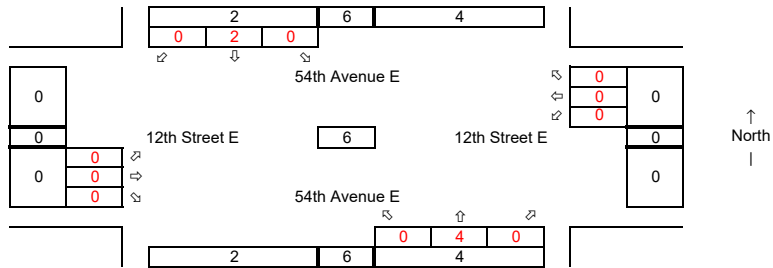
Total Development Trips
Average Weekday
PM Peak Hour



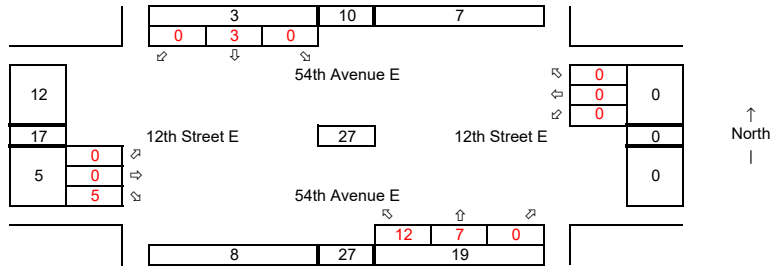
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour

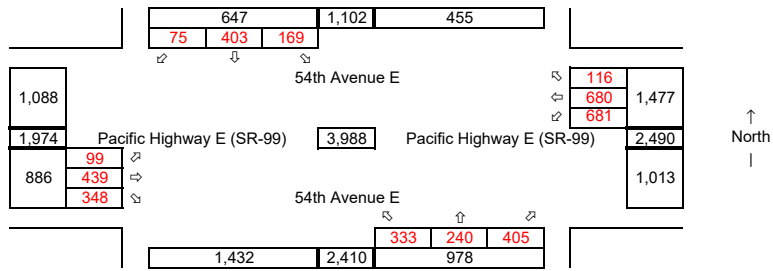


Synchro ID: 2
Existing
 Average Weekday
 PM Peak Hour

 Year: **6/15/2023**

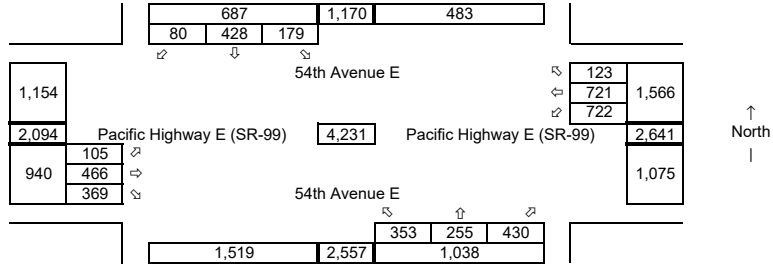
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 Two (2) Eastbound U-turns added
 to Eastbound left-turns

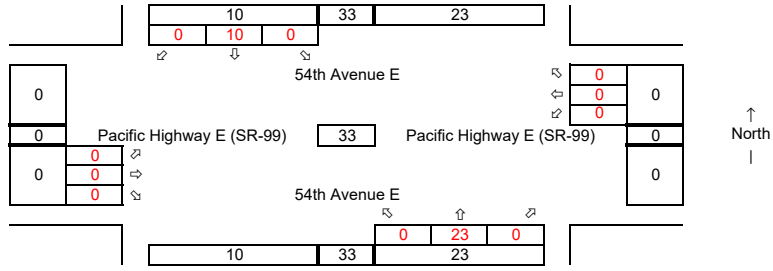


Future without Project
 Average Weekday
 PM Peak Hour

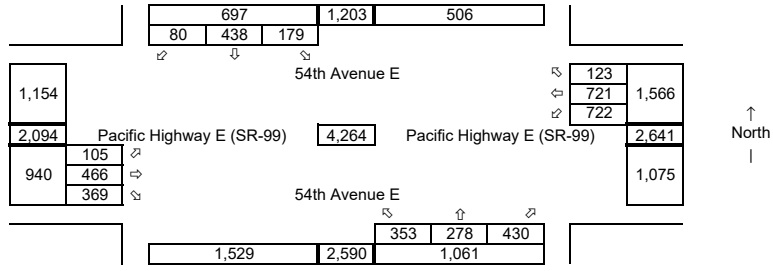
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



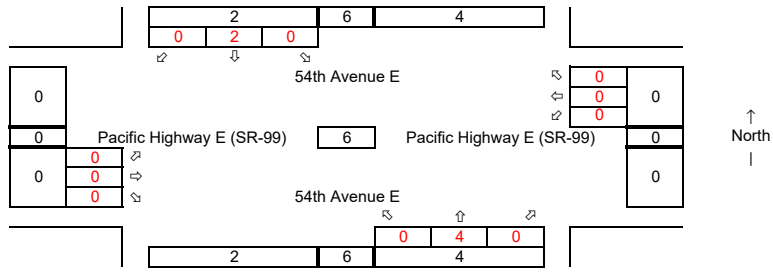
Total Development Trips
 Average Weekday
 PM Peak Hour



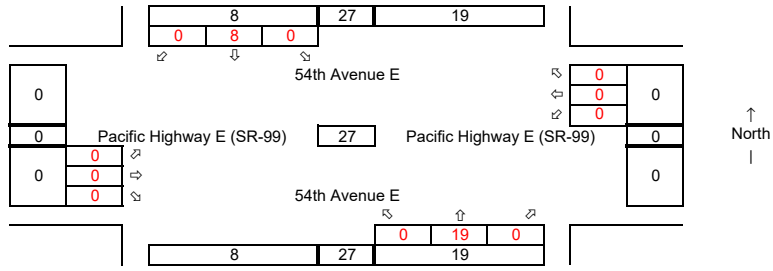
Future with Project
 Average Weekday
 PM Peak Hour

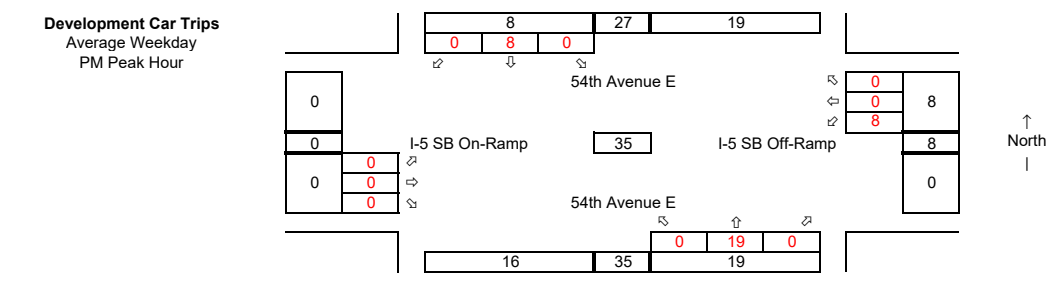
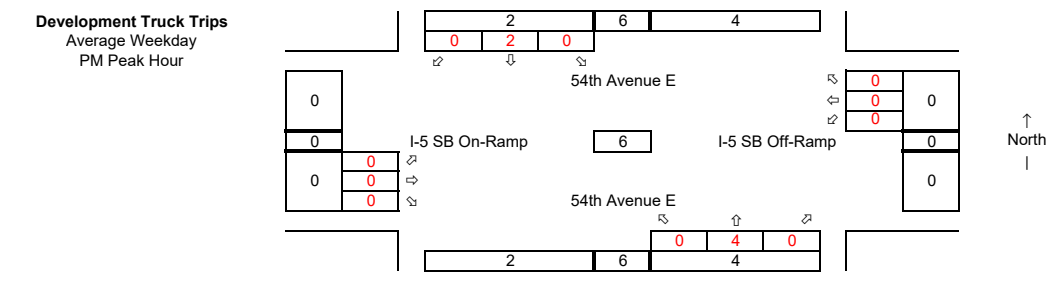
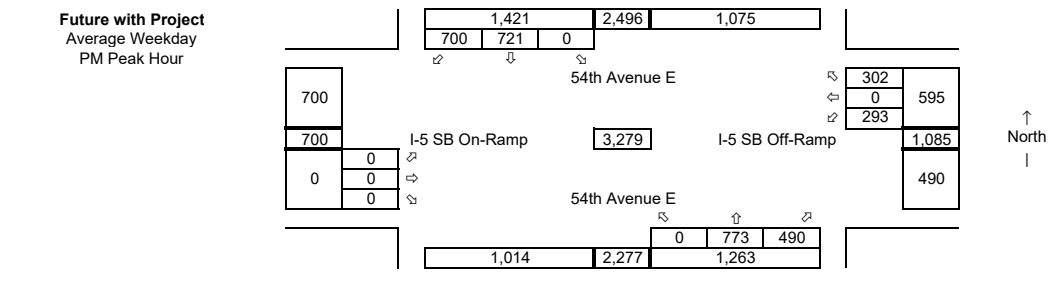
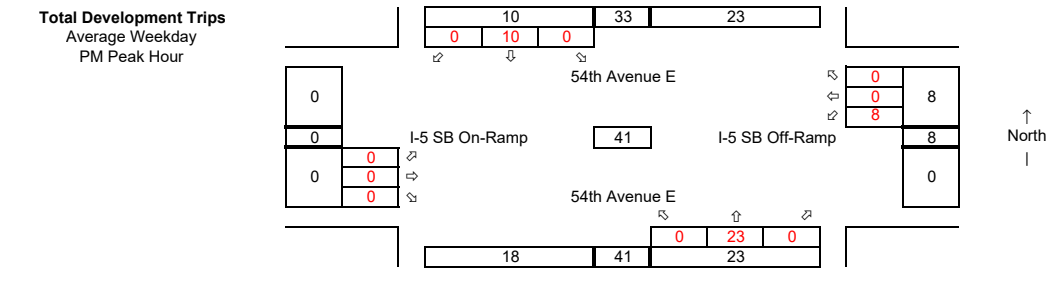
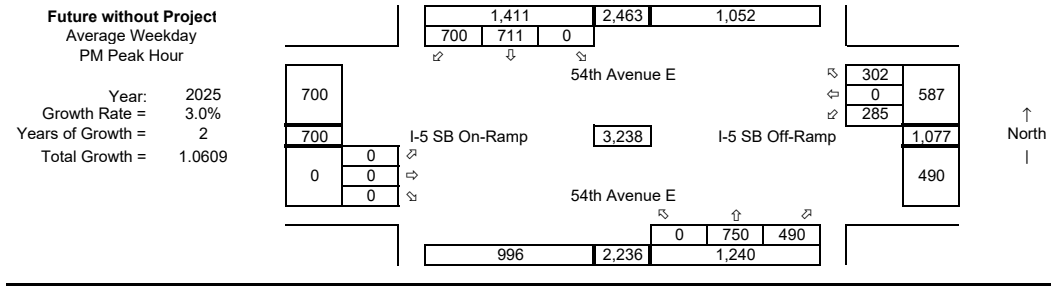
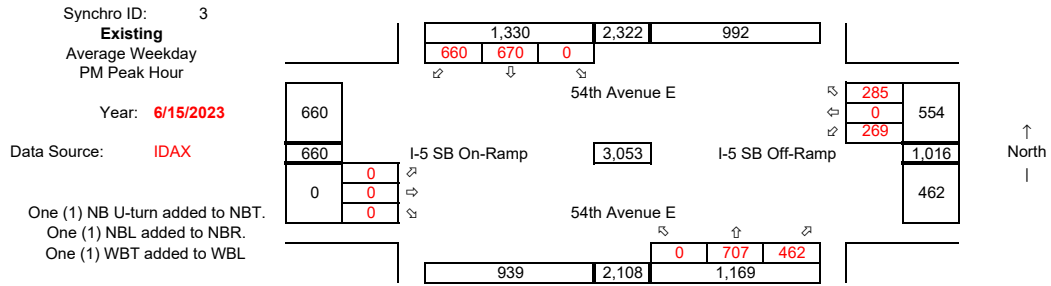


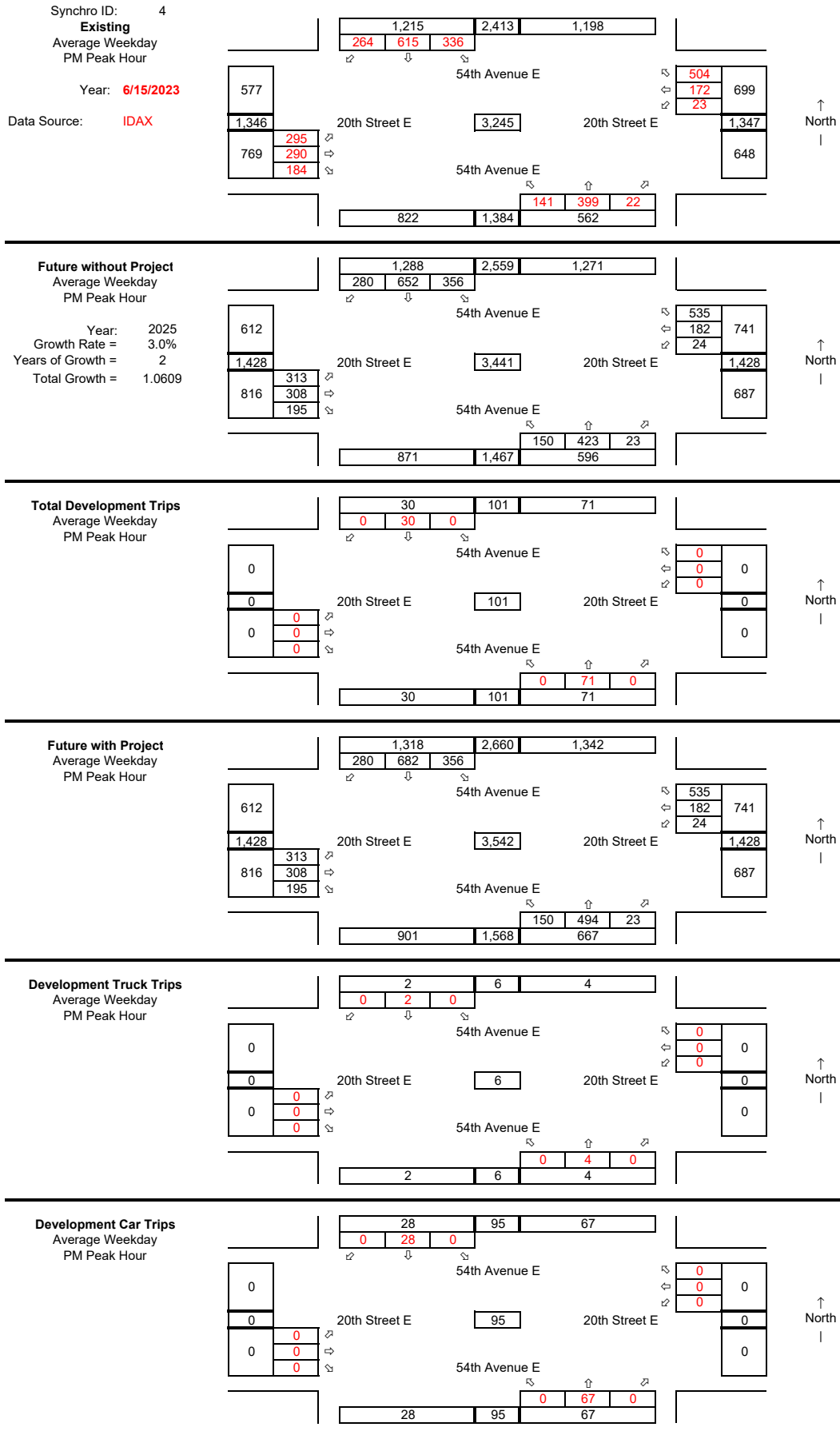
Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

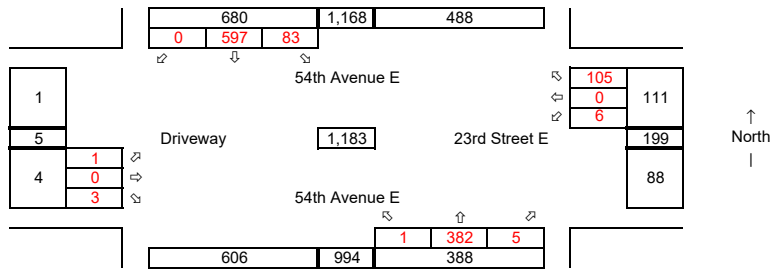






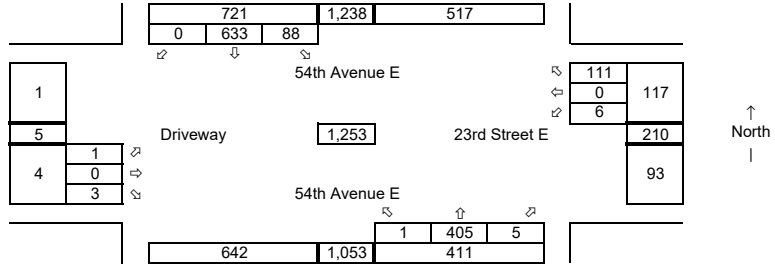
Synchro ID: 5
Existing
Average Weekday
PM Peak Hour

Year: 6/8/2023
Data Source: IDAX

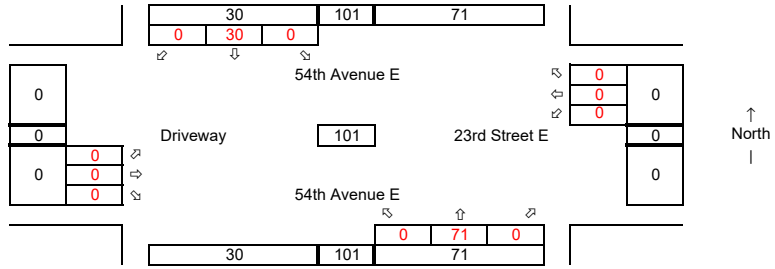


Future without Project
Average Weekday
PM Peak Hour

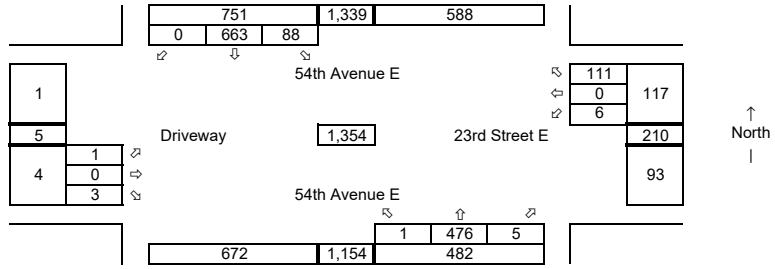
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



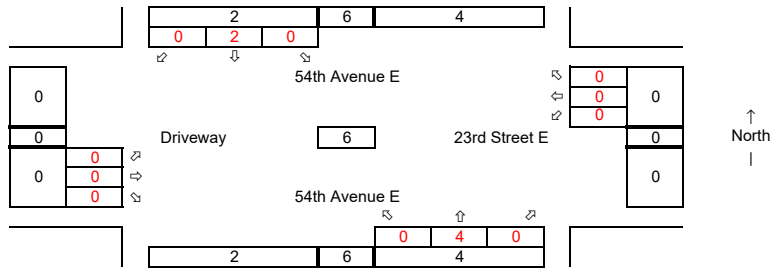
Total Development Trips
Average Weekday
PM Peak Hour



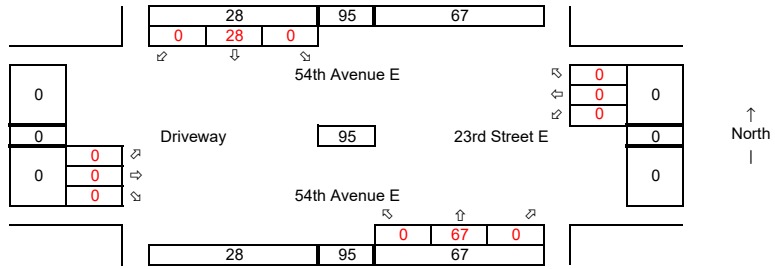
Future with Project
Average Weekday
PM Peak Hour



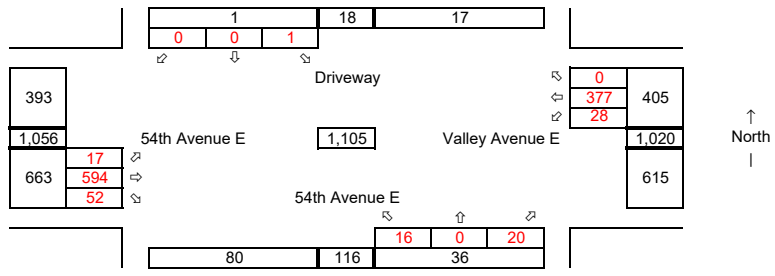
Development Truck Trips
Average Weekday
PM Peak Hour



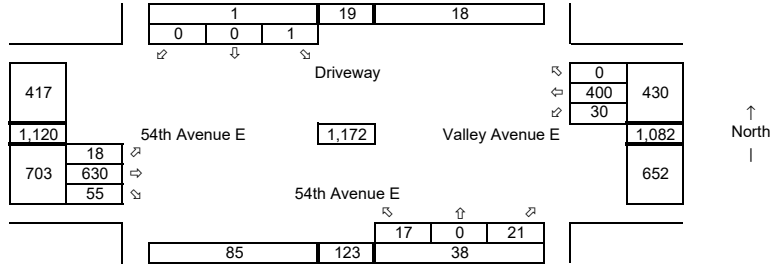
Development Car Trips
Average Weekday
PM Peak Hour



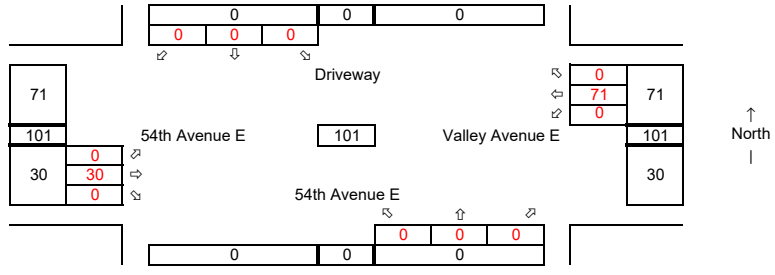
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Existing
 Average Weekday
 PM Peak Hour
 Year: 6/15/2023
 Data Source: IDAX



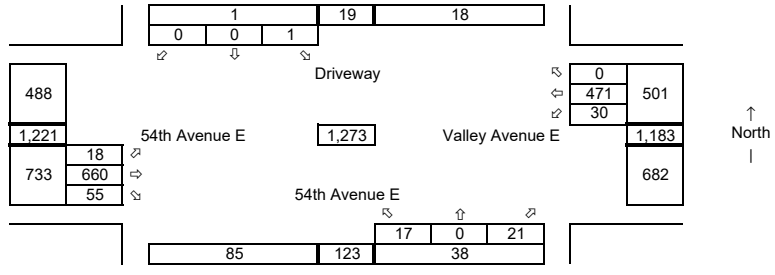
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



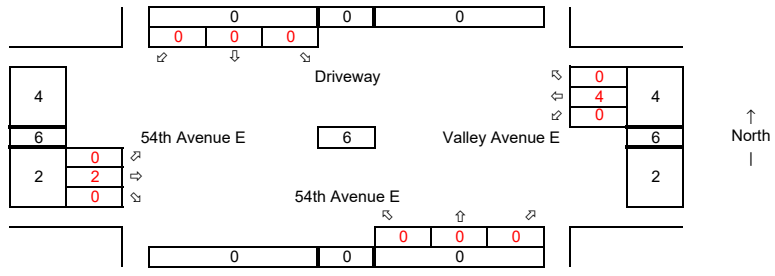
Total Development Trips
 Average Weekday
 PM Peak Hour



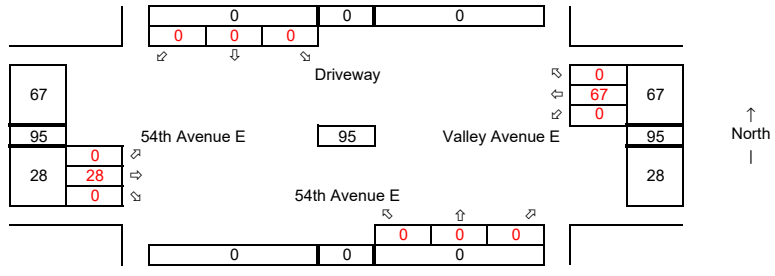
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour

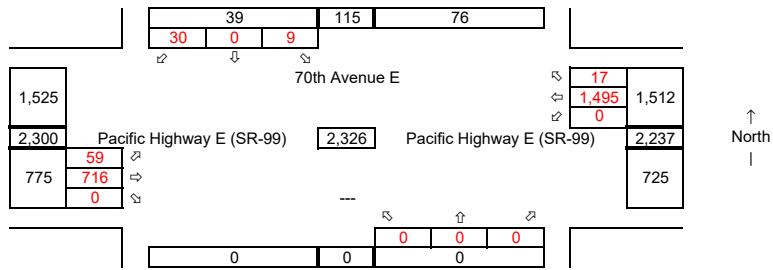


Synchro ID: 7
Existing
 Average Weekday
 PM Peak Hour

Year: **6/15/2023**

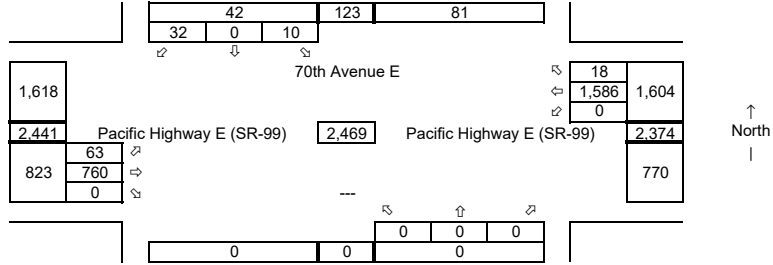
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One (1) Eastbound U-turn
 added to Eastbound left-turns

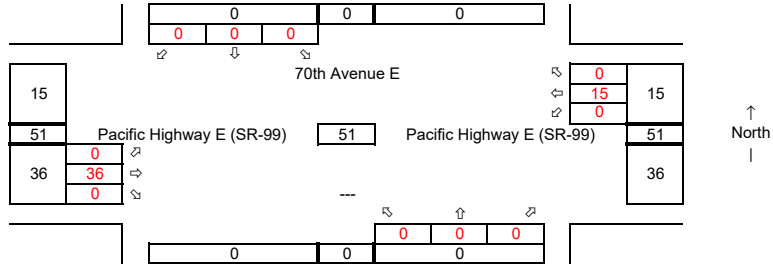


Future without Project
 Average Weekday
 PM Peak Hour

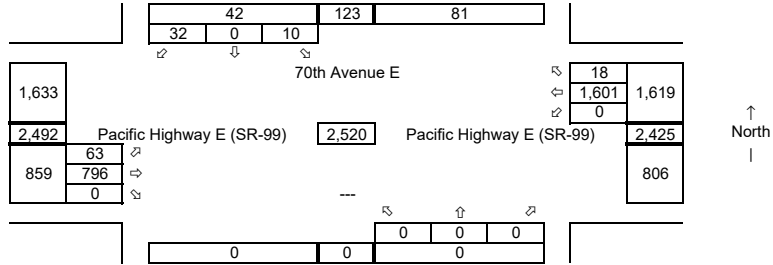
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



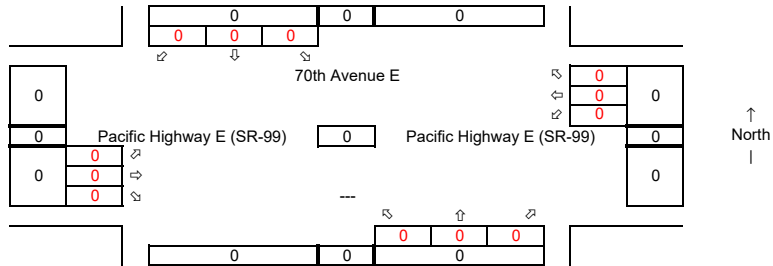
Total Development Trips
 Average Weekday
 PM Peak Hour



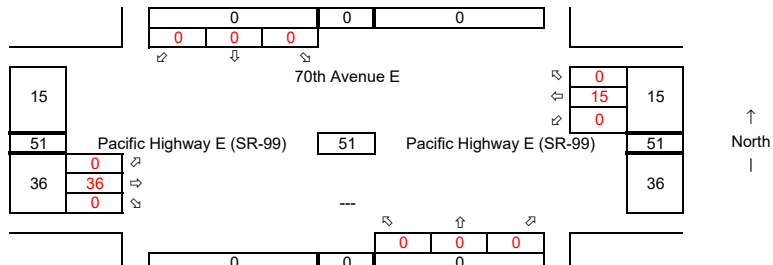
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



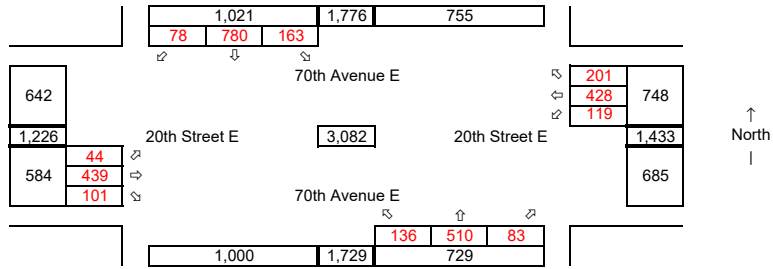
Development Car Trips
 Average Weekday
 PM Peak Hour



Synchro ID: 8
Existing
Average Weekday
PM Peak Hour

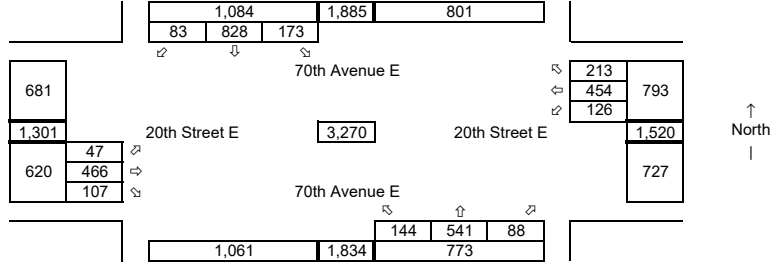
Year: 6/8/2023

Data Source: IDAX

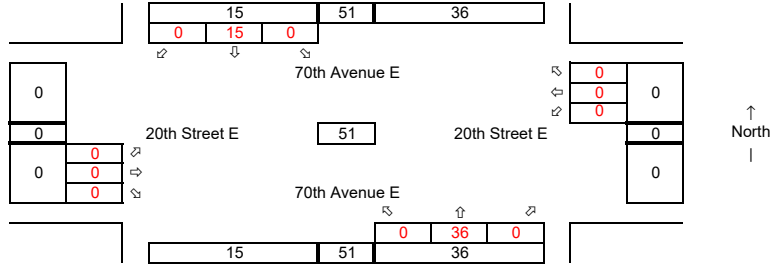


Future without Project
Average Weekday
PM Peak Hour

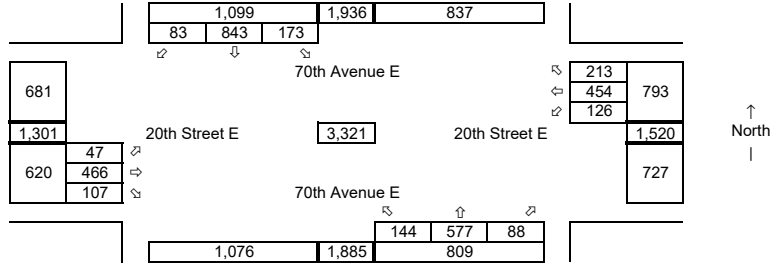
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



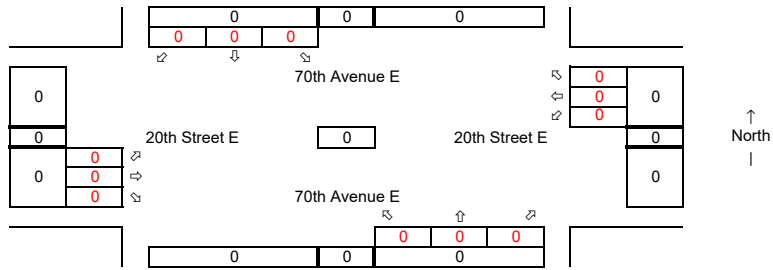
Total Development Trips
Average Weekday
PM Peak Hour



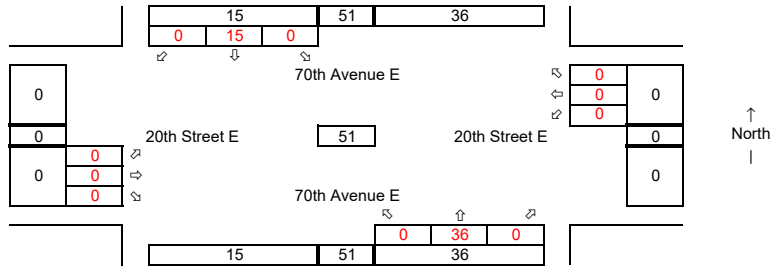
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour

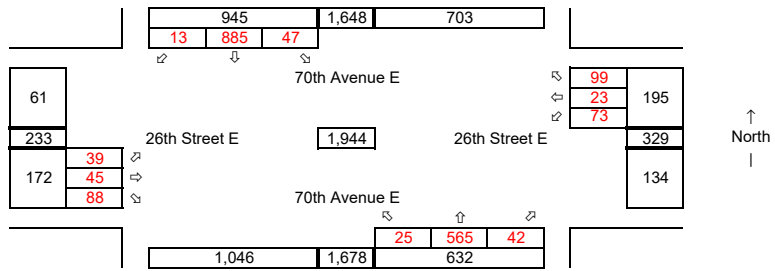


Development Car Trips
Average Weekday
PM Peak Hour



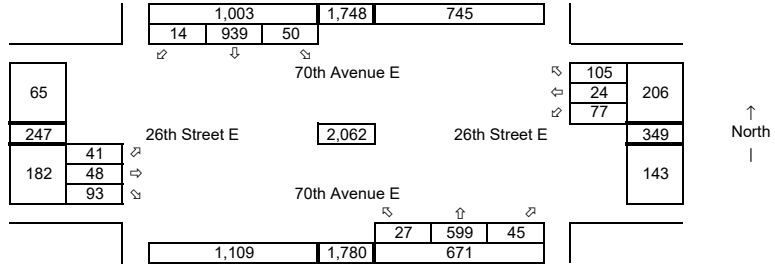
Synchro ID: 9
Existing
 Average Weekday
 PM Peak Hour

 Year: **6/8/2023**
 Data Source: **IDAX**

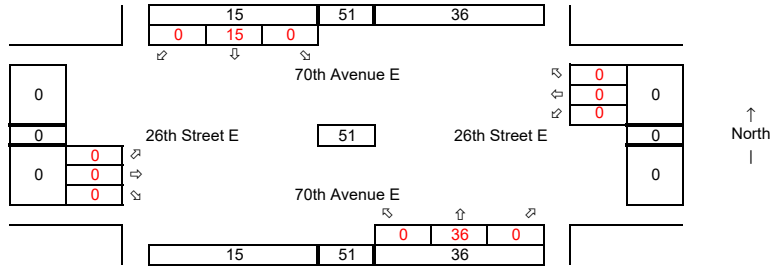


Future without Project
 Average Weekday
 PM Peak Hour

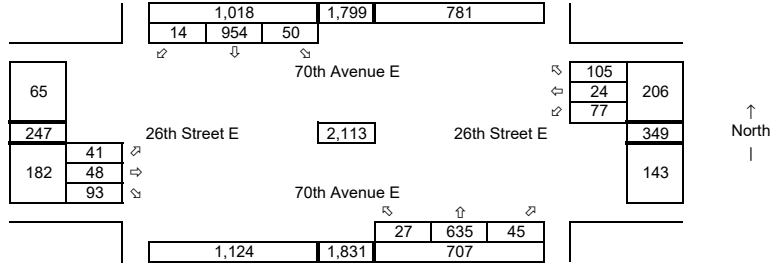
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



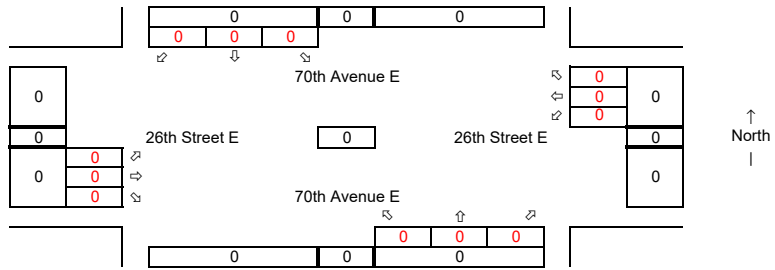
Total Development Trips
 Average Weekday
 PM Peak Hour



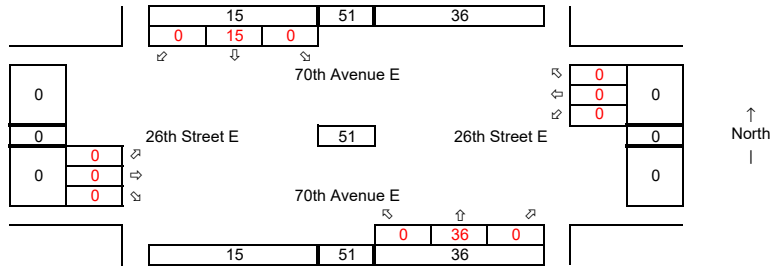
Future with Project
 Average Weekday
 PM Peak Hour



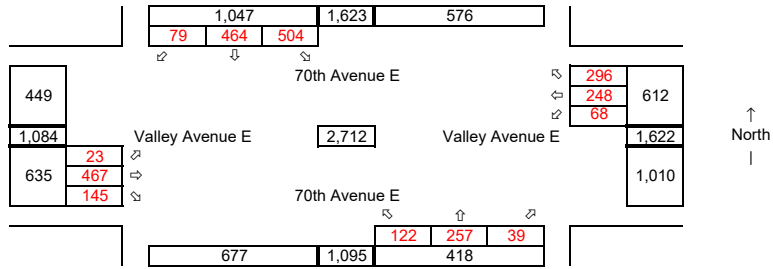
Development Truck Trips
 Average Weekday
 PM Peak Hour



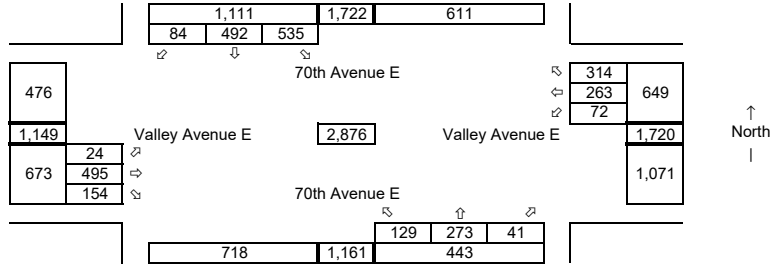
Development Car Trips
 Average Weekday
 PM Peak Hour



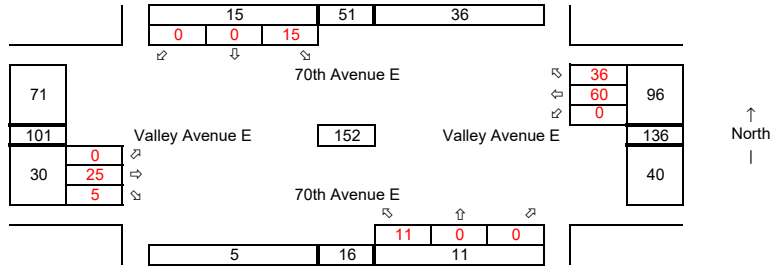
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Existing
 Average Weekday
 PM Peak Hour
 Year: **6/8/2023**
 Data Source: **IDAX**



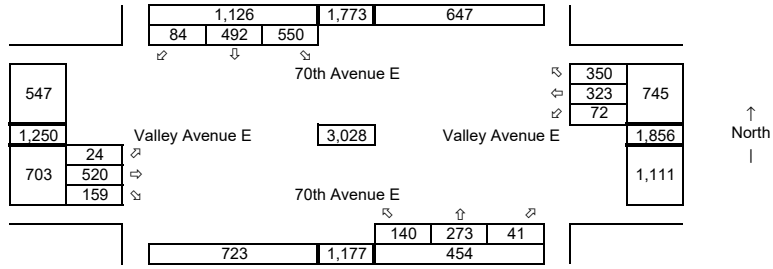
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



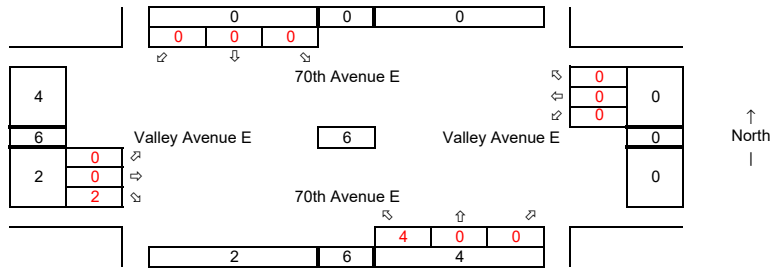
Total Development Trips
 Average Weekday
 PM Peak Hour



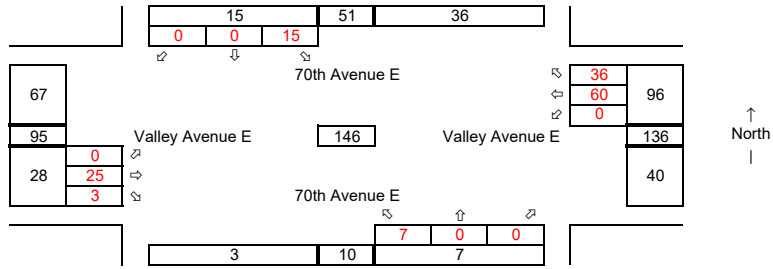
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



**Freeman Logistics
140 - Manufacturing**

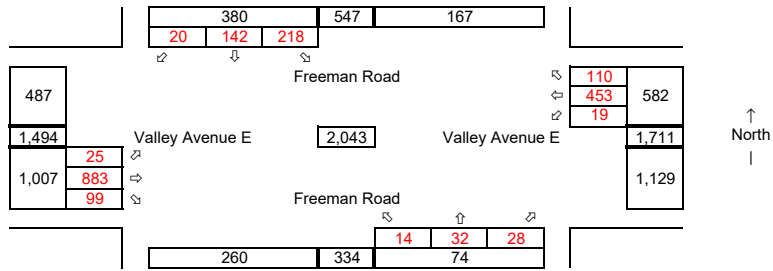
11 Freeman Rd @ Valley Ave E

PM Peak-Hour

Synchro ID: 11
Existing
 Average Weekday
 PM Peak Hour

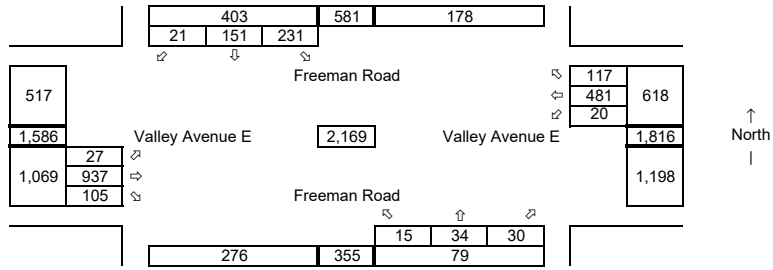
Year: **6/14/2023**

Data Source: **IDAX**

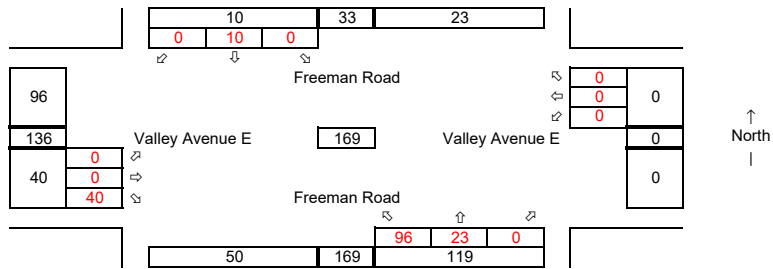


Future without Project
 Average Weekday
 PM Peak Hour

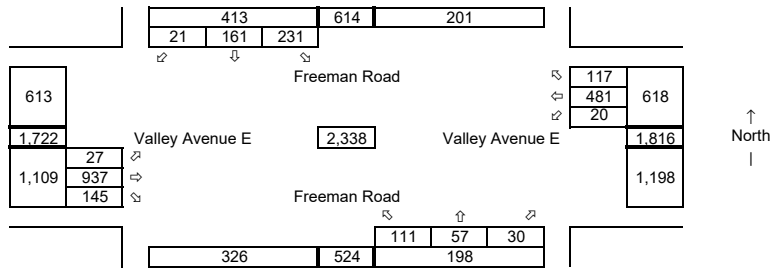
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



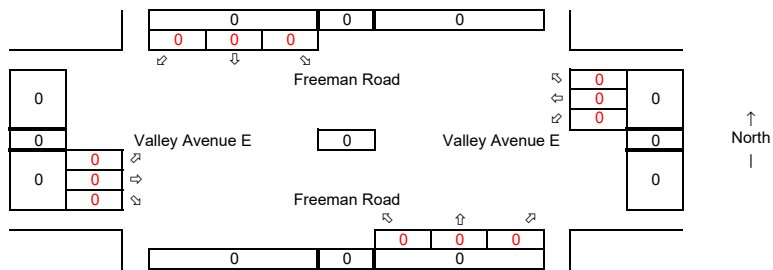
Total Development Trips
 Average Weekday
 PM Peak Hour



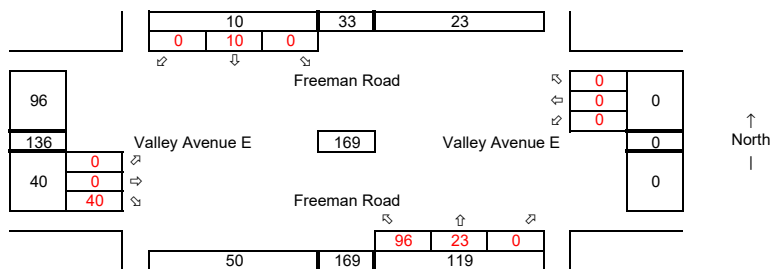
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



**Freeman Logistics
140 - Manufacturing**

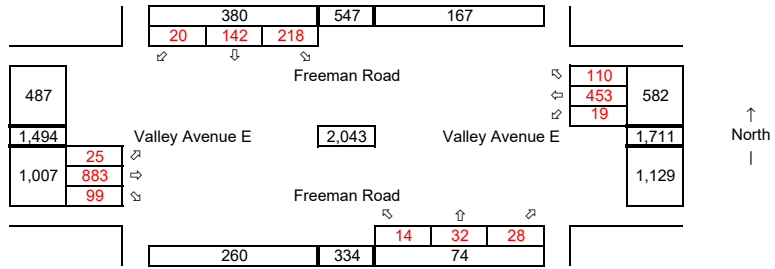
11 Freeman Rd E @ Valley Ave E

PM Peak-Hour

Synchro ID: 11
With SR-167 Extension **Existing**
Average Weekday
PM Peak Hour

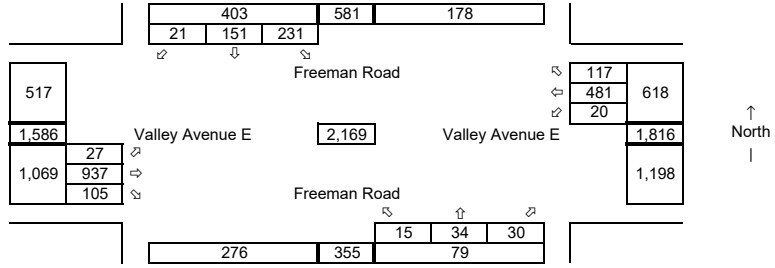
Year: **6/14/2023**

Data Source: **IDAX**

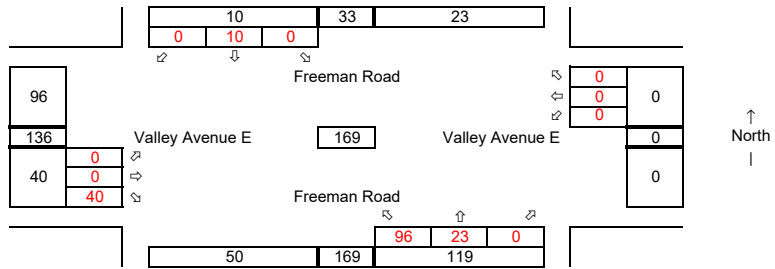


Future without Project
Average Weekday
PM Peak Hour

Year: **2025**
Growth Rate = **3.0%**
Years of Growth = **2**
Total Growth = **1.0609**

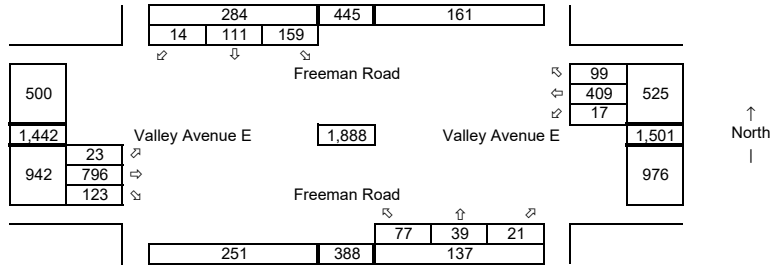


Total Development Trips
Average Weekday
PM Peak Hour

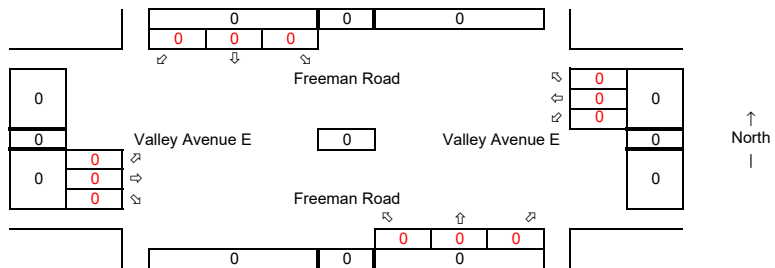


Future with Project
Average Weekday
PM Peak Hour

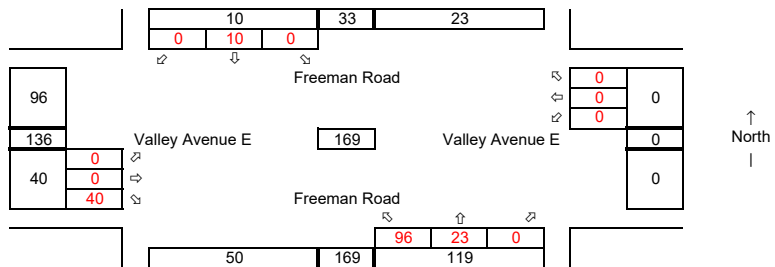
N/S Diversion % **31%**
E/W Diversion % **15%**



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



**Freeman Logistics
140 - Manufacturing**

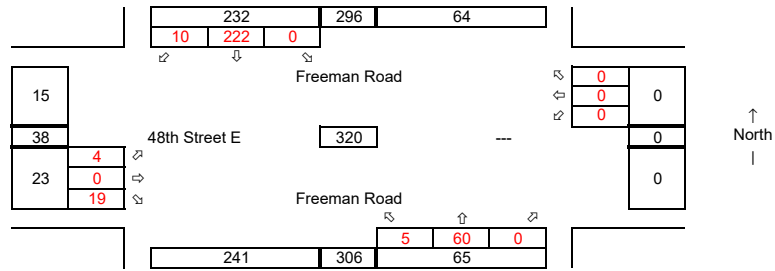
12 Freeman Rd E @ 48th St E

PM Peak-Hour

Synchro ID: 12
Existing
 Average Weekday
 PM Peak Hour

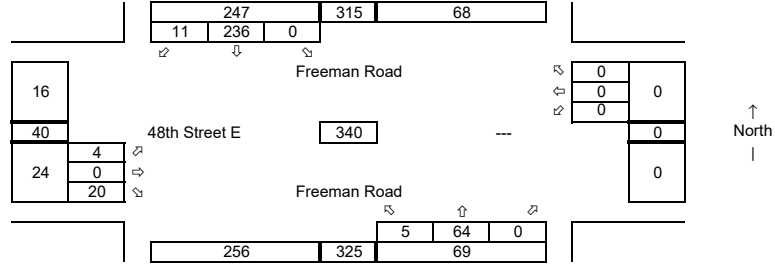
Year: **6/8/2023**

Data Source: **IDAX**

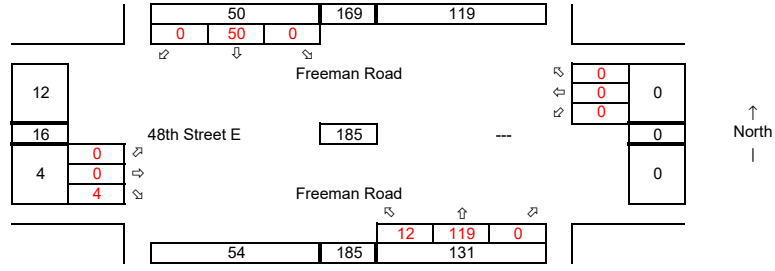


Future without Project
 Average Weekday
 PM Peak Hour

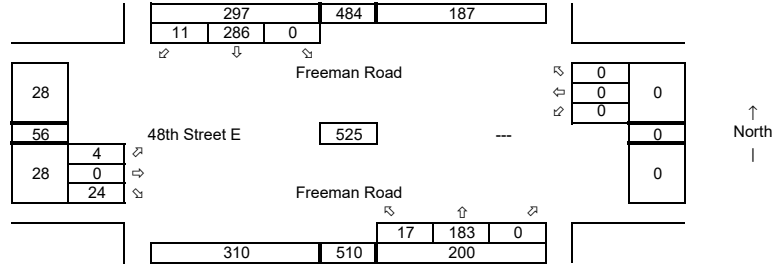
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



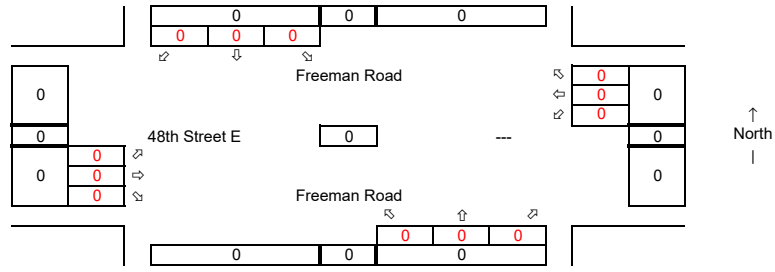
Total Development Trips
 Average Weekday
 PM Peak Hour



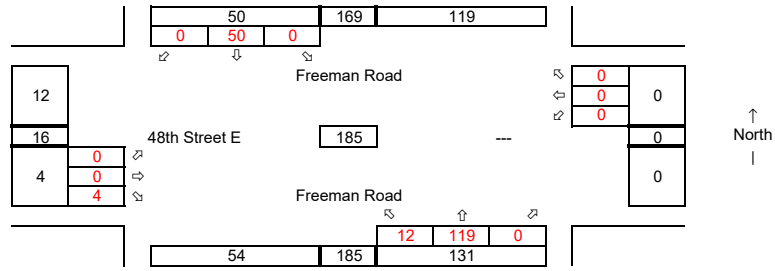
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



**Freeman Logistics
140 - Manufacturing**

13 Freeman Rd @ 50th St E

PM Peak-Hour

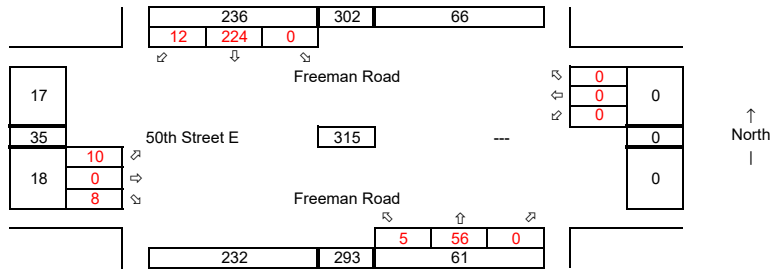
Synchro ID: 13

Existing

Average Weekday
PM Peak Hour

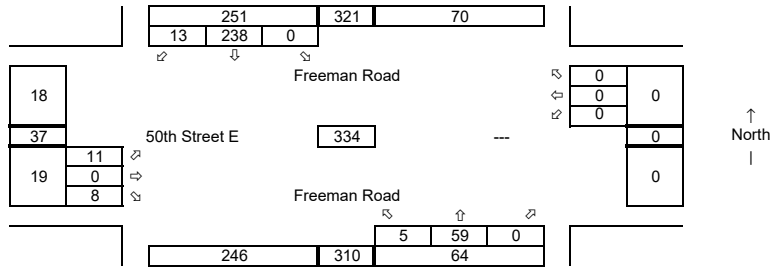
Year: **6/8/2023**

Data Source: **IDAX**

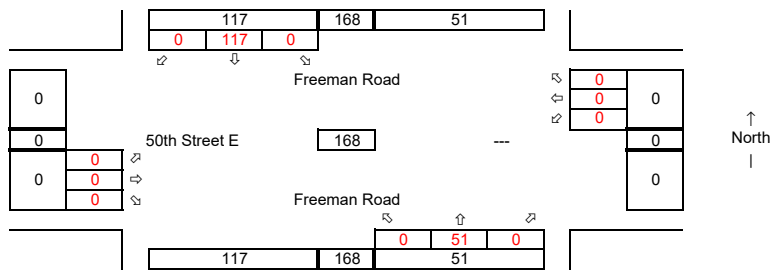


Future without Project
Average Weekday
PM Peak Hour

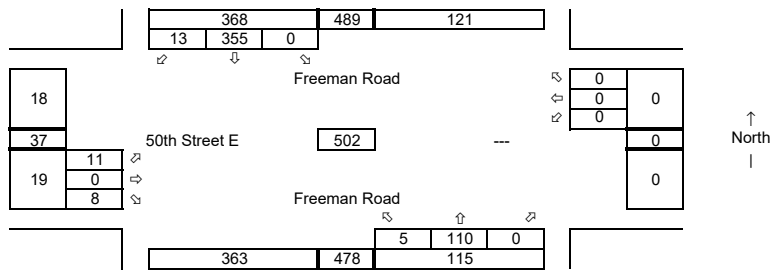
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



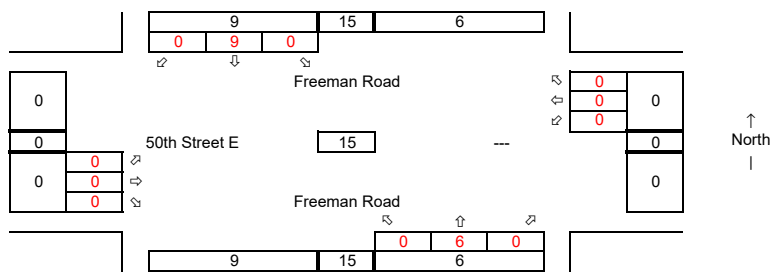
Total Development Trips
Average Weekday
PM Peak Hour



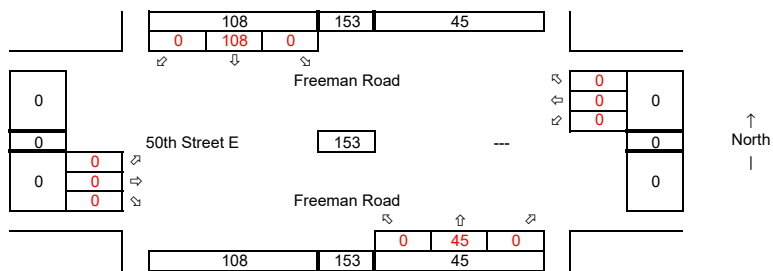
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



**Freeman Logistics
140 - Manufacturing**

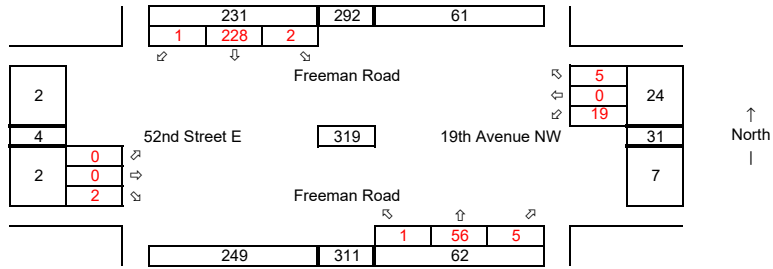
14 Freeman Rd @ 52nd St E

PM Peak-Hour

Synchro ID: 14
Existing
Average Weekday
PM Peak Hour

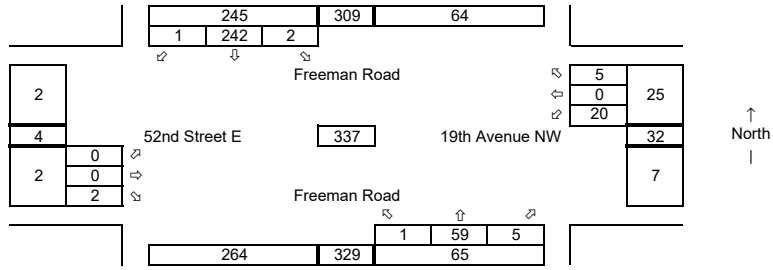
Year: **6/8/2023**

Data Source: **IDAX**

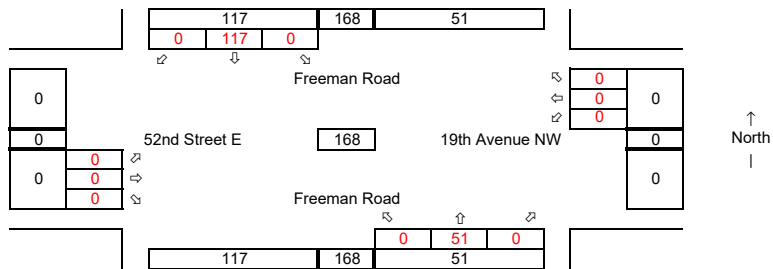


Future without Project
Average Weekday
PM Peak Hour

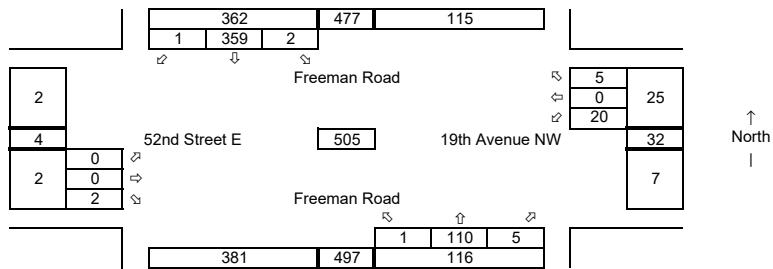
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



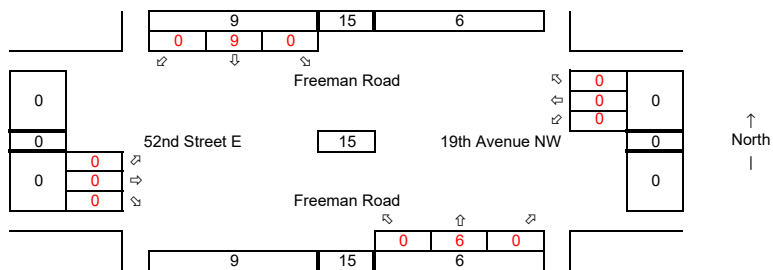
Total Development Trips
Average Weekday
PM Peak Hour



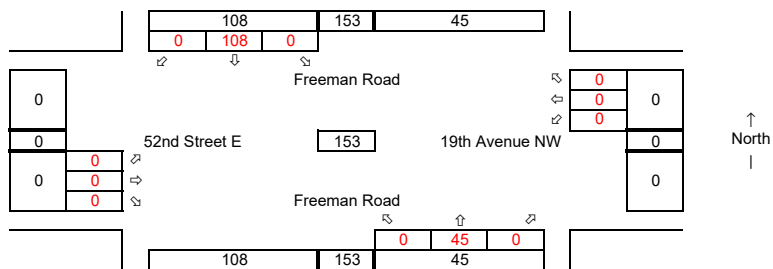
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour

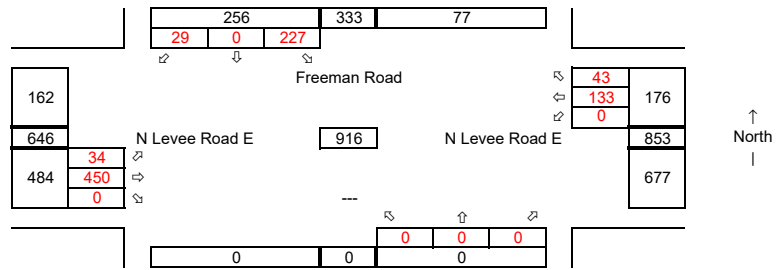


Synchro ID: 15

Existing
 Average Weekday
 PM Peak Hour

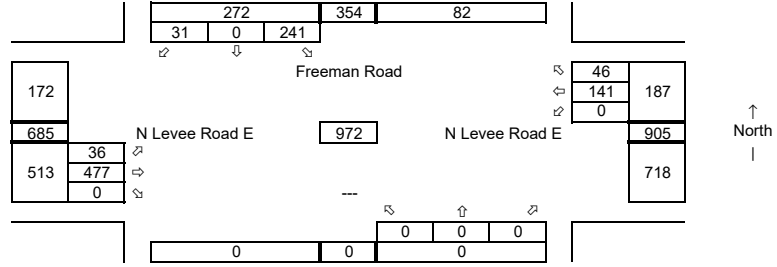
Year: **6/15/2023**

Data Source: **IDAX**

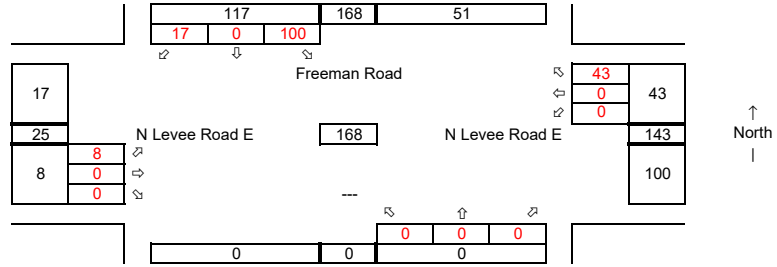


Future without Project
 Average Weekday
 PM Peak Hour

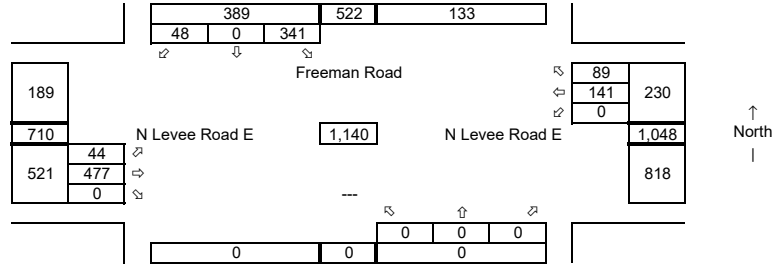
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



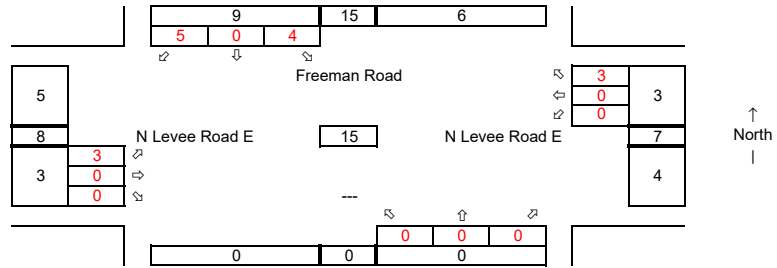
Total Development Trips
 Average Weekday
 PM Peak Hour



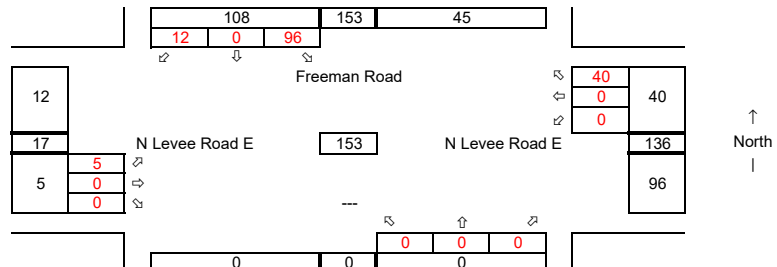
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



**Freeman Logistics
140 - Manufacturing**

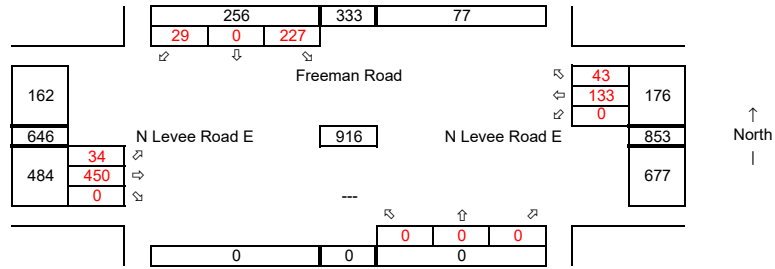
15 Freeman Rd E @ N Levee Rd

PM Peak-Hour

Synchro ID: 15
 With SR-167 Extension Existing
 Average Weekday
 PM Peak Hour

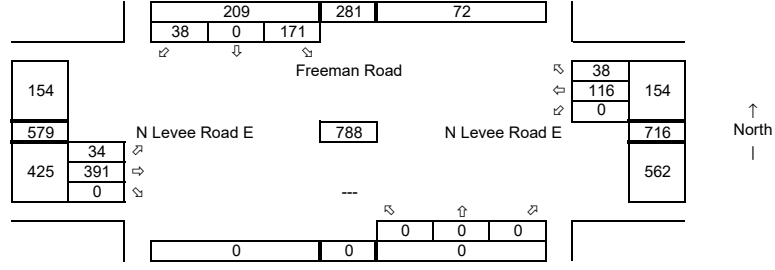
Year: 6/15/2023

Data Source: IDAX

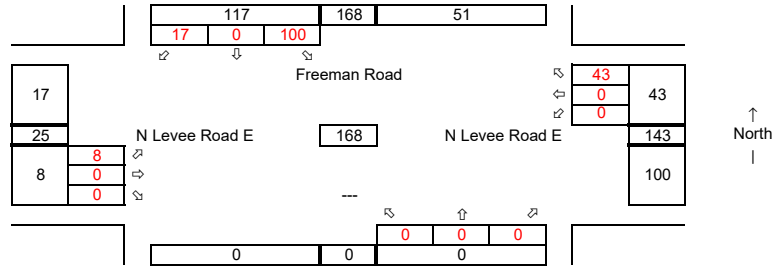


Future without Project
 Average Weekday
 PM Peak Hour

Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609

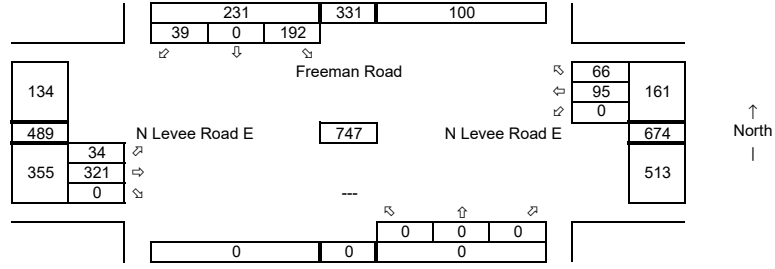


Total Development Trips
 Average Weekday
 PM Peak Hour

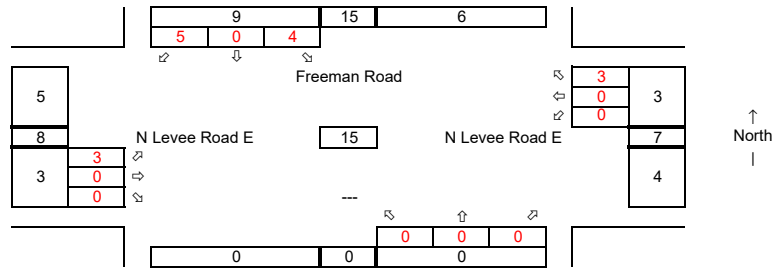


Future with Project
 Average Weekday
 PM Peak Hour

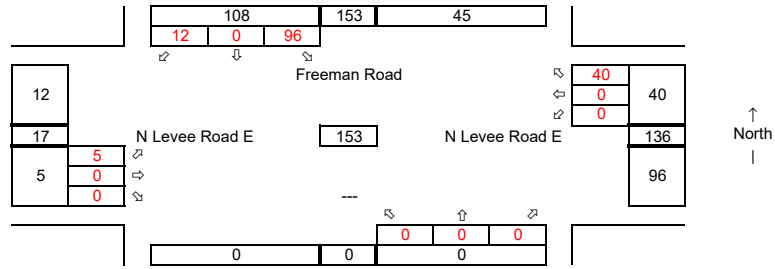
N/S Diversion % 29%
 E/W Diversion % 18%



Development Truck Trips
 Average Weekday
 PM Peak Hour



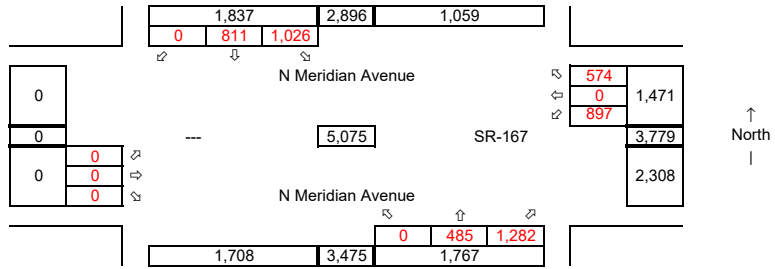
Development Car Trips
 Average Weekday
 PM Peak Hour



Synchro ID: 16
Existing
Average Weekday
PM Peak Hour

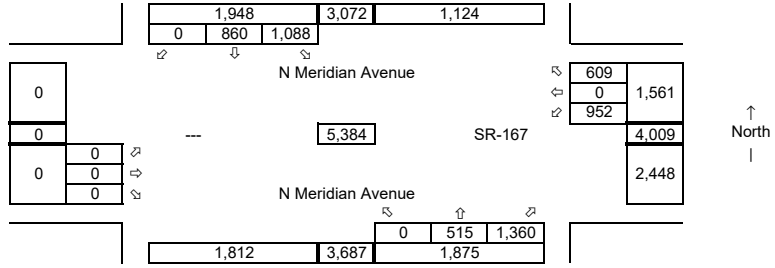
Year: 6/14/2023

Data Source: IDAX

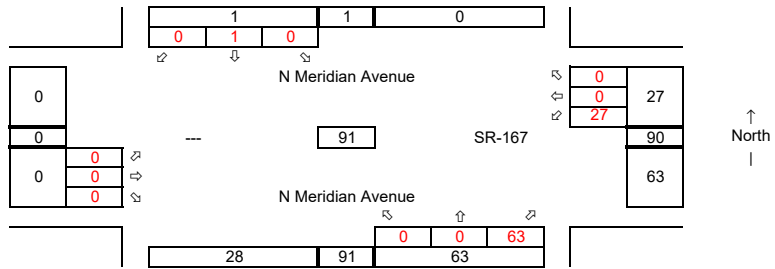


Future without Project
Average Weekday
PM Peak Hour

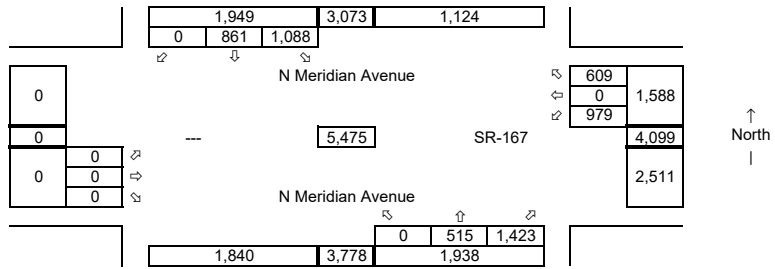
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



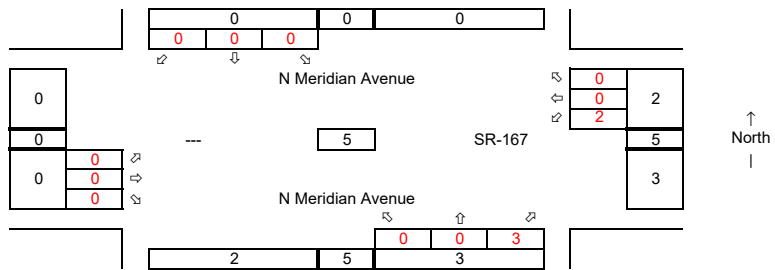
Total Development Trips
Average Weekday
PM Peak Hour



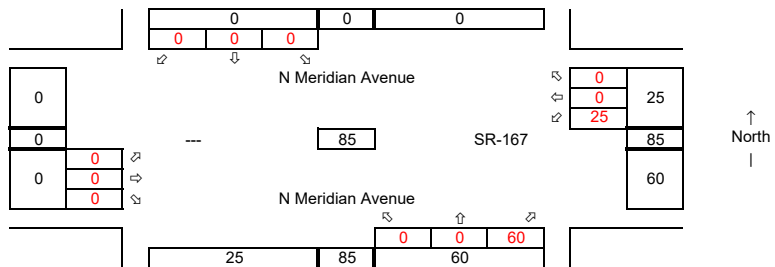
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



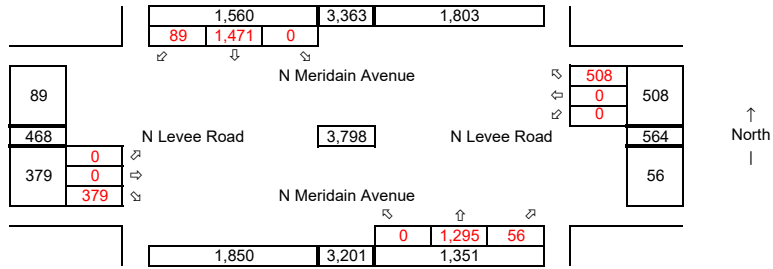
Development Car Trips
Average Weekday
PM Peak Hour



Synchro ID: 17
Existing
Average Weekday
PM Peak Hour

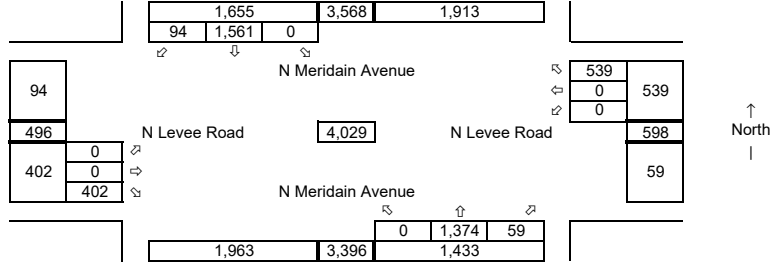
Year: 6/14/2023

Data Source: IDAX

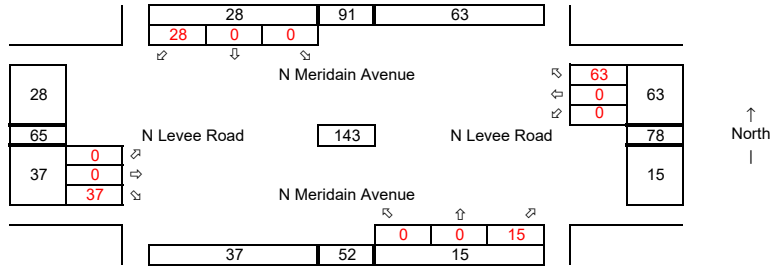


Future without Project
Average Weekday
PM Peak Hour

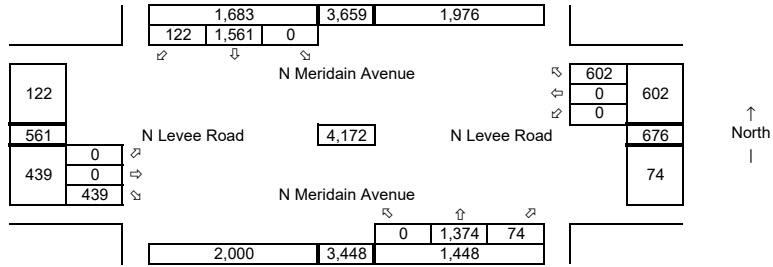
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



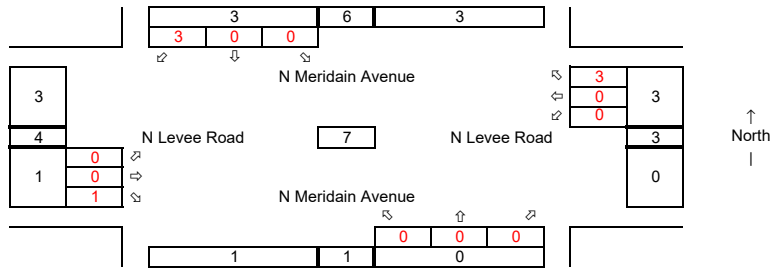
Total Development Trips
Average Weekday
PM Peak Hour



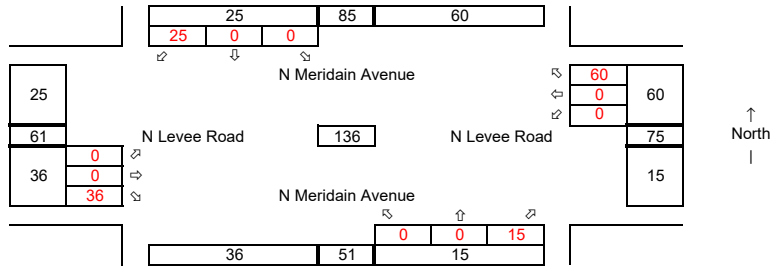
Future with Project
Average Weekday
PM Peak Hour



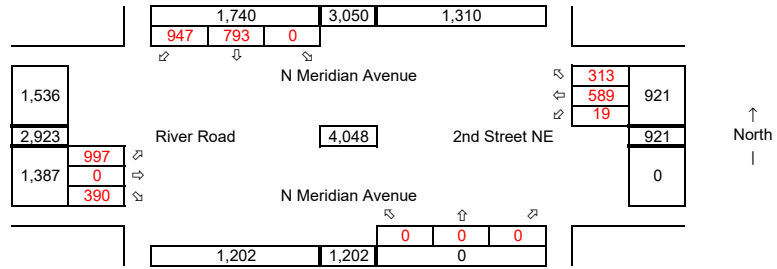
Development Truck Trips
Average Weekday
PM Peak Hour



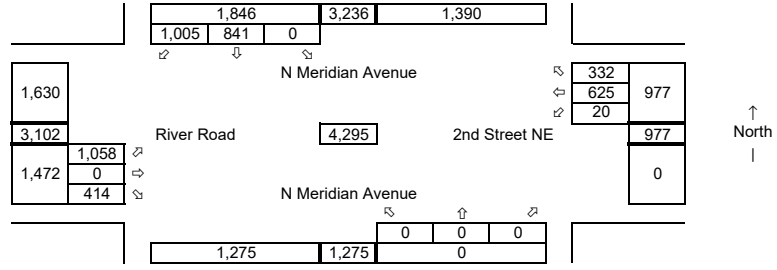
Development Car Trips
Average Weekday
PM Peak Hour



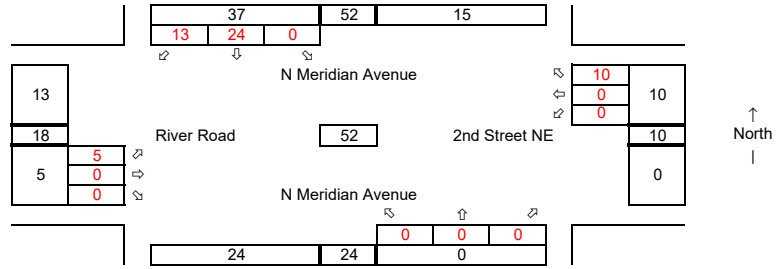
Synchro ID: 18
Existing
 Average Weekday
 PM Peak Hour
 Year: **6/14/2023**
 Data Source: **IDAX**



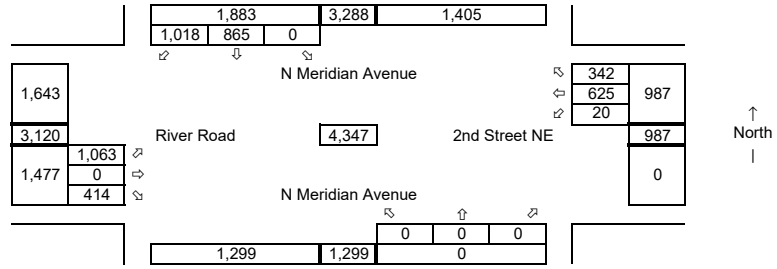
Future without Project
 Average Weekday
 PM Peak Hour
 Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



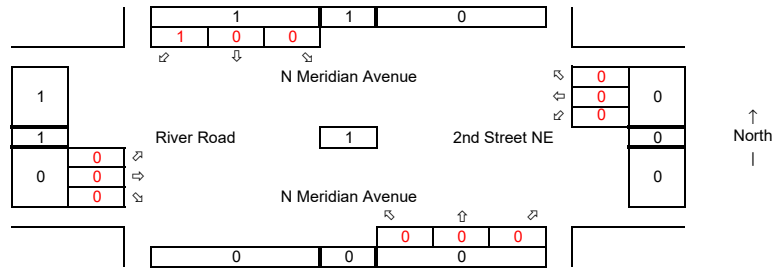
Total Development Trips
 Average Weekday
 PM Peak Hour



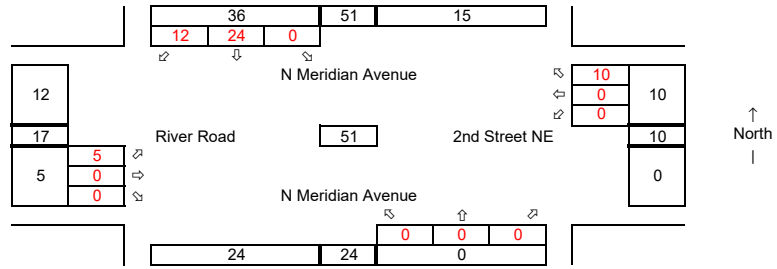
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour



Development Car Trips
 Average Weekday
 PM Peak Hour



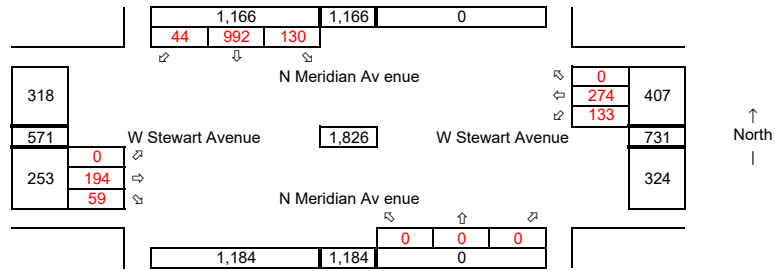
Synchro ID: 19

Existing
Average Weekday
PM Peak Hour

Year: 6/14/2023

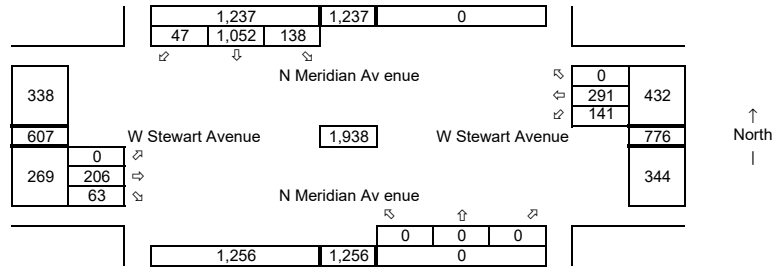
Data Source: IDAX

One (1) Westbound U-turn
added to Westbound left-turns

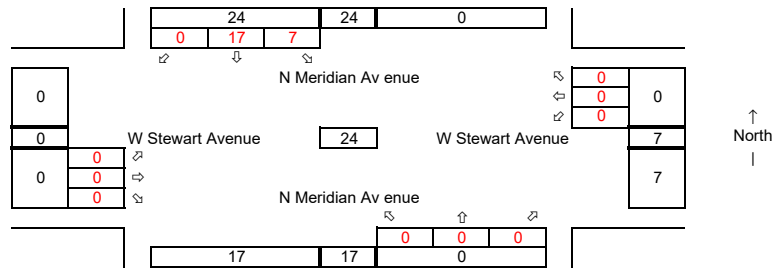


Future without Project
Average Weekday
PM Peak Hour

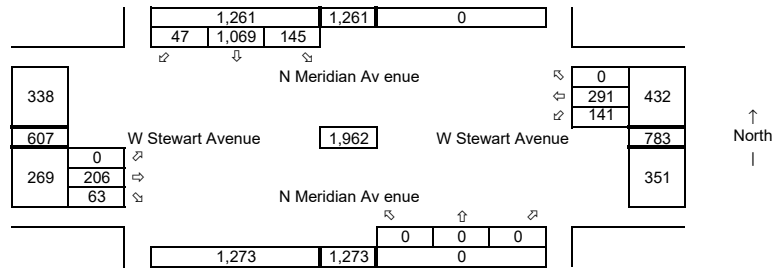
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



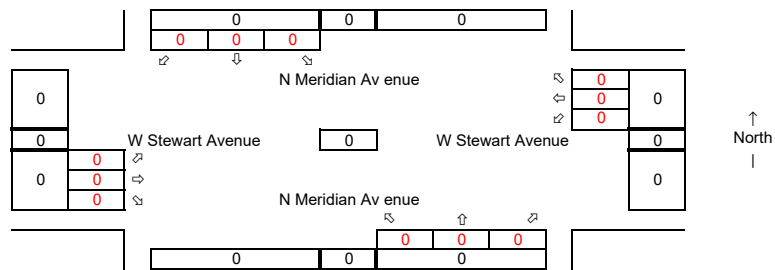
Total Development Trips
Average Weekday
PM Peak Hour



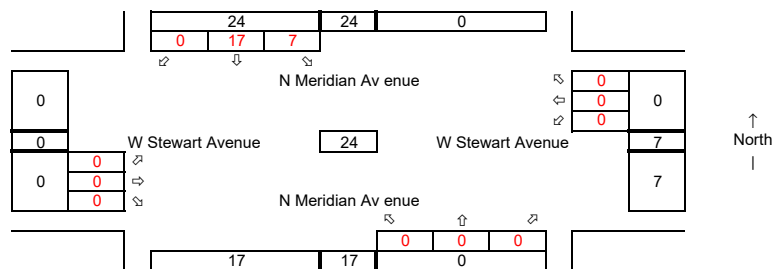
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



**Freeman Logistics
140 - Manufacturing**

20 2nd St NE @ w Stewart Ave

PM Peak-Hour

Synchro ID: 20
Existing
Average Weekday
PM Peak Hour

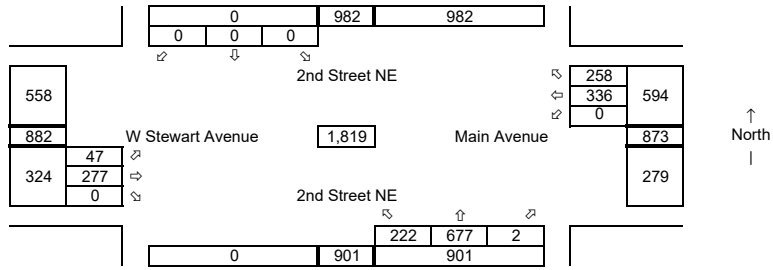
Year: **6/15/2023**

Data Source: **IDAX**

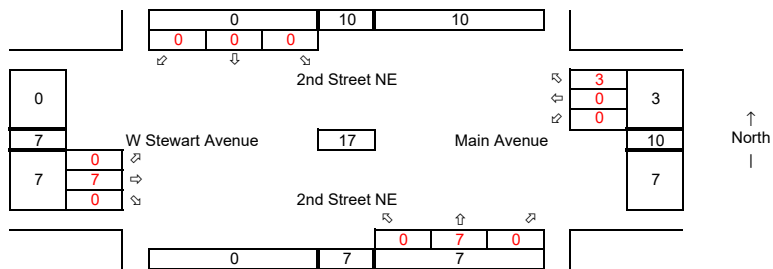


Future without Project
Average Weekday
PM Peak Hour

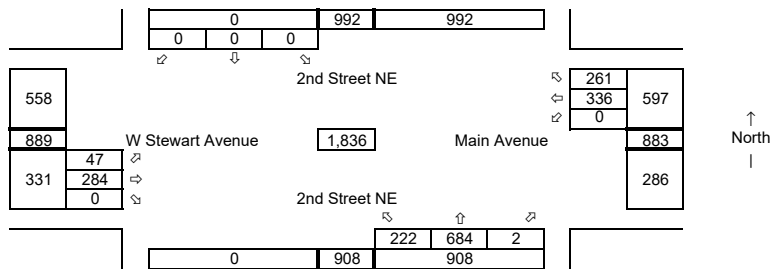
Year: 2025
Growth Rate = 3.0%
Years of Growth = 2
Total Growth = 1.0609



Total Development Trips
Average Weekday
PM Peak Hour



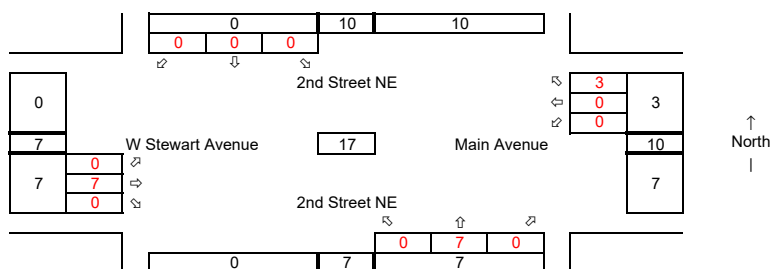
Future with Project
Average Weekday
PM Peak Hour



Development Truck Trips
Average Weekday
PM Peak Hour



Development Car Trips
Average Weekday
PM Peak Hour



**Freeman Logistics
140 - Manufacturing**

21 Freeman Rd @ Site Access

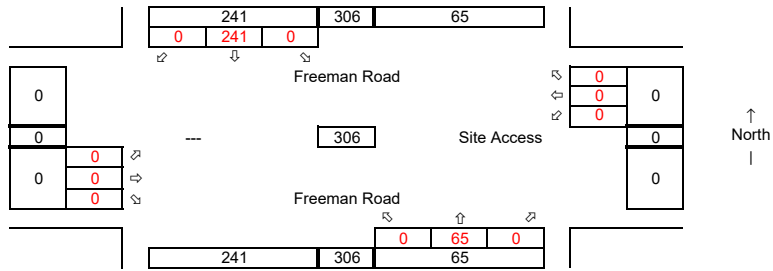
PM Peak-Hour

Synchro ID: 21
Existing
 Average Weekday
 PM Peak Hour

Year: **6/8/2023**

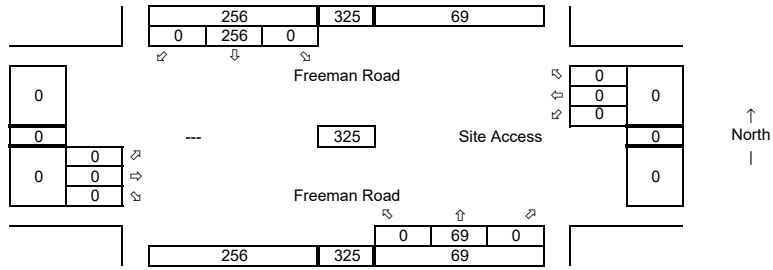
Data Source: **IDAX**

NB/SB volumes extrapolated from Freeman at 48th Street E

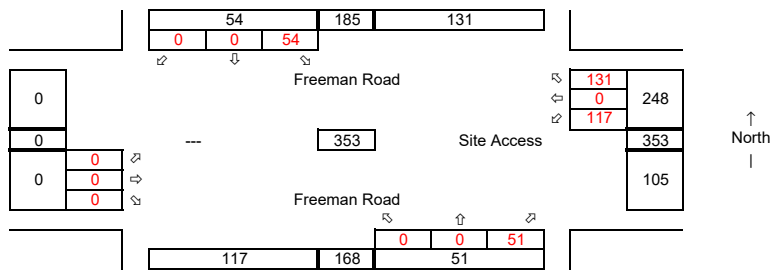


Future without Project
 Average Weekday
 PM Peak Hour

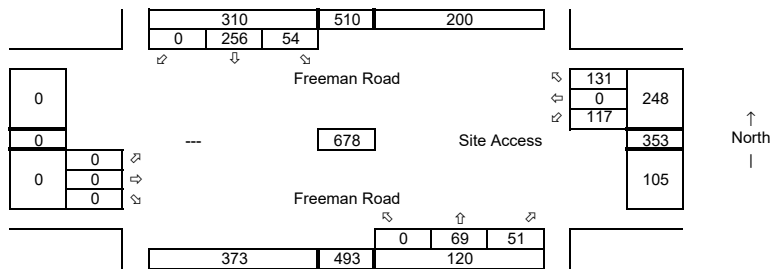
Year: 2025
 Growth Rate = 3.0%
 Years of Growth = 2
 Total Growth = 1.0609



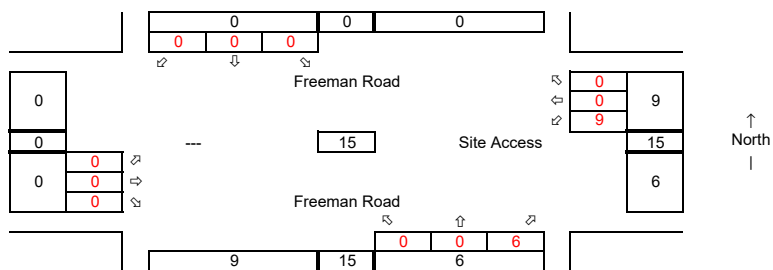
Total Development Trips
 Average Weekday
 PM Peak Hour



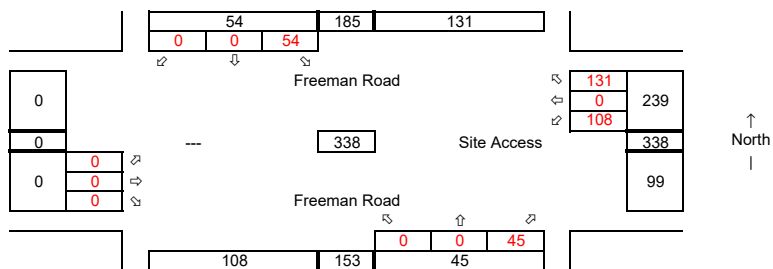
Future with Project
 Average Weekday
 PM Peak Hour



Development Truck Trips
 Average Weekday
 PM Peak Hour

























Development Car Trips
 Average Weekday
 PM Peak Hour



Lanes, Volumes, Timings
1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	137	45	76	214	175	45	309	45	140	457	47
Future Volume (vph)	17	137	45	76	214	175	45	309	45	140	457	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	200		0	100		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.963			0.933			0.981			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1759	0	1736	1705	0	1456	2856	0	1504	2966	0
Flt Permitted	0.359			0.637			0.423			0.531		
Satd. Flow (perm)	656	1759	0	1164	1705	0	648	2856	0	841	2966	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			46			23			16	
Link Speed (mph)		25			35			35			35	
Link Distance (ft)		727			778			1175			536	
Travel Time (s)		19.8			15.2			22.9			10.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	4%	4%	4%	4%	4%	4%	24%	24%	24%	20%	20%	20%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	191	0	80	409	0	47	372	0	147	530	0
Turn Type	Perm	NA		Perm	NA		D.P+P	NA		D.P+P	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			6			2		
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	24.5	24.5		24.5	24.5		10.0	19.0		10.0	17.0	
Total Split (s)	25.0	25.0		25.0	25.0		19.0	40.0		19.0	40.0	
Total Split (%)	29.8%	29.8%		29.8%	29.8%		22.6%	47.6%		22.6%	47.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	4.0		3.0	4.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.0	5.0		4.0	5.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Min		None	Min	
Act Effct Green (s)	18.7	18.7		18.7	18.7		22.7	13.3		21.1	19.2	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.44	0.26		0.41	0.37	
v/c Ratio	0.07	0.29		0.19	0.63		0.12	0.49		0.32	0.47	
Control Delay (s/veh)	14.9	14.2		15.3	19.6		8.1	19.2		10.1	14.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	14.9	14.2		15.3	19.6		8.1	19.2		10.1	14.9	
LOS	B	B		B	B		A	B		B	B	
Approach Delay (s/veh)		14.3			18.9			18.0			13.9	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)	4	38		17	92		8	53		26	54	
Queue Length 95th (ft)	18	96		52	#222		21	93		52	124	

Lanes, Volumes, Timings
 1: 54th Avenue E & 12th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		647			698			1095			456	
Turn Bay Length (ft)	100			200			100			100		
Base Capacity (vph)	274	746		486	740		566	2004		616	2079	
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	0.07	0.26		0.16	0.55		0.08	0.19		0.24	0.25	























Intersection Summary	
Area Type:	Other
Cycle Length:	84
Actuated Cycle Length:	51.8
Natural Cycle:	55
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay (s/veh):	16.3
Intersection LOS:	B
Intersection Capacity Utilization:	61.1%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 1: 54th Avenue E & 12th Street E



Lanes, Volumes, Timings
2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	466	369	722	721	123	353	278	430	179	438	80
Future Volume (vph)	105	466	369	722	721	123	353	278	430	179	438	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.978			0.909				0.977
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1626	3252	1455	3242	3269	0	3127	2930	0	1517	2964	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1626	3252	1455	3242	3269	0	3127	2930	0	1517	2964	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			61		12			259				13
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1085			1070			320				1175
Travel Time (s)		21.1			20.8			6.2				22.9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	11%	11%	11%	8%	8%	8%	12%	12%	12%	19%	19%	19%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	496	393	768	898	0	376	753	0	190	551	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.0	40.0	47.0	22.0	44.0		47.0	47.0		41.0	41.0	
Total Split (%)	12.0%	26.7%	31.3%	14.7%	29.3%		31.3%	31.3%		27.3%	27.3%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	12.9	35.3	80.4	17.5	39.9		45.1	45.1		33.5	33.5	
Actuated g/C Ratio	0.09	0.24	0.54	0.12	0.27		0.30	0.30		0.22	0.22	
v/c Ratio	0.80	0.64	0.48	2.03	1.02		0.40	0.70		0.56	0.81	
Control Delay (s/veh)	104.1	56.3	12.1	504.5	88.7		45.4	37.4		58.1	64.6	
Queue Delay	0.0	0.0	0.1	4.1	0.0		1.6	8.9		0.0	0.0	
Total Delay (s/veh)	104.1	56.3	12.3	508.6	88.7		47.0	46.3		58.1	64.6	
LOS	F	E	B	F	F		D	D		E	E	
Approach Delay (s/veh)		44.4			282.3			46.6			63.0	
Approach LOS		D			F			D			E	
Queue Length 50th (ft)	109	232	120	~605	~492		160	257		163	261	
Queue Length 95th (ft)	#211	296	179	#735	#630		219	341		247	331	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

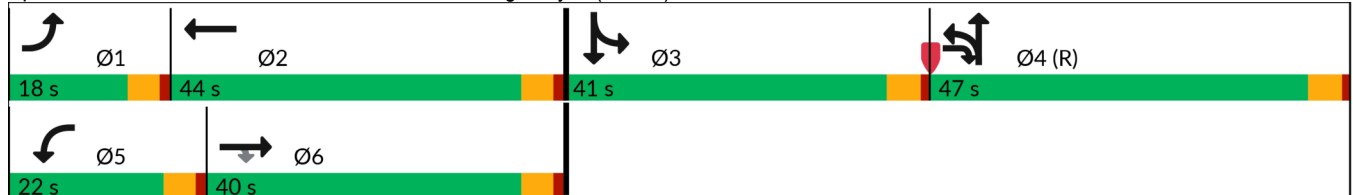
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1005			990			240			1095	
Turn Bay Length (ft)	225			550			150			125		
Base Capacity (vph)	146	765	808	378	878		940	1062		367	727	
Starvation Cap Reductn	0	0	0	0	0		383	276		0	0	
Spillback Cap Reductn	0	0	65	114	0		0	0		0	1	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.77	0.65	0.53	2.91	1.02		0.68	0.96		0.52	0.76	

Intersection Summary























Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 138 (92%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 2.03
 Intersection Signal Delay (s/veh): 135.4 Intersection LOS: F
 Intersection Capacity Utilization 80.4% ICU Level of Service D
 Analysis Period (min) 15
 ~ 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.

Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings
2: 54th Avenue E & Pacific Highway E (SR-99)

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	466	369	722	721	123	353	278	430	179	438	80
Future Volume (vph)	105	466	369	722	721	123	353	278	430	179	438	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	550		0	150		0	125		0
Storage Lanes	1		1	2		0	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	0.95	0.97	0.95	0.95	1.00	0.95	0.95
Frt			0.850		0.978			0.909				0.977
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1626	3252	1455	3242	3269	0	3127	2930	0	1517	2964	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1626	3252	1455	3242	3269	0	3127	2930	0	1517	2964	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			81		14			247				13
Link Speed (mph)		35			35			35				35
Link Distance (ft)		1085			1070			320				1175
Travel Time (s)		21.1			20.8			6.2				22.9
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	11%	11%	11%	8%	8%	8%	12%	12%	12%	19%	19%	19%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	112	496	393	768	898	0	376	753	0	190	551	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6	4	5	2		4	4		3	3	
Permitted Phases			6									
Detector Phase	1	6	4	5	2		4	4		3	3	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0		10.0	10.0		6.0	6.0	
Minimum Split (s)	10.5	38.7	35.7	10.5	37.7		35.7	35.7		38.7	38.7	
Total Split (s)	18.7	38.7	36.6	31.0	51.0		36.6	36.6		38.7	38.7	
Total Split (%)	12.9%	26.7%	25.2%	21.4%	35.2%		25.2%	25.2%		26.7%	26.7%	
Yellow Time (s)	3.5	3.7	3.7	3.5	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7	4.7	4.5	4.7		4.7	4.7		4.7	4.7	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Ped	C-Max	None	Ped		C-Max	C-Max		None	None	
Act Effct Green (s)	13.1	34.0	68.0	26.5	47.4		34.0	34.0		31.9	31.9	
Actuated g/C Ratio	0.09	0.23	0.47	0.18	0.33		0.23	0.23		0.22	0.22	
v/c Ratio	0.76	0.65	0.54	1.29	0.83		0.51	0.85		0.57	0.83	
Control Delay (s/veh)	94.6	54.7	14.0	191.7	52.6		51.7	46.5		57.3	64.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		1.7	22.0		0.0	0.0	
Total Delay (s/veh)	94.6	54.7	14.0	191.7	52.6		53.5	68.5		57.3	64.4	
LOS	F	D	B	F	D		D	E		E	E	
Approach Delay (s/veh)		43.3			116.8			63.6			62.6	
Approach LOS		D			F			E			E	
Queue Length 50th (ft)	104	224	106	~476	412		163	259		158	253	
Queue Length 95th (ft)	#195	288	161	#605	502		218	#374		243	324	

Lanes, Volumes, Timings

2: 54th Avenue E & Pacific Highway E (SR-99)

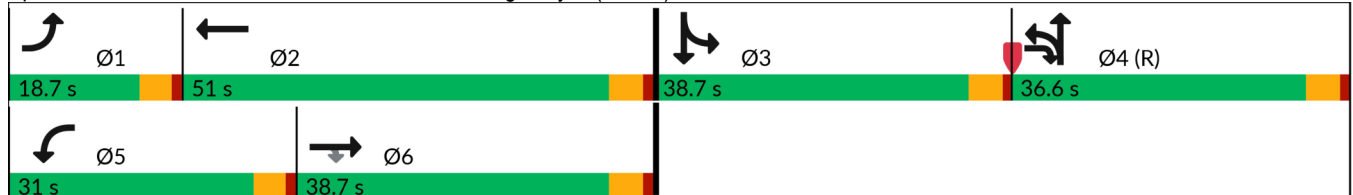
2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Internal Link Dist (ft)		1005				990				240				1095		
Turn Bay Length (ft)	225			550			150			125						
Base Capacity (vph)	159	762	725	592	1077		733	876		355	704					
Starvation Cap Reductn	0	0	0	0	0		209	143		0	0					
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0					
Storage Cap Reductn	0	0	0	0	0		0	0		0	0					
Reduced v/c Ratio	0.70	0.65	0.54	1.30	0.83		0.72	1.03		0.54	0.78					

Intersection Summary

Area Type: Other
 Cycle Length: 145
 Actuated Cycle Length: 145
 Offset: 0 (0%), Referenced to phase 4:NBTL, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.30
 Intersection Signal Delay (s/veh): 78.5 Intersection LOS: E
 Intersection Capacity Utilization 80.4% ICU Level of Service D
 Analysis Period (min) 15
 ~ 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.



















Splits and Phases: 2: 54th Avenue E & Pacific Highway E (SR-99)



Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	293	0	302	0	773	490	0	721	700
Future Volume (vph)	0	0	0	293	0	302	0	773	490	0	721	700
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		100	0		0
Storage Lanes	0		0	1		1	0		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt						0.850			0.850		0.987	0.850
Flt Protected				0.950								
Satd. Flow (prot)	0	0	0	1626	0	1455	0	3438	1538	0	1681	1447
Flt Permitted				0.950								
Satd. Flow (perm)	0	0	0	1626	0	1455	0	3438	1538	0	1681	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						215			420		7	663
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1083			1080			827			320	
Travel Time (s)		24.6			24.5			18.8			7.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	0%	0%	0%	11%	11%	11%	5%	5%	5%	6%	6%	6%
Shared Lane Traffic (%)												10%
Lane Group Flow (vph)	0	0	0	308	0	318	0	814	516	0	833	663
Turn Type				Prot		custom		NA	Perm		NA	custom
Protected Phases				3		34		6			2	24
Permitted Phases						4			6			Free
Detector Phase				3		34		6	6		2	24
Switch Phase												
Minimum Initial (s)				5.0				10.0	10.0		10.0	
Minimum Split (s)				9.5				14.7	14.7		14.5	
Total Split (s)				35.0				103.0	103.0		103.0	
Total Split (%)				23.3%				68.7%	68.7%		68.7%	
Yellow Time (s)				3.5				3.7	3.7		3.5	
All-Red Time (s)				1.0				1.0	1.0		1.0	
Lost Time Adjust (s)				0.0				0.0	0.0		0.0	
Total Lost Time (s)				4.5				4.7	4.7		4.5	
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Recall Mode				None				C-Max	C-Max		C-Max	
Act Effct Green (s)				29.9		39.7		101.1	101.1		101.3	150.0
Actuated g/C Ratio				0.20		0.26		0.67	0.67		0.68	1.00
v/c Ratio				0.95		0.58		0.35	0.43		0.73	0.45
Control Delay (s/veh)				97.8		19.5		11.1	3.2		19.6	4.5
Queue Delay				0.0		0.2		0.1	0.0		50.8	0.0
Total Delay (s/veh)				97.8		19.8		11.2	3.2		70.5	4.5
LOS				F		B		B	A		E	A
Approach Delay (s/veh)					58.2			8.1			41.3	
Approach LOS					E			A			D	
Queue Length 50th (ft)				300		84		168	31		564	200
Queue Length 95th (ft)				#484		188		211	80		m487	m113

Lanes, Volumes, Timings

3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Heavy Vehicles (%)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	3.0
Minimum Split (s)	7.5
Total Split (s)	12.0
Total Split (%)	8%
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lag
Lead-Lag Optimize?	Yes
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	
LOS	
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	

Lanes, Volumes, Timings

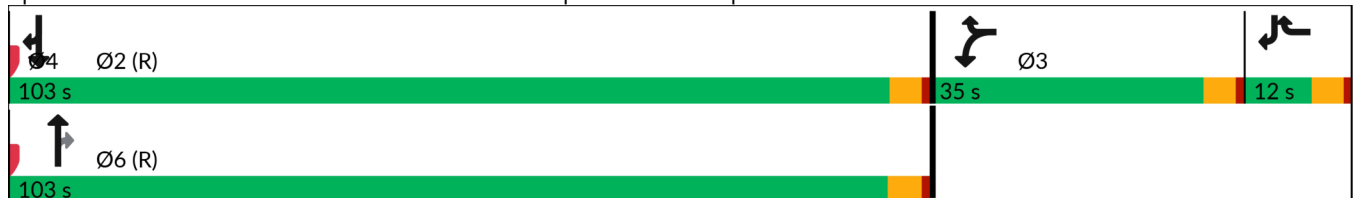
3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		1003			1000			747			240	
Turn Bay Length (ft)									100			
Base Capacity (vph)				330		559		2316	1173		1137	1447
Starvation Cap Reductn				0		0		0	0		423	0
Spillback Cap Reductn				0		30		495	0		0	0
Storage Cap Reductn				0		0		0	0		0	0
Reduced v/c Ratio				0.93		0.60		0.45	0.44		1.17	0.46

Intersection Summary	
Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Offset:	60 (40%), Referenced to phase 2:SBT and 6:NBT, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.95
Intersection Signal Delay (s/veh):	31.6
Intersection LOS:	C
Intersection Capacity Utilization	75.5%
ICU Level of Service	D
Analysis Period (min)	15
#	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.

Splits and Phases: 3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp



Lanes, Volumes, Timings























3: 54th Avenue E & I-5 SB On-Ramp/I-5 SB Off-Ramp

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	Ø4
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	308	195	24	182	535	150	495	23	356	683	280
Future Volume (vph)	313	308	195	24	182	535	150	495	23	356	683	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.946				0.850		0.993			0.958	
Flt Protected	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (prot)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2834	0
Flt Permitted	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (perm)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2834	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59				105		3			40	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)	12%									10%		
Lane Group Flow (vph)	281	551	0	0	210	546	153	528	0	327	1019	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	38.0	38.0		26.0	26.0	60.0	26.0	26.0		60.0	60.0	
Total Split (%)	25.3%	25.3%		17.3%	17.3%	40.0%	17.3%	17.3%		40.0%	40.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	32.1	32.1			20.8	81.2	23.3	23.3		55.9	55.9	
Actuated g/C Ratio	0.21	0.21			0.14	0.54	0.16	0.16		0.37	0.37	
v/c Ratio	0.94	0.86			0.92	0.67	0.61	1.07		0.62	0.94	
Control Delay (s/veh)	96.9	64.9			107.1	24.6	72.1	118.9		44.9	60.4	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	96.9	64.9			107.1	24.6	72.1	118.9		44.9	60.4	
LOS	F	E			F	C	E	F		D	E	
Approach Delay (s/veh)		75.7			47.6			108.5			56.7	
Approach LOS		E			D			F			E	
Queue Length 50th (ft)	296	257			205	307	144	~320		287	514	
Queue Length 95th (ft)	#486	#336			#359	450	226	#443		412	#667	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	311	664			234	804	247	492		524	1081	
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	0.90	0.83			0.90	0.68	0.62	1.07		0.62	0.94	

Intersection Summary

Area Type: CBD

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 6:, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay (s/veh): 68.9 Intersection LOS: E

Intersection Capacity Utilization 89.1% ICU Level of Service E

Analysis Period (min) 15

~ 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.

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings
4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	313	308	195	24	182	535	150	495	23	356	683	280
Future Volume (vph)	313	308	195	24	182	535	150	495	23	356	683	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		0	300		0	200		0	175		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.91	0.91	0.95	1.00	1.00	1.00	1.00	0.95	0.95	0.91	0.91	0.95
Frt		0.946				0.850		0.993			0.958	
Flt Protected	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (prot)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2834	0
Flt Permitted	0.950	0.997			0.994		0.950			0.950	0.998	
Satd. Flow (perm)	1395	2769	0	0	1634	1398	1593	3163	0	1408	2834	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		67				84		3			45	
Link Speed (mph)		35			35			30			30	
Link Distance (ft)		738			676			783			335	
Travel Time (s)		14.4			13.2			17.8			7.6	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	6%	4%	4%	4%	2%	2%	2%	5%	5%	5%
Shared Lane Traffic (%)	12%									10%		
Lane Group Flow (vph)	281	551	0	0	210	546	153	528	0	327	1019	0
Turn Type	Split	NA		Split	NA	pm+ov	Split	NA		Split	NA	
Protected Phases	1	1		3	3	2	4	4		2	2	
Permitted Phases						3						
Detector Phase	1	1		3	3	2	4	4		2	2	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	22.5	22.5		22.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	31.0	31.0		22.8	22.8	50.2	26.0	26.0		50.2	50.2	
Total Split (%)	23.8%	23.8%		17.5%	17.5%	38.6%	20.0%	20.0%		38.6%	38.6%	
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lead		Lead	Lead	Lag	Lag	Lag		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None	None	None	None		None	None	
Act Effct Green (s)	26.5	26.5			17.9	68.1	21.9	21.9		45.7	45.7	
Actuated g/C Ratio	0.20	0.20			0.14	0.52	0.17	0.17		0.35	0.35	
v/c Ratio	0.98	0.89			0.93	0.70	0.57	0.98		0.66	0.99	
Control Delay (s/veh)	102.4	62.1			100.4	25.4	59.3	89.4		43.3	66.9	
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	102.4	62.1			100.4	25.4	59.3	89.4		43.3	66.9	
LOS	F	E			F	C	E	F		D	E	
Approach Delay (s/veh)		75.8			46.3			82.7			61.2	
Approach LOS		E			D			F			E	
Queue Length 50th (ft)	261	222			177	287	121	~237		254	453	
Queue Length 95th (ft)	#463	#330			#327	431	195	#361		378	#615	

Lanes, Volumes, Timings
 4: 54th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		658			596			703			255	
Turn Bay Length (ft)	300						200			175		
Base Capacity (vph)	284	617			230	772	268	535		494	1025	
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	0.99	0.89			0.91	0.71	0.57	0.99		0.66	0.99	

Intersection Summary

Area Type: CBD

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 6:, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay (s/veh): 65.5 Intersection LOS: E

Intersection Capacity Utilization 89.1% ICU Level of Service E

Analysis Period (min) 15

~ 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.

Splits and Phases: 4: 54th Avenue E & 20th Street E



Lanes, Volumes, Timings

5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗		↖	↗		↖	↗	↖
Traffic Volume (vph)	1	0	3	6	0	111	1	477	5	88	664	0
Future Volume (vph)	1	0	3	6	0	111	1	477	5	88	664	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	100		0	210		0	100		0
Storage Lanes	0		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.899			0.850			0.999				
Flt Protected		0.988		0.950			0.950			0.950		
Satd. Flow (prot)	0	1350	0	1805	1615	0	1752	1843	0	1752	1845	1845
Flt Permitted		0.878		0.672			0.342			0.351		
Satd. Flow (perm)	0	1200	0	1277	1615	0	631	1843	0	647	1845	1845
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		74			546			1				
Link Speed (mph)		25			25			30				30
Link Distance (ft)		362			838			575				783
Travel Time (s)		9.9			22.9			13.1				17.8
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	25%	25%	25%	0%	0%	0%	3%	3%	3%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	6	117	0	1	507	0	93	699	0
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8			4			6			2		2
Detector Phase	3	8		7	4		1	6		5	2	2
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	6.0		4.0	6.0	6.0
Minimum Split (s)	8.0	24.5		8.0	24.0		8.0	14.5		8.0	14.5	14.5
Total Split (s)	14.0	16.5		14.0	16.0		14.0	34.5		16.0	34.5	34.5
Total Split (%)	17.3%	20.4%		17.3%	19.8%		17.3%	42.6%		19.8%	42.6%	42.6%
Yellow Time (s)	3.0	3.5		3.0	3.0		3.0	3.5		3.0	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)		0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)		4.5		4.0	4.0		4.0	4.5		4.0	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None		None	None		None	Max		None	Max	Max
Act Effct Green (s)		5.6		7.7	7.7		39.4	35.2		43.6	42.7	
Actuated g/C Ratio		0.10		0.13	0.13		0.69	0.61		0.76	0.74	
v/c Ratio		0.02		0.02	0.16		0.00	0.44		0.14	0.50	
Control Delay (s/veh)		0.2		21.3	0.5		4.0	11.3		3.5	8.6	
Queue Delay		0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)		0.2		21.3	0.5		4.0	11.3		3.5	8.6	
LOS		A		C	A		A	B		A	A	
Approach Delay (s/veh)		0.3			1.5			11.3			8.0	
Approach LOS		A			A			B			A	
Queue Length 50th (ft)		0		2	0		0	96		5	67	
Queue Length 95th (ft)		0		10	0		2	250		27	#382	

Lanes, Volumes, Timings

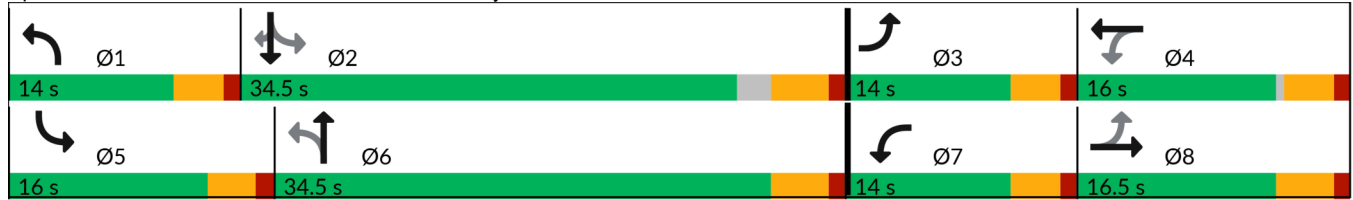
5: 54th Avenue E & Driveway/23rd Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		282			758			495			703	
Turn Bay Length (ft)				100			210			100		
Base Capacity (vph)		311		341	793		663	1130		727	1371	
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		0.01		0.02	0.15		0.00	0.45		0.13	0.51	

Intersection Summary	
Area Type:	Other
Cycle Length:	81
Actuated Cycle Length:	57.4
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.51
Intersection Signal Delay (s/veh):	8.6
Intersection LOS:	A
Intersection Capacity Utilization:	55.6%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 5: 54th Avenue E & Driveway/23rd Street E



Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	661	55	30	472	0	17	0	21	1	0	0
Future Volume (vph)	18	661	55	30	472	0	17	0	21	1	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	125		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.988						0.924				
Flt Protected	0.950			0.950				0.979			0.950	
Satd. Flow (prot)	1752	1823	0	1787	1881	0	0	1719	0	0	1805	0
Flt Permitted	0.474			0.309								
Satd. Flow (perm)	874	1823	0	581	1881	0	0	1756	0	0	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13						31				
Link Speed (mph)		30			30			25				25
Link Distance (ft)		575			491			578				252
Travel Time (s)		13.1			11.2			15.8				6.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	778	0	33	513	0	0	41	0	0	1	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			4				8
Permitted Phases	6			2			4			8		
Detector Phase	6	6		2	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	30.5	30.5		22.5	22.5		32.0	32.0		32.0	32.0	
Total Split (s)	34.5	34.5		34.5	34.5		19.0	19.0		19.0	19.0	
Total Split (%)	64.5%	64.5%		64.5%	64.5%		35.5%	35.5%		35.5%	35.5%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0			0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None		None	None		None	None		None	None	
Act Effect Green (s)	24.5	24.5		24.5	24.5			7.2				7.1
Actuated g/C Ratio	0.86	0.86		0.86	0.86			0.25				0.25
v/c Ratio	0.02	0.49		0.06	0.31			0.08				0.00
Control Delay (s/veh)	2.5	4.2		2.8	2.8			9.2				15.0
Queue Delay	0.0	0.0		0.0	0.0			0.0				0.0
Total Delay (s/veh)	2.5	4.2		2.8	2.8			9.2				15.0
LOS	A	A		A	A			A				B
Approach Delay (s/veh)		4.2			2.9			9.3				15.0
Approach LOS		A			A			A				B
Queue Length 50th (ft)	0	0		0	0			1				0
Queue Length 95th (ft)	6	176		9	89			21				3

Lanes, Volumes, Timings

6: 54th Avenue E & Valley Avenue E & Driveway

2025 FUTURE WITH DEVELOPMENT CONDITIONS

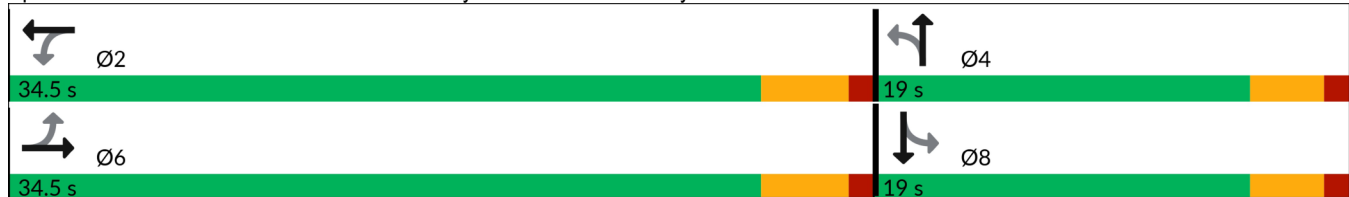


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		495			411			498			172	
Turn Bay Length (ft)	200			125								
Base Capacity (vph)	761	1589		506	1637			1147			1230	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.03	0.49		0.07	0.31			0.04			0.00	

Intersection Summary













Area Type:	Other
Cycle Length:	53.5
Actuated Cycle Length:	28.5
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.50
Intersection Signal Delay (s/veh):	3.9
Intersection LOS:	A
Intersection Capacity Utilization:	48.5%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 6: 54th Avenue E & Valley Avenue E & Driveway



Lanes, Volumes, Timings
7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	63	0	0	0	0	32
Future Volume (vph)	63	0	0	0	0	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	290			0
Storage Lanes	1	0	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	0.95
Frt					0.850	
Flt Protected	0.950					
Satd. Flow (prot)	1641	0	1776	3374	2950	0
Flt Permitted	0.950					
Satd. Flow (perm)	1641	0	1776	3374	2950	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)					1091	
Link Speed (mph)	30			30	30	
Link Distance (ft)	623			659	553	
Travel Time (s)	14.2			15.0	12.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	10%	10%	7%	7%	4%	4%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	66	0	0	0	33	0
Turn Type	Prot		Prot		NA	
Protected Phases	8		1	6	2	
Permitted Phases						
Detector Phase	8		1	6	2	
Switch Phase						
Minimum Initial (s)	5.0		6.0	10.0	10.0	
Minimum Split (s)	22.5		10.5	23.7	33.7	
Total Split (s)	35.0		15.0	60.0	60.0	
Total Split (%)	31.8%		13.6%	54.5%	54.5%	
Yellow Time (s)	3.5		3.5	4.7	4.7	
All-Red Time (s)	1.0		1.0	1.5	1.5	
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	
Total Lost Time (s)	4.5		4.5	6.2	6.2	
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	Max		None	Max	None	
Act Effct Green (s)	30.5				53.8	
Actuated g/C Ratio	0.32				0.57	
v/c Ratio	0.12				0.01	
Control Delay (s/veh)	23.7				0.0	
Queue Delay	0.0				0.0	
Total Delay (s/veh)	23.7				0.0	
LOS	C				A	
Approach Delay (s/veh)	23.7					
Approach LOS	C					
Queue Length 50th (ft)	28				0	
Queue Length 95th (ft)	59				0	

Lanes, Volumes, Timings

7: Pacific Highway E & 70th Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

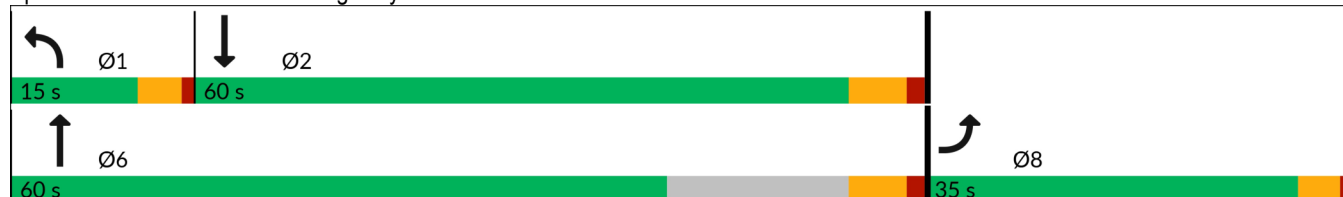


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Internal Link Dist (ft)	543			579	473	
Turn Bay Length (ft)						
Base Capacity (vph)	526				2143	
Starvation Cap Reductn	0				0	
Spillback Cap Reductn	0				0	
Storage Cap Reductn	0				0	
Reduced v/c Ratio	0.13				0.02	

Intersection Summary

Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	95
Natural Cycle:	70
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.13
Intersection Signal Delay (s/veh):	15.8
Intersection LOS:	B
Intersection Capacity Utilization	21.4%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 7: Pacific Highway E & 70th Avenue E



Lanes, Volumes, Timings
8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	466	107	126	454	213	144	578	88	173	843	83
Future Volume (vph)	47	466	107	126	454	213	144	578	88	173	843	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	400		400	250		0	225		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.97	0.95	0.95
Frt			0.850			0.850		0.980			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1752	1845	1568	1736	1827	1553	1612	3159	0	3019	3068	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1752	1845	1568	1736	1827	1553	1612	3159	0	3019	3068	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			93			179		15			9	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1295			1073			2009			522	
Travel Time (s)		25.2			20.9			39.1			10.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	12%	12%	12%	16%	16%	16%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	480	110	130	468	220	148	687	0	178	955	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	1	6		5	2	3	7	4		3	8	
Permitted Phases			6			2						
Detector Phase	1	6	6	5	2	3	7	4		3	8	
Switch Phase												
Minimum Initial (s)	6.0	10.0	10.0	6.0	10.0	6.0	6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	22.5	22.5	14.5	22.5	14.5	14.5	24.5		14.5	24.5	
Total Split (s)	14.5	44.5	44.5	14.5	44.5	19.5	19.5	44.5		19.5	44.5	
Total Split (%)	11.8%	36.2%	36.2%	11.8%	36.2%	15.9%	15.9%	36.2%		15.9%	36.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	Max	Max	None	Max	None	None	None		None	None	
Act Effct Green (s)	8.6	40.0	40.0	10.0	43.6	60.7	14.2	41.2		12.6	39.6	
Actuated g/C Ratio	0.07	0.33	0.33	0.08	0.36	0.50	0.12	0.34		0.10	0.33	
v/c Ratio	0.39	0.79	0.19	0.91	0.71	0.25	0.78	0.63		0.57	0.95	
Control Delay (s/veh)	63.4	48.4	8.9	111.2	42.7	5.1	80.7	36.7		59.3	59.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	63.4	48.4	8.9	111.2	42.7	5.1	80.7	36.7		59.3	59.4	
LOS	E	D	A	F	D	A	F	D		E	E	
Approach Delay (s/veh)		42.7			43.5			44.6			59.4	
Approach LOS		D			D			D			E	
Queue Length 50th (ft)	37	347	9	104	333	17	116	235		70	386	
Queue Length 95th (ft)	78	#495	51	#227	#473	61	#218	310		106	#525	

Lanes, Volumes, Timings
 8: 70th Avenue E & 20th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	1215			993			1929			442		
Turn Bay Length (ft)	250		200	400		400	250			225		
Base Capacity (vph)	143	606	577	142	654	891	198	1078		372	1013	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.34	0.79	0.19	0.92	0.72	0.25	0.75	0.64		0.48	0.94	

























Intersection Summary	
Area Type:	Other
Cycle Length:	123
Actuated Cycle Length:	121.8
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.95
Intersection Signal Delay (s/veh):	48.9
Intersection LOS:	D
Intersection Capacity Utilization:	80.4%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: 70th Avenue E & 20th Street E

	Ø1		Ø2		Ø3		Ø4
14.5 s		44.5 s		19.5 s		44.5 s	
	Ø5		Ø6		Ø7		Ø8
14.5 s		44.5 s		19.5 s		44.5 s	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	48	93	77	24	105	27	636	45	50	954	14
Future Volume (vph)	41	48	93	77	24	105	27	636	45	50	954	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	200		0	225		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt			0.850			0.850		0.990			0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1517	1597	1357	1656	1743	1482	1597	3163	0	1543	3079	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1517	1597	1357	1656	1743	1482	1597	3163	0	1543	3079	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			99			112		7			1	
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		1057			880			2032			2009	
Travel Time (s)		20.6			17.1			39.6			39.1	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles (%)	19%	19%	19%	9%	9%	9%	13%	13%	13%	17%	17%	17%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	51	99	82	26	112	29	725	0	53	1030	0
Turn Type	Prot	NA	pt+ov	Prot	NA	pt+ov	Prot	NA		Prot	NA	
Protected Phases	7	4	4 5	3	8	8 1	5	2		1	6	
Permitted Phases												
Detector Phase	7	4	4 5	3	8	8 1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	6.0	6.0		6.0	6.0		6.0	10.0		6.0	10.0	
Minimum Split (s)	10.5	24.5		10.5	24.5		10.5	22.5		10.5	22.5	
Total Split (s)	20.0	24.5		20.0	24.5		20.0	60.0		20.0	60.0	
Total Split (%)	16.1%	19.7%		16.1%	19.7%		16.1%	48.2%		16.1%	48.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	Max		None	Max	
Act Effect Green (s)	8.5	8.8	20.8	10.4	12.9	26.5	7.5	57.3		9.0	61.2	
Actuated g/C Ratio	0.08	0.09	0.21	0.10	0.13	0.26	0.07	0.57		0.09	0.61	
v/c Ratio	0.34	0.36	0.27	0.48	0.11	0.23	0.24	0.40		0.38	0.55	
Control Delay (s/veh)	53.4	53.4	9.2	54.0	43.1	7.1	52.0	14.9		53.8	16.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	53.4	53.4	9.2	54.0	43.1	7.1	52.0	14.9		53.8	16.0	
LOS	D	D	A	D	D	A	D	B		D	B	
Approach Delay (s/veh)		30.9			28.9			16.3			17.9	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	27	32	0	51	16	0	18	135		33	216	
Queue Length 95th (ft)	68	75	43	106	44	42	51	231		77	354	

Lanes, Volumes, Timings
 9: 70th Avenue E & 26th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)	977			800			1952			1929		
Turn Bay Length (ft)	150		150	150		150	200			225		
Base Capacity (vph)	234	318	458	256	348	560	246	1796		238	1865	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.19	0.16	0.22	0.32	0.07	0.20	0.12	0.40		0.22	0.55	

























Intersection Summary	
Area Type:	Other
Cycle Length:	124.5
Actuated Cycle Length:	101.1
Natural Cycle:	80
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.55
Intersection Signal Delay (s/veh):	19.6
Intersection LOS:	B
Intersection Capacity Utilization	54.0%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 9: 70th Avenue E & 26th Street E

Ø1 20 s	Ø2 60 s	Ø3 20 s	Ø4 24.5 s
Ø5 20 s	Ø6 60 s	Ø7 20 s	Ø8 24.5 s

Lanes, Volumes, Timings
10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	521	159	72	324	351	140	273	41	550	492	84
Future Volume (vph)	24	521	159	72	324	351	140	273	41	550	492	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		250	200		0	200		130	350		0
Storage Lanes	1		1	1		1	1		1	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.97	0.95	0.95
Frt			0.850			0.850			0.850		0.978	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	1810	1538	1626	1712	1455	1687	3374	1509	3072	3097	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	1810	1538	1626	1712	1455	1687	3374	1509	3072	3097	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127			366			164			15
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		831			1056			750			2032	
Travel Time (s)		18.9			24.0			14.6			39.6	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	11%	11%	11%	7%	7%	7%	14%	14%	14%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	25	543	166	75	338	366	146	284	43	573	601	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0	8.0	6.0	8.0	8.0	6.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	11.0	31.0	31.0	10.5	31.0	31.0	10.5	31.0	31.0	13.0	31.0	
Total Split (s)	30.0	40.0	40.0	20.0	40.0	40.0	20.0	30.0	30.0	40.0	40.0	
Total Split (%)	21.4%	28.6%	28.6%	14.3%	28.6%	28.6%	14.3%	21.4%	21.4%	28.6%	28.6%	
Yellow Time (s)	4.0	4.0	4.0	3.5	4.0	4.0	3.5	4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0	4.5	5.0	5.0	4.5	5.0	5.0	5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	
Act Effct Green (s)	9.1	58.6	58.6	12.3	66.3	66.3	14.8	18.2	18.2	31.4	35.3	
Actuated g/C Ratio	0.07	0.42	0.42	0.09	0.47	0.47	0.11	0.13	0.13	0.22	0.25	
v/c Ratio	0.22	0.71	0.23	0.52	0.41	0.41	0.82	0.64	0.12	0.83	0.75	
Control Delay (s/veh)	66.2	42.4	9.8	73.6	29.6	4.3	93.7	64.7	0.7	62.7	53.3	
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)	66.2	42.4	9.8	73.6	29.6	4.3	93.7	64.7	0.7	62.7	53.3	
LOS	E	D	A	E	C	A	F	E	A	E	D	
Approach Delay (s/veh)		35.9			22.0			67.9			57.9	
Approach LOS		D			C			E			E	
Queue Length 50th (ft)	22	413	21	66	216	0	131	131	0	255	260	
Queue Length 95th (ft)	53	#699	81	117	346	70	#243	174	0	319	307	

Lanes, Volumes, Timings
 10: 70th Avenue E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		751			976			670				1952
Turn Bay Length (ft)	150		250	200			200		130	350		
Base Capacity (vph)	306	758	718	183	811	882	186	602	404	768	1005	
Starvation Cap Reductn	0	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	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.72	0.23	0.41	0.42	0.41	0.78	0.47	0.11	0.75	0.60	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Offset: 30 (21%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

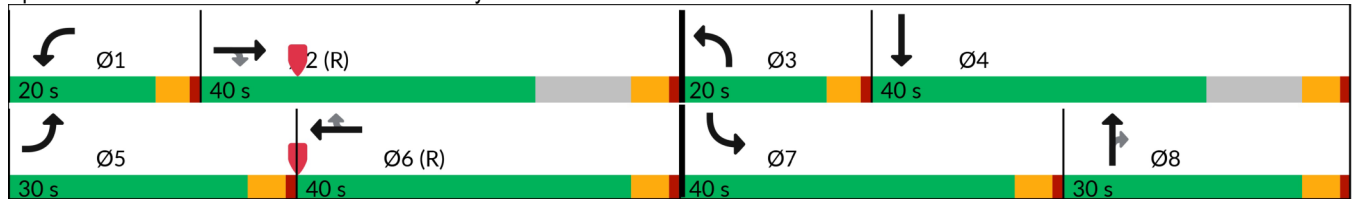
Intersection Signal Delay (s/veh): 45.4 Intersection LOS: D

Intersection Capacity Utilization 72.3% ICU Level of Service C

Analysis Period (min) 15






















95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 10: 70th Avenue E & Valley Avenue E



Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	937	146	20	481	117	113	58	30	231	161	21
Future Volume (vph)	27	937	146	20	481	117	113	58	30	231	161	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.971			0.948				0.982
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3246	0	1612	3130	0	1671	1668	0	1736	1794	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1656	3246	0	1612	3130	0	1671	1668	0	1736	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			27			19				5
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	9%	9%	9%	12%	12%	12%	8%	8%	8%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	1217	0	22	671	0	127	99	0	260	205	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.9	41.0		7.5	38.2		13.1	13.1		19.1	19.1	
Actuated g/C Ratio	0.09	0.44		0.08	0.41		0.14	0.14		0.21	0.21	
v/c Ratio	0.21	0.84		0.16	0.51		0.54	0.39		0.72	0.54	
Control Delay (s/veh)	48.0	32.3		48.0	24.0		48.0	36.4		48.4	39.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	48.0	32.3		48.0	24.0		48.0	36.4		48.4	39.6	
LOS	D	C		D	C		D	D		D	D	
Approach Delay (s/veh)		32.8			24.8			43.0			44.6	
Approach LOS		C			C			D			D	
Queue Length 50th (ft)	16	292		12	160		66	40		130	96	
Queue Length 95th (ft)	50	#622		41	258		142	101		264	203	

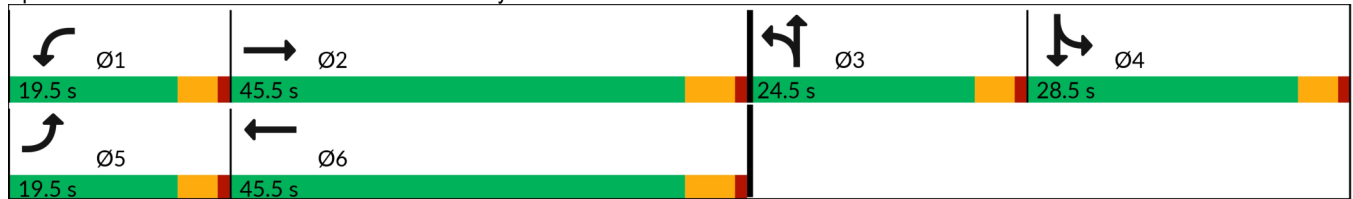
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454				414
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	274	1445		267	1400		369	383		461	480	
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	0.11	0.84		0.08	0.48		0.34	0.26		0.56	0.43	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	92.6
Natural Cycle:	100
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay (s/veh):	33.6
Intersection LOS:	C
Intersection Capacity Utilization:	60.4%
ICU Level of Service:	B
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	





















Splits and Phases: 11: Freeman Road E & Valley Avenue E



Lanes, Volumes, Timings

11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	796	124	17	409	99	78	40	21	159	111	14
Future Volume (vph)	23	796	124	17	409	99	78	40	21	159	111	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	230		0	50		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.980			0.971			0.948				0.983
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1656	3246	0	1612	3130	0	1671	1668	0	1736	1796	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1656	3246	0	1612	3130	0	1671	1668	0	1736	1796	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16			27			20				5
Link Speed (mph)		30			30			25				25
Link Distance (ft)		671			1259			2534				494
Travel Time (s)		15.3			28.6			69.1				13.5
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles (%)	9%	9%	9%	12%	12%	12%	8%	8%	8%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	1033	0	19	571	0	88	69	0	179	141	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	5	2		1	6		3	3		4	4	
Permitted Phases												
Detector Phase	5	2		1	6		3	3		4	4	
Switch Phase												
Minimum Initial (s)	6.0	8.0		4.0	8.0		6.0	6.0		6.0	6.0	
Minimum Split (s)	10.5	26.5		9.5	26.5		22.5	22.5		27.5	27.5	
Total Split (s)	19.5	45.5		19.5	45.5		24.5	24.5		28.5	28.5	
Total Split (%)	16.5%	38.6%		16.5%	38.6%		20.8%	20.8%		24.2%	24.2%	
Yellow Time (s)	3.5	4.5		3.5	4.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	5.5		4.5	5.5		4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	Max		None	None		None	None		None	None	
Act Effct Green (s)	7.6	41.8		7.3	41.6		10.6	10.6		14.8	14.8	
Actuated g/C Ratio	0.09	0.50		0.09	0.50		0.13	0.13		0.18	0.18	
v/c Ratio	0.17	0.63		0.13	0.36		0.41	0.30		0.57	0.43	
Control Delay (s/veh)	43.9	21.4		44.0	16.8		43.9	32.1		41.8	36.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	43.9	21.4		44.0	16.8		43.9	32.1		41.8	36.4	
LOS	D	C		D	B		D	C		D	D	
Approach Delay (s/veh)		22.0			17.7			38.7			39.4	
Approach LOS		C			B			D			D	
Queue Length 50th (ft)	12	176		9	77		40	22		81	60	
Queue Length 95th (ft)	44	415		36	199		104	71		175	136	

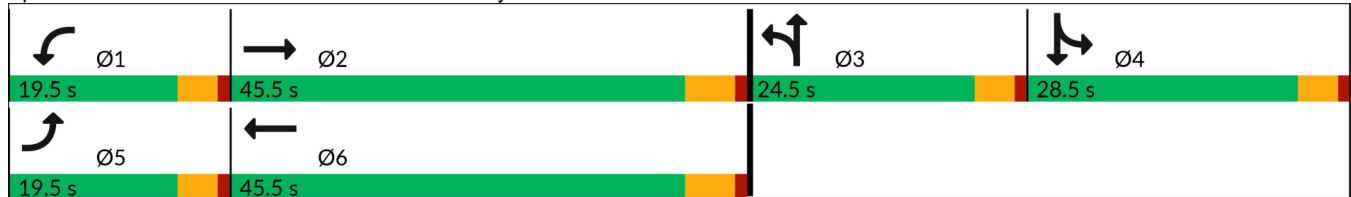
Lanes, Volumes, Timings
 11: Freeman Road E & Valley Avenue E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		591			1179			2454			414	
Turn Bay Length (ft)	150			230			50			250		
Base Capacity (vph)	310	1633		302	1580		418	432		521	543	
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	0.08	0.63		0.06	0.36		0.21	0.16		0.34	0.26	

Intersection Summary	
Area Type:	Other
Cycle Length:	118
Actuated Cycle Length:	83.4
Natural Cycle:	90
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay (s/veh):	24.7
Intersection LOS:	C
Intersection Capacity Utilization	51.8%
ICU Level of Service	A
Analysis Period (min)	15

Splits and Phases: 11: Freeman Road E & Valley Avenue E



HCM 6th TWSC
12: Freeman Road E & 48th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T			T		T
Traffic Vol, veh/h	4	25	17	186	287	11
Future Vol, veh/h	4	25	17	186	287	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	0	0	8	8	4	4
Mvmt Flow	5	29	20	219	338	13

Major/Minor	Minor2	Major1		Major2	
Conflicting Flow All	604	345	351	0	0
Stage 1	345	-	-	-	-
Stage 2	259	-	-	-	-
Critical Hdwy	6.4	6.2	4.18	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.272	-	-
Pot Cap-1 Maneuver	465	702	1175	-	-
Stage 1	722	-	-	-	-
Stage 2	789	-	-	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	456	702	1175	-	-
Mov Cap-2 Maneuver	456	-	-	-	-
Stage 1	708	-	-	-	-
Stage 2	789	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.8	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1175	-	653	-	-
HCM Lane V/C Ratio	0.017	-	0.052	-	-
HCM Control Delay (s/veh)	8.1	0	10.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0.1	-	0.2	-	-

HCM 6th TWSC
 13: Freeman Road E & 50th Street E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y			4	4	
Traffic Vol, veh/h	11	8	5	111	357	13
Future Vol, veh/h	11	8	5	111	357	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	6	6	7	7	4	4
Mvmt Flow	13	9	6	131	420	15

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	571	428	435	0	-	0
Stage 1	428	-	-	-	-	-
Stage 2	143	-	-	-	-	-
Critical Hdwy	6.46	6.26	4.17	-	-	-
Critical Hdwy Stg 1	5.46	-	-	-	-	-
Critical Hdwy Stg 2	5.46	-	-	-	-	-
Follow-up Hdwy	3.554	3.354	2.263	-	-	-
Pot Cap-1 Maneuver	476	618	1099	-	-	-
Stage 1	649	-	-	-	-	-
Stage 2	874	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	473	618	1099	-	-	-
Mov Cap-2 Maneuver	473	-	-	-	-	-
Stage 1	645	-	-	-	-	-
Stage 2	874	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	12.2	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1099	-	525	-	-
HCM Lane V/C Ratio	0.005	-	0.043	-	-
HCM Control Delay (s/veh)	8.3	0	12.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q (veh)	0	-	0.1	-	-

HCM 6th TWSC

14: Freeman Road E & 52nd Street E/19th Avenue NW 2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	0.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	2	20	0	5	1	111	5	2	361	1
Future Vol, veh/h	0	0	2	20	0	5	1	111	5	2	361	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	83	83	83	83	83	83	83	83	83
Heavy Vehicles, %	0	0	0	17	17	17	10	10	10	4	4	4
Mvmt Flow	0	0	2	24	0	6	1	134	6	2	435	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	582	582	436	580	579	137	436	0	0	140	0	0
Stage 1	440	440	-	139	139	-	-	-	-	-	-	-
Stage 2	142	142	-	441	440	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.27	6.67	6.37	4.2	-	-	4.14	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.27	5.67	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.27	5.67	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.653	4.153	3.453	2.29	-	-	2.236	-	-
Pot Cap-1 Maneuver	427	427	625	404	406	873	1082	-	-	1431	-	-
Stage 1	600	581	-	829	754	-	-	-	-	-	-	-
Stage 2	866	783	-	567	553	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	423	426	625	402	405	873	1082	-	-	1431	-	-
Mov Cap-2 Maneuver	423	426	-	402	405	-	-	-	-	-	-	-
Stage 1	599	580	-	828	753	-	-	-	-	-	-	-
Stage 2	859	782	-	564	552	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.8	13.6	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1082	-	-	625	451	1431	-	-
HCM Lane V/C Ratio	0.001	-	-	0.004	0.067	0.002	-	-
HCM Control Delay (s/veh)	8.3	0	-	10.8	13.6	7.5	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q (veh)	0	-	-	0	0.2	0	-	-

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	37.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	44	477	141	90	343	48
Future Vol, veh/h	44	477	141	90	343	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	46	497	147	94	357	50

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	241	0	-	0	783 194
Stage 1	-	-	-	-	194 -
Stage 2	-	-	-	-	589 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1320	-	-	-	362 847
Stage 1	-	-	-	-	839 -
Stage 2	-	-	-	-	554 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1320	-	-	-	~ 345 847
Mov Cap-2 Maneuver	-	-	-	-	~ 345 -
Stage 1	-	-	-	-	799 -
Stage 2	-	-	-	-	554 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.7	0	108.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1320	-	-	-	372
HCM Lane V/C Ratio	0.035	-	-	-	1.095
HCM Control Delay (s/veh)	7.8	0	-	-	108.3
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q (veh)	0.1	-	-	-	14.8

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

HCM 6th AWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection	
Intersection Delay, s/veh	28.1
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	↕
Traffic Vol, veh/h	44	477	141	90	343	48
Future Vol, veh/h	44	477	141	90	343	48
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	46	497	147	94	357	50
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay, s/veh	37	13.8	24.6
HCM LOS	E	B	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	8%	0%	100%	0%
Vol Thru, %	92%	61%	0%	0%
Vol Right, %	0%	39%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	521	231	343	48
LT Vol	44	0	343	0
Through Vol	477	141	0	0
RT Vol	0	90	0	48
Lane Flow Rate	543	241	357	50
Geometry Grp	2	2	5	5
Degree of Util (X)	0.878	0.421	0.72	0.084
Departure Headway (Hd)	5.821	6.293	7.254	6.031
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	619	575	497	590
Service Time	3.91	4.293	5.041	3.817
HCM Lane V/C Ratio	0.877	0.419	0.718	0.085
HCM Control Delay, s/veh	37	13.8	26.7	9.4
HCM Lane LOS	E	B	D	A
HCM 95th-tile Q	10.3	2.1	5.8	0.3

HCM 6th TWSC
 15: N Levee Road E & Freeman Road E

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection						
Int Delay, s/veh	5.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	34	321	95	67	194	39
Future Vol, veh/h	34	321	95	67	194	39
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	3	3	9	9	2	2
Mvmt Flow	35	334	99	70	202	41


















Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	169	0	-	0	538 134
Stage 1	-	-	-	-	134 -
Stage 2	-	-	-	-	404 -
Critical Hdwy	4.13	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.227	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1402	-	-	-	504 915
Stage 1	-	-	-	-	892 -
Stage 2	-	-	-	-	674 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1402	-	-	-	488 915
Mov Cap-2 Maneuver	-	-	-	-	488 -
Stage 1	-	-	-	-	864 -
Stage 2	-	-	-	-	674 -

Approach	EB	WB	SB
HCM Control Delay, s/v	0.7	0	17.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1402	-	-	-	529
HCM Lane V/C Ratio	0.025	-	-	-	0.459
HCM Control Delay (s/veh)	7.6	0	-	-	17.4
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q (veh)	0.1	-	-	-	2.4

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

2025 FUTURE WITH DEVELOPMENT CONDITIONS

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	 	 	 		 	 
Traffic Volume (vph)	980	609	515	1424	1088	861
Future Volume (vph)	980	609	515	1424	1088	861
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0	250	
Storage Lanes	2	2		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.88	0.95	1.00	0.97	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3303	2682	3505	1568	3335	3438
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3303	2682	3505	1568	3335	3438
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		319		431		
Link Speed (mph)	35		35			35
Link Distance (ft)	522		278			1175
Travel Time (s)	10.2		5.4			22.9
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	6%	6%	3%	3%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1000	621	526	1453	1110	879
Turn Type	Prot	pm+ov	NA	Perm	Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8		2		
Detector Phase	8	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	10.0	6.0	10.0	10.0	6.0	10.0
Minimum Split (s)	36.6	10.6	38.9	38.9	10.6	36.9
Total Split (s)	36.6	54.6	64.9	64.9	54.6	64.9
Total Split (%)	23.4%	35.0%	41.6%	41.6%	35.0%	41.6%
Yellow Time (s)	3.6	3.6	3.9	3.9	3.6	3.9
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.6	4.6	4.9	4.9	4.6	4.9
Lead/Lag		Lead	Lag	Lag	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effect Green (s)	32.0	86.6	60.0	60.0	50.0	114.6
Actuated g/C Ratio	0.20	0.55	0.38	0.38	0.32	0.73
v/c Ratio	1.47	0.38	0.39	1.67	1.03	0.34
Control Delay (s/veh)	264.1	9.4	35.8	331.4	89.0	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	264.1	9.4	35.8	331.4	89.0	7.8
LOS	F	A	D	F	F	A
Approach Delay (s/veh)	166.6		252.9			53.2
Approach LOS	F		F			D
Queue Length 50th (ft)	~720	88	203	~1882	~627	153
Queue Length 95th (ft)	#856	133	255	#2151	#764	183

Lanes, Volumes, Timings
 16: N Meridian Avenue & SR-167 Ramps

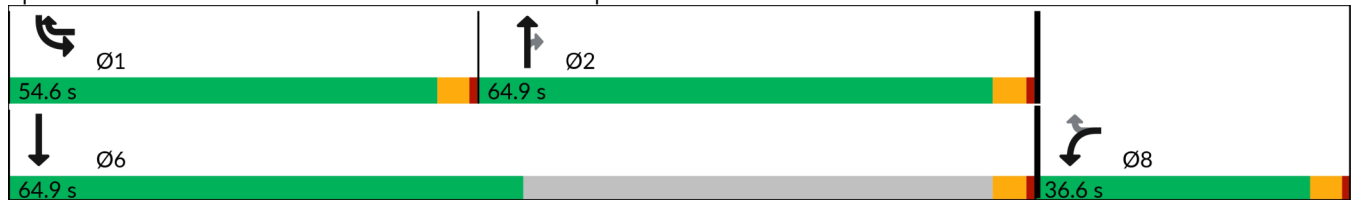
2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Internal Link Dist (ft)	442		198			1095
Turn Bay Length (ft)					250	
Base Capacity (vph)	677	1629	1347	868	1068	2523
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	1.48	0.38	0.39	1.67	1.04	0.35

Intersection Summary	
Area Type:	Other
Cycle Length:	156.1
Actuated Cycle Length:	156.1
Natural Cycle:	130
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.67
Intersection Signal Delay (s/veh):	156.8
Intersection LOS:	F
Intersection Capacity Utilization:	127.1%
ICU Level of Service:	H
Analysis Period (min):	15
~ 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.	

Splits and Phases: 16: N Meridian Avenue & SR-167 Ramps



HCM 6th TWSC
 17: N Meridian Avenue & N Levee Road

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Intersection												
Int Delay, s/veh	84.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↕↔			↕↔	
Traffic Vol, veh/h	0	0	440	0	0	603	0	1374	74	0	1561	123
Future Vol, veh/h	0	0	440	0	0	603	0	1374	74	0	1561	123
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Free	-	-	None
Storage Length	-	-	0	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	458	0	0	628	0	1431	77	0	1626	128

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	-	-	877	-	-	716	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.96	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.33	-	-
Pot Cap-1 Maneuver	0	0	~ 292	0	0	~ 370	0	0
Stage 1	0	0	-	0	0	-	0	0
Stage 2	0	0	-	0	0	-	0	0
Platoon blocked, %							-	-
Mov Cap-1 Maneuver	-	-	~ 292	-	-	~ 370	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v\$	304	\$ 350.8	0	0
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	-	292	370	-	-
HCM Lane V/C Ratio	-	1.57	1.698	-	-
HCM Control Delay (s/veh)	-	\$ 304	\$ 350.8	-	-
HCM Lane LOS	-	F	F	-	-
HCM 95th %tile Q (veh)	-	27.1	38.4	-	-

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

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1063	0	414	20	625	342	0	0	0	0	865	1019
Future Volume (vph)	1063	0	414	20	625	342	0	0	0	0	865	1019
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				72		356						671
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1107	0	431	21	651	356	0	0	0	0	901	1061
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2						4	
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2					4	4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	42.0		42.0	29.0	29.0	29.0					34.0	34.0
Total Split (%)	40.0%		40.0%	27.6%	27.6%	27.6%					32.4%	32.4%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	36.0		36.0	30.0	30.0	30.0					29.2	29.2
Actuated g/C Ratio	0.33		0.33	0.27	0.27	0.27					0.26	0.26
v/c Ratio	1.00		0.85	0.03	0.67	0.51					0.96	1.16
Control Delay (s/veh)	66.3		51.8	0.1	40.0	6.3					63.8	103.0
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	66.3		51.8	0.1	40.0	6.3					63.8	103.0
LOS	E		D	A	D	A					E	F
Approach Delay (s/veh)		62.3			27.6						85.1	
Approach LOS		E			C						F	
Queue Length 50th (ft)	402		283	0	218	0					336	~527
Queue Length 95th (ft)	#550		#454	0	284	72					#472	#782

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

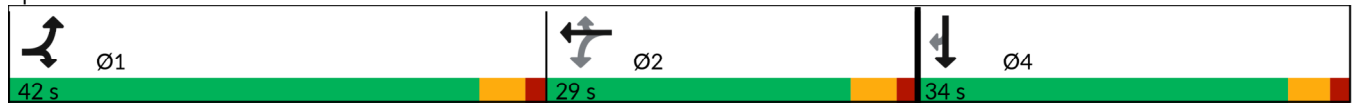


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	1127		519	534	963	690					929	908
Starvation Cap Reductn	0		0	0	0	0					0	0
Spillback Cap Reductn	0		0	0	0	0					0	0
Storage Cap Reductn	0		0	0	0	0					0	0
Reduced v/c Ratio	0.98		0.83	0.04	0.68	0.52					0.97	1.17

Intersection Summary

Area Type: Other
 Cycle Length: 105
 Actuated Cycle Length: 110.2
 Natural Cycle: 150
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.17
 Intersection Signal Delay (s/veh): 64.3 Intersection LOS: E
 Intersection Capacity Utilization 88.6% ICU Level of Service E
 Analysis Period (min) 15
 ~ 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.

Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1063	0	414	20	625	342	0	0	0	0	865	1019
Future Volume (vph)	1063	0	414	20	625	342	0	0	0	0	865	1019
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	125		0	0		0	0		250
Storage Lanes	2		1	1		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950								
Satd. Flow (prot)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Flt Permitted	0.950			0.950								
Satd. Flow (perm)	3367	0	1553	1770	3539	1583	0	0	0	0	3505	1568
Right Turn on Red			No	Yes		Yes			Yes			Yes
Satd. Flow (RTOR)				50		344						673
Link Speed (mph)		35			35			25				25
Link Distance (ft)		673			590			2133				1751
Travel Time (s)		13.1			11.5			58.2				47.8
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	0%	0%	0%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1107	0	431	21	651	356	0	0	0	0	901	1061
Turn Type	Prot		Prot	Perm	NA	Perm					NA	Perm
Protected Phases	1		1		2						4	
Permitted Phases				2		2						4
Detector Phase	1		1	2	2	2					4	4
Switch Phase												
Minimum Initial (s)	5.0		5.0	5.0	5.0	5.0					10.0	10.0
Minimum Split (s)	10.1		10.1	35.1	35.1	35.1					30.8	30.8
Total Split (s)	53.2		53.2	35.6	35.6	35.6					61.2	61.2
Total Split (%)	35.5%		35.5%	23.7%	23.7%	23.7%					40.8%	40.8%
Yellow Time (s)	3.6		3.6	3.6	3.6	3.6					3.3	3.3
All-Red Time (s)	1.5		1.5	1.5	1.5	1.5					1.5	1.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Lost Time (s)	5.1		5.1	5.1	5.1	5.1					4.8	4.8
Lead/Lag	Lead		Lead	Lag	Lag	Lag						
Lead-Lag Optimize?	Yes		Yes	Yes	Yes	Yes						
Recall Mode	None		None	Max	Max	Max					None	None
Act Effct Green (s)	48.1		48.1	30.5	30.5	30.5					56.4	56.4
Actuated g/C Ratio	0.32		0.32	0.20	0.20	0.20					0.38	0.38
v/c Ratio	1.02		0.86	0.05	0.90	0.59					0.68	1.05
Control Delay (s/veh)	83.6		66.5	0.2	75.3	10.3					42.5	59.7
Queue Delay	0.0		0.0	0.0	0.0	0.0					0.0	0.0
Total Delay (s/veh)	83.6		66.5	0.2	75.3	10.3					42.5	59.7
LOS	F		E	A	E	B					D	E
Approach Delay (s/veh)		78.8			51.3						51.8	
Approach LOS		E			D						D	
Queue Length 50th (ft)	~592		397	0	331	10					387	~692
Queue Length 95th (ft)	#729		#586	2	#438	105					466	#960

Lanes, Volumes, Timings

18: N Meridian Avenue & River Road/2nd Street NE

2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		593			510			2053			1671	
Turn Bay Length (ft)				125								250
Base Capacity (vph)	1079		497	399	719	595					1317	1009
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	1.03		0.87	0.05	0.91	0.60					0.68	1.05

Intersection Summary



















Area Type:	Other
Cycle Length:	150
Actuated Cycle Length:	150
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.05
Intersection Signal Delay (s/veh):	60.9
Intersection LOS:	E
Intersection Capacity Utilization:	88.6%
ICU Level of Service:	E
Analysis Period (min):	15
~ 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.	

Splits and Phases: 18: N Meridian Avenue & River Road/2nd Street NE



Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	206	63	141	291	0	0	0	0	145	1069	47
Future Volume (vph)	0	206	63	141	291	0	0	0	0	145	1069	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	125		0	0		0	0		0
Storage Lanes	0		1	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Frt			0.850									0.994
Flt Protected				0.950								0.994
Satd. Flow (prot)	0	1792	1524	1770	1863	0	0	0	0	0	3531	0
Flt Permitted				0.259								0.994
Satd. Flow (perm)	0	1792	1524	482	1863	0	0	0	0	0	3531	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			51									6
Link Speed (mph)		25			25			25				25
Link Distance (ft)		393			385			1349				2133
Travel Time (s)		10.7			10.5			36.8				58.2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	2%	2%	2%	0%	0%	0%	1%	1%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	217	66	148	306	0	0	0	0	0	1327	0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	
Protected Phases		8		7	4							2
Permitted Phases			8	4						2		
Detector Phase		8	8	7	4					2	2	
Switch Phase												
Minimum Initial (s)		5.0	5.0	5.0	5.0					10.0	10.0	
Minimum Split (s)		21.0	21.0	9.0	21.0					23.0	23.0	
Total Split (s)		31.0	31.0	11.0	41.0					66.0	66.0	
Total Split (%)		28.7%	28.7%	10.2%	38.0%					61.1%	61.1%	
Yellow Time (s)		3.0	3.0	3.0	3.0					3.0	3.0	
All-Red Time (s)		1.0	1.0	1.0	1.0					1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0							0.0
Total Lost Time (s)		4.0	4.0	4.0	4.0							4.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Recall Mode		None	None	None	None					Max	Max	
Act Effct Green (s)		15.0	15.0	25.8	25.8							62.2
Actuated g/C Ratio		0.16	0.16	0.27	0.27							0.65
v/c Ratio		0.77	0.23	0.66	0.61							0.57
Control Delay (s/veh)		57.8	15.7	43.7	36.1							11.4
Queue Delay		0.0	0.0	0.0	0.1							0.0
Total Delay (s/veh)		57.8	15.7	43.7	36.3							11.4
LOS		E	B	D	D							B
Approach Delay (s/veh)		48.1			38.8							11.4
Approach LOS		D			D							B
Queue Length 50th (ft)		129	8	72	163							216
Queue Length 95th (ft)		206	44	123	247							337

Lanes, Volumes, Timings

19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		313			305			1269			2053	
Turn Bay Length (ft)			50	125								
Base Capacity (vph)		505	466	223	739						2289	
Starvation Cap Reductn		0	0	0	76						0	
Spillback Cap Reductn		0	0	0	0						0	
Storage Cap Reductn		0	0	0	0						0	
Reduced v/c Ratio		0.43	0.14	0.66	0.46						0.58	

Intersection Summary

Area Type:	Other
Cycle Length:	108
Actuated Cycle Length:	96
Natural Cycle:	60
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay (s/veh):	22.5
Intersection LOS:	C
Intersection Capacity Utilization:	63.9%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 19: N Meridian Avenue & W Stewart Avenue/E Stewart Avenue



Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue

2025 FUTURE WITH DEVELOPMENT CONDITIONS

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	284	0	0	336	261	222	684	2	0	0	0
Future Volume (vph)	47	284	0	0	336	261	222	684	2	0	0	0
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	50		0	0		125	0		0	0		0
Storage Lanes	1		0	0		1	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Frt						0.850						
Flt Protected	0.950							0.988				
Satd. Flow (prot)	1752	1845	0	0	1845	1568	0	3531	0	0	0	0
Flt Permitted	0.174							0.988				
Satd. Flow (perm)	321	1845	0	0	1845	1568	0	3531	0	0	0	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25				25
Link Distance (ft)		385			615			394				343
Travel Time (s)		10.5			16.8			10.7				9.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	1%	1%	1%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	299	0	0	354	275	0	956	0	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA				
Protected Phases	3	8			4			2				
Permitted Phases	8					4	2					
Detector Phase	3	8			4	4	2	2				
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	10.0	10.0				
Minimum Split (s)	9.5	28.0			28.0	28.0	26.0	26.0				
Total Split (s)	10.0	45.0			29.0	29.0	53.0	53.0				
Total Split (%)	10.2%	45.9%			29.6%	29.6%	54.1%	54.1%				
Yellow Time (s)	3.0	3.0			3.0	3.0	3.0	3.0				
All-Red Time (s)	1.0	1.0			1.0	1.0	1.0	1.0				
Lost Time Adjust (s)	0.0	0.0			0.0	0.0		0.0				
Total Lost Time (s)	4.0	4.0			4.0	4.0		4.0				
Lead/Lag	Lead				Lag	Lag						
Lead-Lag Optimize?	Yes				Yes	Yes						
Recall Mode	None	None			None	None	Max	Max				
Act Effct Green (s)	24.3	24.3			19.0	19.0		49.7				
Actuated g/C Ratio	0.30	0.30			0.23	0.23		0.61				
v/c Ratio	0.25	0.54			0.83	0.75		0.44				
Control Delay (s/veh)	22.4	27.3			47.8	44.2		11.2				
Queue Delay	0.0	0.1			0.0	0.0		0.0				
Total Delay (s/veh)	22.4	27.4			47.8	44.2		11.2				
LOS	C	C			D	D		B				
Approach Delay (s/veh)		26.7			46.2			11.3				
Approach LOS		C			D			B				
Queue Length 50th (ft)	18	127			183	139		147				
Queue Length 95th (ft)	41	198			285	229		230				

Lanes, Volumes, Timings

20: 2nd Street NE & E Stewart Avenue/E Main Avenue 2025 FUTURE WITH DEVELOPMENT CONDITIONS

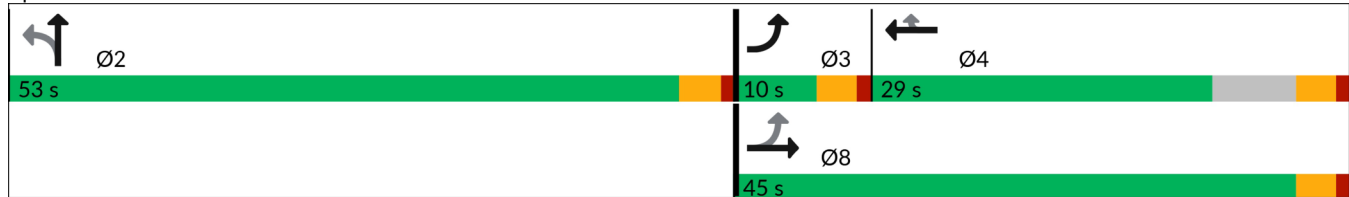


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		305			535			314			263	
Turn Bay Length (ft)	50					125						
Base Capacity (vph)	200	934			706	600		2138				
Starvation Cap Reductn	0	124			0	0		0				
Spillback Cap Reductn	0	0			0	0		0				
Storage Cap Reductn	0	0			0	0		0				
Reduced v/c Ratio	0.25	0.37			0.50	0.46		0.45				

Intersection Summary

Area Type:	Other
Cycle Length:	98
Actuated Cycle Length:	82.1
Natural Cycle:	65
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.83
Intersection Signal Delay (s/veh):	25.4
Intersection LOS:	C
Intersection Capacity Utilization:	63.9%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 20: 2nd Street NE & E Stewart Avenue/E Main Avenue



HCM 6th TWSC
 21: Freeman Road E & Site Access

2025 FUTURE WITH DEVELOPMENT CONDITIONS

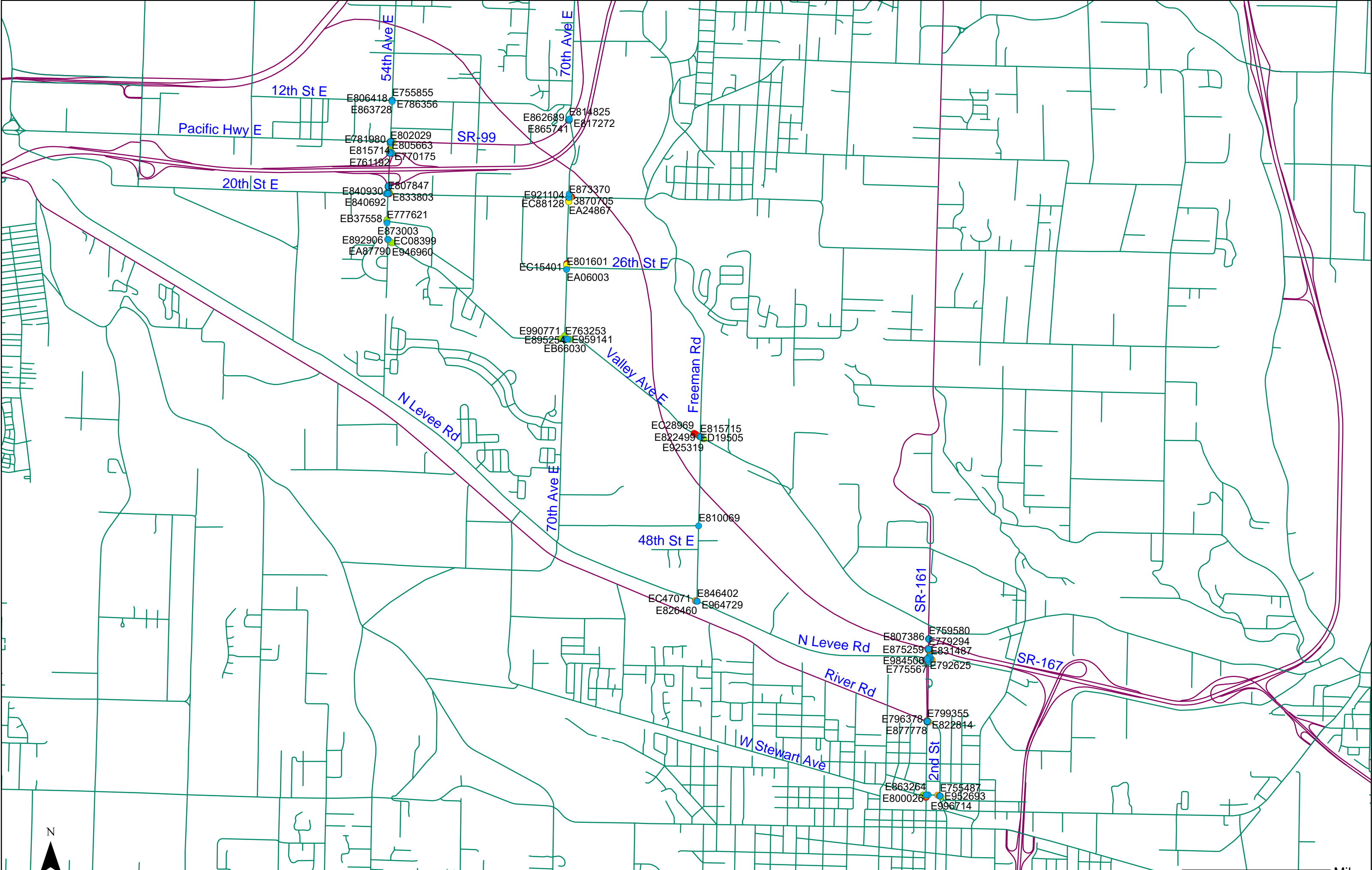
Intersection						
Int Delay, s/veh	5.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔		↔		↔	↔
Traffic Vol, veh/h	119	134	69	52	56	256
Future Vol, veh/h	119	134	69	52	56	256
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	100	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	146	75	57	61	278

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	504	104	0	0	132
Stage 1	104	-	-	-	-
Stage 2	400	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12
Critical Hdwy Stg 1	5.42	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218
Pot Cap-1 Maneuver	528	951	-	-	1453
Stage 1	920	-	-	-	-
Stage 2	677	-	-	-	-
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	506	951	-	-	1453
Mov Cap-2 Maneuver	506	-	-	-	-
Stage 1	920	-	-	-	-
Stage 2	649	-	-	-	-

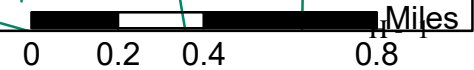
Approach	WB	NB	SB
HCM Control Delay, s/v	14	0	1.4
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBL	SBT
Capacity (veh/h)	-	-	673	1453
HCM Lane V/C Ratio	-	-	0.409	0.042
HCM Control Delay (s/veh)	-	-	14	7.6
HCM Lane LOS	-	-	B	A
HCM 95th %tile Q (veh)	-	-	2	0.1

APPENDIX H
COLLISION DATA



ALL THE COLLISIONS ARE REPRESENTED ON THIS MAP. REPORT NUMBERS ARE REDUCED FOR CLARITY.



PRIMARY TRAFFICWAY	INTERSECTING TRAFFICWAY/ REFERENCE POINT NAME	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# I N J U R I E S	# F A T A L I T I E S	# P E K E S	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION
12TH ST E	54TH AVE E	EC53078	2022-06-05	11:55	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Slowing	Stopped at Signal or Stop Sign
12TH ST E	54TH AVE E	E806418	2018-06-08	16:03	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - both moving - sideswipe	Changing Lanes	Going Straight Ahead
12TH ST E	54TH AVE E	E847060	2021-07-08	18:31	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
12TH ST E	54TH AVE E	E890709	2021-11-08	11:11	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
12TH ST E	54TH AVE E	E833877	2021-05-16	20:12	Suspected Serious Injury	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	12TH ST E	E777617	2018-02-22	5:39	Suspected Minor Injury	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	12TH ST E	E787531	2018-04-09	20:31	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
54TH AVE E	12TH ST E	E812400	2018-06-25	16:50	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Right Turn	Stopped at Signal or Stop Sign
54TH AVE E	12TH ST E	E863730	2018-11-21	13:12	Suspected Minor Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	12TH ST E	E994335	2019-12-16	12:42	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making U-Turn	Making Left Turn
54TH AVE E	12TH ST E	E948732	2019-08-10	6:04	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	12TH ST E	EA18925	2020-02-27	8:00	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	12TH ST E	EB30275	2021-05-11	22:05	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	12TH ST E	EB30274	2021-03-02	20:00	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
54TH AVE E	12TH ST E	EB26995	2021-04-27	08:16	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	12TH ST E	EB44260	2021-04-29	23:53	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
54TH AVE E	12TH ST E	EB22805	2021-04-17	19:12	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	12TH ST E	EB13249	2021-03-11	10:20	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	12TH ST E	EC49930	2022-05-13	15:24	Possible Injury	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Starting in Traffic Lane
54TH AVE E	12TH ST E	EC65608	2022-07-17	18:05	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
12TH ST E	54TH AVE E	E755855	2018-01-05	16:35	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
12TH ST E	54TH AVE E	E863728	2018-11-21	15:49	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
12TH ST E	54TH AVE E	E984786	2019-11-14	7:25	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
12TH ST E	54TH AVE E	E981776	2019-10-16	7:10	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
12TH ST E	54TH AVE E	EA81176	2020-11-15	12:51	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
54TH AVE E	12TH ST E	E786356	2018-04-03	14:10	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
54TH AVE E	12TH ST E	E989332	2019-12-03	16:18	Possible Injury	2	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
54TH AVE E	12TH ST E	E946543	2019-08-02	15:06	Possible Injury	2	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
54TH AVE E	12TH ST E	EA40285	2020-06-16	6:56	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
54TH AVE E	12TH ST E	EB76326	2021-10-08	13:32	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	E802029	2018-05-23	16:01	Possible Injury	1	0	0	At Intersection and Related	Same direction - both turning left - one stopped - rear end	Making Left Turn	Stopped for Traffic
PACIFIC HWY (SR-99)	54TH AVE E	EC50094	2022-05-24	12:31	Possible Injury	2	0	0	At Intersection and Related	Same direction - both turning right - one stopped - rear end	Making Right Turn	Stopped for Traffic
PACIFIC HWY (SR-99)	54TH AVE E	E788516	2018-04-12	16:42	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	E789531	2018-04-16	14:10	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	E771524	2018-02-20	13:15	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Changing Lanes	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	E772876	2018-02-02	11:25	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	E818761	2018-07-17	19:17	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	E763252	2018-01-26	18:28	Possible Injury	1	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing
PACIFIC HWY (SR-99)	54TH AVE E	E904327	2019-03-21	16:45	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	EA91907	2020-12-21	18:38	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	EA41991	2020-06-22	17:05	Possible Injury	2	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	EA64793	2020-09-12	7:43	Suspected Minor Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	EC07402	2021-12-25	22:56	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	EC02027	2021-12-17	23:35	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	EB98894	2021-11-03	20:16	Suspected Minor Injury	2	0	0	At Intersection and Related	From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing
PACIFIC HWY (SR-99)	54TH AVE E	EC49989	2022-05-26	18:25	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	E844969	2018-10-03	22:20	Unknown	0	0	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
PACIFIC HWY (SR-99)	54TH AVE E	E907471	2019-03-28	11:27	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
PACIFIC HWY (SR-99)	54TH AVE E	E992564	2019-11-13	18:00	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
PACIFIC HWY (SR-99)	54TH AVE E	EC26425	2022-03-02	10:12	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
PACIFIC HWY (SR-99)	54TH AVE E	ED17701	2022-12-15	11:24	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
PACIFIC HWY (SR-99)	54TH AVE E	EA66291	2020-09-21	19:40	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - sideswipe	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	EA78687	2020-11-07	17:40	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - sideswipe	Changing Lanes	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	E882089	2019-01-09	17:35	No Apparent Injury	0	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - both moving - sideswipe	Changing Lanes	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	E929401	2019-06-09	7:10	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - both moving - sideswipe	Going Straight Ahead	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	E947543	2019-08-05	12:35	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - sideswipe	Changing Lanes	Stopped for Traffic
PACIFIC HWY (SR-99)	54TH AVE E	E904325	2019-03-21	8:15	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - both moving - sideswipe	Changing Lanes	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	EB20304	2021-04-02	17:57	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - both moving - sideswipe	Changing Lanes	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	E781980	2018-03-24	5:14	Possible Injury	4	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	EC22758	2021-12-01	20:49	Suspected Minor Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	EB26541	2021-04-29	16:51	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	EA47491	2020-07-10	6:21	Suspected Minor Injury	4	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	EA57780	2020-08-17	20:16	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	EA64794	2020-09-13	4:40	Suspected Minor Injury	2	0	1	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
PACIFIC HWY (SR-99)	54TH AVE E	E909000	2019-04-07	18:54	Suspected Serious Injury	1	0	0	At Intersection and Related	Entering at angle	Making Right Turn	Slowing
PACIFIC HWY (SR-99)	54TH AVE E	E910907	2019-04-14	15:00	Possible Injury	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	EA02417	2020-01-12	11:00	Possible Injury	4	0	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	EA09798	2020-01-28	16:50	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Right Turn	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	EA21648	2020-02-26	5:28	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Starting in Traffic Lane	Starting in Traffic Lane
PACIFIC HWY (SR-99)	54TH AVE E	E861656	2018-11-16	17:00	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Changing Lanes
PACIFIC HWY (SR-99)	54TH AVE E	E858985	2018-11-03	2:55	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	EA38176	2020-06-01	3:30	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead

PRIMARY TRAFFICWAY	INTERSECTING TRAFFICWAY/ REFERENCE POINT NAME	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# I N J	# F A T	# P E D S	# B I K E S	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION
PACIFIC HWY (SR-99)	54TH AVE E	EC39911	2022-04-19	14:21	Suspected Minor Injury	1	0	4	0	At Intersection and Related	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn
PACIFIC HWY (SR-99)	54TH AVE E	EC08752	2022-01-04	19:22	Suspected Minor Injury	1	0	2	0	At Intersection and Related	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn
PACIFIC HWY (SR-99)	54TH AVE E	E764308	2018-01-29	19:22	No Apparent Injury	0	0	2	0	At Intersection and Related	From opposite direction - one left turn - one right turn	Making Left Turn	Making Right Turn
PACIFIC HWY (SR-99)	54TH AVE E	E771523	2018-02-19	19:01	Suspected Minor Injury	1	0	2	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	E991022	2019-12-04	20:50	No Apparent Injury	0	0	2	0	At Intersection and Related	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn
PACIFIC HWY (SR-99)	54TH AVE E	E950980	2019-08-16	13:37	No Apparent Injury	0	0	2	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Right Turn	Making Left Turn
PACIFIC HWY (SR-99)	54TH AVE E	E899213	2021-11-24	00:38	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - one right turn - one straight	Making Right Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	54TH AVE E	EC33810	2022-04-01	13:00	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - one right turn - one straight	Going Straight Ahead	Making Right Turn
PACIFIC HWY (SR-99)	54TH AVE E	E874283	2018-12-19	14:02	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - one left turn - one straight	Making Left Turn	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	54TH AVE E	E859859	2018-11-11	21:30	Possible Injury	1	0	1	0	At Intersection and Related	Vehicle turning right hits pedestrian	Making Right Turn	
PACIFIC HWY (SR-99)	54TH AVE E	E805211	2018-06-05	14:28	No Apparent Injury	0	0	1	0	At Intersection and Related	Vehicle overturned	Making Left Turn	
PACIFIC HWY (SR-99)	54TH AVE E	EA33647	2020-05-09	13:35	Suspected Minor Injury	1	0	2	0	At Intersection and Related	Linear Curb	Making Left Turn	
PACIFIC HWY (SR-99)	54TH AVE E	E933639	2019-06-16	5:32	No Apparent Injury	0	0	1	0	At Intersection and Related	Signal Pole	Making Right Turn	
PACIFIC HWY (SR-99)	54TH AVE E	EA38177	2020-06-05	23:22	No Apparent Injury	0	0	1	0	At Intersection and Related	Signal Pole	Going Straight Ahead	
54TH AVE E	I-5 SB OFF-RAMP	E754783	2018-01-01	1:54	Possible Injury	1	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
54TH AVE E	I-5 SB OFF-RAMP	E805663	2018-06-06	6:24	No Apparent Injury	0	0	2	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
54TH AVE E	I-5 SB OFF-RAMP	E809151	2018-06-16	8:52	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
54TH AVE E	I-5 SB OFF-RAMP	EA24594	2020-03-11	11:11	Possible Injury	1	0	2	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
54TH AVE E	I-5 SB OFF-RAMP	EA25415	2020-02-29	17:06	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
54TH AVE E	I-5 SB OFF-RAMP	EA26367	2020-03-05	5:40	No Apparent Injury	0	0	2	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
54TH AVE E	I-5 SB OFF-RAMP	EB18132	2021-03-16	11:08	Possible Injury	1	0	2	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
54TH AVE E	I-5 SB OFF-RAMP	EA98427	2021-01-13	15:08	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
54TH AVE E	I-5 SB OFF-RAMP	ED17299	2022-12-22	6:50	No Apparent Injury	0	0	2	0	Intersection Related but Not at Intersection	From same direction - both going straight - both moving - rear-end	Slowing	Slowing
54TH AVE E	I-5 SB OFF-RAMP	EB10068	2018-06-18	14:22	Possible Injury	1	0	2	0	At Intersection and Related	Same direction - both turning right - both moving - sideswipe	Making Right Turn	Making Right Turn
54TH AVE E	I-5 SB OFF-RAMP	E919774	2019-05-01	9:20	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning right - both moving - sideswipe	Overtaking and Passing	Making Right Turn
54TH AVE E	I-5 SB OFF-RAMP	E929757	2019-06-10	7:42	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning right - one stopped - sideswipe	Overtaking and Passing	Stopped at Signal or Stop Sign
54TH AVE E	I-5 SB OFF-RAMP	ED10081	2022-11-01	10:56	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning right - both moving - sideswipe	Making Right Turn	Making Right Turn
54TH AVE E	I-5 SB OFF-RAMP	EC01652	2021-12-13	14:53	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - sideswipe	Stopped at Signal or Stop Sign	Overtaking and Passing
54TH AVE E	I-5 SB OFF-RAMP	E788066	2018-04-13	7:08	Possible Injury	1	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
54TH AVE E	I-5 SB OFF-RAMP	E980614	2019-11-06	13:17	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
54TH AVE E	I-5 SB OFF-RAMP	E895555	2019-02-17	20:15	Possible Injury	1	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Left Turn
54TH AVE E	I-5 SB OFF-RAMP	E929397	2019-05-30	14:43	Possible Injury	1	0	4	0	At Intersection and Related	Entering at angle	Making Left Turn	Stopped at Signal or Stop Sign
54TH AVE E	I-5 SB OFF-RAMP	EA05741	2019-12-22	22:26	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	I-5 SB OFF-RAMP	E980868	2019-11-11	12:41	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
54TH AVE E	I-5 SB OFF-RAMP	E961176	2019-09-09	23:50	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
54TH AVE E	I-5 SB OFF-RAMP	E902784	2019-03-11	20:17	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Stopped for Traffic
54TH AVE E	I-5 SB OFF-RAMP	E907280	2019-04-02	8:17	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
54TH AVE E	I-5 SB OFF-RAMP	E961862	2019-09-18	9:58	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
54TH AVE E	I-5 SB OFF-RAMP	E922999	2019-05-19	23:29	Possible Injury	2	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
54TH AVE E	I-5 SB OFF-RAMP	EA08997	2020-01-28	20:25	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
54TH AVE E	I-5 SB OFF-RAMP	EA32162	2020-05-03	17:58	Possible Injury	1	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
54TH AVE E	I-5 SB OFF-RAMP	EA64392	2020-09-11	19:05	Suspected Minor Injury	1	0	2	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
54TH AVE E	I-5 SB OFF-RAMP	EA65674	2020-09-15	20:51	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
54TH AVE E	I-5 SB OFF-RAMP	EB57881	2021-08-06	11:32	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
54TH AVE E	I-5 SB OFF-RAMP	EB63370	2021-09-01	06:29	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Stopped for Traffic
54TH AVE E	I-5 SB OFF-RAMP	EC73778	2022-08-06	20:46	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
54TH AVE E	I-5 SB OFF-RAMP	EC11815	2022-01-12	12:20	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
54TH AVE E	I-5 SB OFF-RAMP	EC73386	2022-08-09	11:03	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
54TH AVE E	I-5 SB OFF-RAMP	ED09919	2022-11-05	22:32	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Stopped for Traffic
54TH AVE E	I-5 SB OFF-RAMP	EC62635	2022-06-30	5:15	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
54TH AVE E	I-5 SB OFF-RAMP	E770175	2018-02-08	18:37	Possible Injury	1	0	2	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
54TH AVE E	I-5 SB OFF-RAMP	E786662	2018-03-31	14:46	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - one right turn - one straight	Going Straight Ahead	Making Right Turn
54TH AVE E	I-5 SB OFF-RAMP	EB29616	2021-05-09	23:39	Possible Injury	1	0	1	0	At Intersection and Related	Vehicle Strikes Pedal/cyclist	Making Right Turn	
54TH AVE E	I-5 SB OFF-RAMP	E761192	2018-01-19	20:58	Possible Injury	1	0	1	0	At Intersection and Related	Signal Pole	Making Left Turn	
54TH AVE E	20TH ST E	E895369	2019-02-15	7:20	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning left - both moving - rear end	Making Left Turn	Making Left Turn
20TH ST E	54TH AVE E	E807847	2018-06-13	19:26	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
20TH ST E	54TH AVE E	EA32876	2020-05-10	11:45	Possible Injury	1	0	2	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
20TH ST E	54TH AVE E	EC67151	2022-07-18	14:55	No Apparent Injury	0	0	2	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Slowing	Stopped for Traffic
54TH AVE E	20TH ST E	E974810	2019-10-19	9:35	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Starting in Traffic Lane	Stopped at Signal or Stop Sign
20TH ST E	54TH AVE E	E914598	2019-04-25	9:15	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
20TH ST E	54TH AVE E	E924291	2019-05-26	15:57	Possible Injury	1	0	2	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
20TH ST E	54TH AVE E	E918863	2019-05-03	7:55	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
54TH AVE E	20TH ST E	ED04544	2022-10-30	20:55	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
54TH AVE E	20TH ST E	EC76722	2022-08-20	5:45	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
54TH AVE E	20TH ST E	EA64397	2020-09-16	13:50	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
20TH ST E	54TH AVE E	EB07596	2021-02-18	09:45	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
54TH AVE E	20TH ST E	E826461	2018-08-04	23:45	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
54TH AVE E	20TH ST E	E904432	2019-03-18	16:04	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
54TH AVE E	20TH ST E	E904322	2019-03-06	9:13	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
54TH AVE E	20TH ST E	E833803	2018-08-31	8:39	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction - both turning right - both moving - sideswipe	Making Right Turn	Making Right Turn
20TH ST E	54TH AVE E	EB04013	2021-02-05	10:30	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - both moving - sideswipe	Changing Lanes	Going Straight Ahead
54TH AVE E	20TH ST E	E944606	2019-07-25	15:18	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - both moving - sideswipe	Changing Lanes	Going Straight Ahead

PRIMARY TRAFFICWAY	INTERSECTING TRAFFICWAY/ REFERENCE POINT NAME	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# I N J U R I E S	# F E T H E R	# P E R S O N S	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION
54TH AVE E	20TH ST E	EA90750	2020-12-15	14:40	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - both going straight - one stopped - sideswipe	Going Straight Ahead	Stopped at Signal or Stop Sign
20TH ST E	54TH AVE E	E954772	2019-08-24	15:58	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
20TH ST E	54TH AVE E	E902664	2019-03-12	7:22	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Making Left Turn
20TH ST E	54TH AVE E	E918859	2019-04-17	17:50	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Stopped at Signal or Stop Sign
20TH ST E	54TH AVE E	EC35650	2022-04-07	23:11	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
20TH ST E	54TH AVE E	EC78225	2022-08-27	15:05	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	20TH ST E	E910342	2019-04-11	5:55	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
54TH AVE E	20TH ST E	E937047	2019-06-30	15:32	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	20TH ST E	E984860	2019-11-16	9:18	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Making Right Turn	Stopped at Signal or Stop Sign
54TH AVE E	20TH ST E	EA68329	2020-09-25	11:22	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Stopped at Signal or Stop Sign
54TH AVE E	20TH ST E	EB00406	2020-12-29	22:20	Suspected Minor Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	20TH ST E	EB84963	2021-11-02	14:43	Suspected Minor Injury	1	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Making Left Turn
54TH AVE E	20TH ST E	EC98283	2022-10-27	13:27	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	20TH ST E	EC58746	2022-06-04	23:40	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
54TH AVE E	20TH ST E	EA40930	2018-09-21	12:00	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
54TH AVE E	20TH ST E	ED04537	2022-11-02	5:05	Suspected Minor Injury	1	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn
20TH ST E	54TH AVE E	EB17602	2018-07-13	17:10	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - all others	Backing	Stopped at Signal or Stop Sign
20TH ST E	54TH AVE E	EB40692	2018-09-19	14:07	No Apparent Injury	0	0	0	Intersection Related but Not at Intersection	From same direction - all others	Backing	Stopped for Traffic
54TH AVE E	20TH ST E	E781974	2018-03-15	7:55	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - one right turn - one straight	Making Right Turn	Stopped at Signal or Stop Sign
54TH AVE E	20TH ST E	EA05742	2019-12-19	4:21	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - one right turn - one straight		Going Straight Ahead
54TH AVE E	20TH ST E	EA85748	2020-11-23	21:00	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - one right turn - one straight	Going Straight Ahead	Making Right Turn
54TH AVE E	20TH ST E	ED11013	2022-11-30	15:50	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - one right turn - one straight	Stopped in Roadway	Making Right Turn
54TH AVE E	20TH ST E	EA30614	2020-04-24	14:38	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - one right turn - one straight	Overtaking and Passing	
54TH AVE E	20TH ST E	EA21626	2020-03-05	18:25	Possible Injury	1	0	0	At Intersection and Related	From same direction - one left turn - one straight	Going Straight Ahead	Making Left Turn
54TH AVE E	20TH ST E	EB07595	2021-02-11	10:46	No Apparent Injury	0	0	0	At Intersection and Related	Vehicle overturned	Making Left Turn	
54TH AVE E	23RD ST E	EB98370	2019-02-27	7:38	Possible Injury	1	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
54TH AVE E	23RD ST E	EC50745	2022-05-26	11:45	Possible Injury	2	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
54TH AVE E	23RD ST E	EB37558	2021-05-24	22:10	Suspected Minor Injury	2	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
VALLEY AVE E	54TH AVE E	EB73003	2018-12-12	8:00	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
VALLEY AVE E	54TH AVE E	EA87790	2020-11-27	10:10	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end		Stopped at Signal or Stop Sign
VALLEY AVE E	54TH AVE E	EC08399	2021-12-31	12:00	Possible Injury	2	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
54TH AVE E	VALLEY AVE E	EB92906	2019-02-11	13:57	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	70TH AVE E	EB74137	2018-12-14	5:32	Possible Injury	2	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	70TH AVE E	EB90045	2019-02-04	8:53	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	70TH AVE E	EB24407	2018-08-02	8:25	Suspected Minor Injury	2	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EB26782	2018-08-09	15:50	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	70TH AVE E	E978607	2019-11-02	9:15	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EB15195	2018-05-31	10:20	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Right Turn	Making Left Turn
PACIFIC HWY (SR-99)	70TH AVE E	E956636	2019-09-03	15:45	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EA65042	2020-09-15	12:06	Possible Injury	2	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EA84364	2020-11-23	6:00	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EA90512	2020-12-10	17:55	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	E999278	2019-11-19	9:46	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Making Left Turn
PACIFIC HWY (SR-99)	70TH AVE E	EA10046	2020-01-28	20:40	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Right Turn
PACIFIC HWY (SR-99)	70TH AVE E	EA11380	2020-02-04	16:09	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EB57292	2021-07-29	13:17	Suspected Serious Injury	1	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EB45664	2021-04-15	15:25	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Right Turn	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	70TH AVE E	EB14825	2018-06-30	22:10	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EB65741	2018-11-27	12:17	Possible Injury	2	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EB62689	2018-11-09	19:40	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn
PACIFIC HWY (SR-99)	70TH AVE E	EB52915	2018-08-29	7:05	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EB17272	2018-07-10	15:55	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EB17766	2018-07-14	16:04	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	E782374	2018-03-13	16:00	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Stopped for Traffic
PACIFIC HWY (SR-99)	70TH AVE E	EB31018	2018-08-03	8:04	Suspected Minor Injury	3	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EB69544	2018-11-01	15:39	Possible Injury	1	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	E788143	2018-04-11	11:06	Suspected Minor Injury	1	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	E987804	2019-11-19	19:15	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	E950781	2019-08-16	16:50	Suspected Minor Injury	1	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	E968738	2019-09-27	17:51	Possible Injury	1	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EA39940	2020-06-09	5:39	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EA91701	2020-12-21	19:16	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EA96495	2020-12-19	20:10	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	EB45665	2021-04-13	07:18	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
PACIFIC HWY (SR-99)	70TH AVE E	E925479	2019-05-29	6:30	Suspected Serious Injury	3	0	0	At Intersection and Related	From opposite direction - all others	Going Straight Ahead	Backing
PACIFIC HWY (SR-99)	70TH AVE E	EB61750	2018-11-16	7:10	Suspected Minor Injury	1	0	0	At Intersection and Related	From opposite direction - all others	Going Straight Ahead	Stopped at Signal or Stop Sign
PACIFIC HWY (SR-99)	70TH AVE E	EB36117	2021-05-20	16:25	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - one right turn - one straight	Overtaking and Passing	Making Right Turn
PACIFIC HWY (SR-99)	70TH AVE E	EB77379	2018-12-20	15:25	Possible Injury	2	0	0	Intersection Related but Not at Intersection	From same direction - all others	Backing	Starting in Traffic Lane
PACIFIC HWY (SR-99)	70TH AVE E	E925108	2019-05-28	8:55	No Apparent Injury	0	0	0	At Intersection and Related	Vehicle overturned	Making Left Turn	
PACIFIC HWY (SR-99)	70TH AVE E	EB14916	2021-03-08	14:37	No Apparent Injury	0	0	0	At Intersection and Related	Vehicle overturned	Making Left Turn	
70TH AVE E	20TH ST E	EA08988	2020-01-15	21:05	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
70TH AVE E	20TH ST E	EC88128	2022-09-28	16:25	Suspected Minor Injury	2	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic

PRIMARY TRAFFICWAY	INTERSECTING TRAFFICWAY/ REFERENCE POINT NAME	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FATAL	# PEDESTRIANS	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION
70TH AVE E	20TH ST E	EC38431	2022-04-10	17:46	Possible Injury	1	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
20TH ST E	70TH AVE E	EC44278	2022-05-07	12:45	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Slowing	Stopped at Signal or Stop Sign
20TH ST E	70TH AVE E	EB47771	2021-07-12	12:08	No Apparent Injury	0	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - both moving - sideswipe	Changing Lanes	Going Straight Ahead
20TH ST E	70TH AVE E	3870705	2021-08-03	16:32	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
70TH AVE E	20TH ST E	EC23761	2022-02-22	21:38	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
20TH ST E	70TH AVE E	EB73370	2018-12-14	18:00	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Starting in Traffic Lane	Starting in Traffic Lane
20TH ST E	70TH AVE E	EB85396	2021-11-03	21:41	Suspected Serious Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
70TH AVE E	20TH ST E	EB69370	2021-09-20	07:12	Possible Injury	1	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn
70TH AVE E	20TH ST E	E921104	2019-05-10	16:00	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - one right turn - one straight	Going Straight Ahead	Making Right Turn
20TH ST E	70TH AVE E	EA38175	2020-06-04	15:33	No Apparent Injury	0	0	0	At Intersection and Related	Other Objects	Making Right Turn	Making Right Turn
70TH AVE E	26TH ST E	E801601	2018-05-17	9:04	Suspected Minor Injury	1	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - both moving - rear-end	Going Straight Ahead	Slowing
26TH ST E	70TH AVE E	EA06003	2020-01-03	10:40	No Apparent Injury	0	0	0	At Intersection and Related	Vehicle overturned		
70TH AVE E	VALLEY AVE E	E763263	2018-01-26	20:28	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
70TH AVE E	VALLEY AVE E	E947542	2019-08-04	13:08	No Apparent Injury	0	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Starting in Traffic Lane	Stopped for Traffic
VALLEY AVE E	70TH AVE E	E990771	2019-11-19	15:25	No Apparent Injury	0	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Starting in Traffic Lane	Stopped for Traffic
VALLEY AVE E	70TH AVE E	E976142	2019-10-26	20:33	No Apparent Injury	0	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
VALLEY AVE E	70TH AVE E	E770289	2018-02-16	8:37	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Starting in Traffic Lane	Stopped at Signal or Stop Sign
70TH AVE E	VALLEY AVE E	EB94405	2021-11-24	13:42	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - both moving - sideswipe	Changing Lanes	Slowing
70TH AVE E	VALLEY AVE E	EA68806	2020-09-21	22:45	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
VALLEY AVE E	70TH AVE E	EB60821	2021-08-23	08:08	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
VALLEY DR E	70TH AVE E	EA08985	2020-01-03	16:15	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle		Making Right Turn
70TH AVE E	VALLEY AVE E	EC75943	2022-08-17	18:45	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Stopped at Signal or Stop Sign	Making Right Turn
70TH AVE E	VALLEY AVE E	EB68030	2021-09-08	07:20	No Apparent Injury	0	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Starting in Traffic Lane	Making Left Turn
VALLEY AVE E	70TH AVE E	E787469	2018-04-11	11:56	Possible Injury	1	0	0	Intersection Related but Not at Intersection	From same direction - all others	Going Straight Ahead	Starting in Traffic Lane
VALLEY AVE E	70TH AVE E	EB00724	2018-05-22	1:00	Unknown	0	0	0	At Intersection and Related	Metal Sign Post	Making Right Turn	Making Right Turn
FREEMAN RD E	VALLEY AVE E	EB89319	2019-02-04	7:30	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
FREEMAN RD E	VALLEY AVE E	EA97533	2021-01-06	07:05	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
VALLEY AVE E	FREEMAN RD E	ED10815	2022-11-14	17:45	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
VALLEY AVE E	FREEMAN RD E	EB22499	2018-07-26	14:25	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
VALLEY AVE E	FREEMAN RD E	E925319	2019-05-29	15:26	No Apparent Injury	0	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
VALLEY AVE E	FREEMAN RD E	EB90196	2019-02-05	11:50	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Starting in Traffic Lane	Stopped at Signal or Stop Sign
VALLEY AVE E	FREEMAN RD E	EB68780	2021-09-02	18:30	No Apparent Injury	0	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
VALLEY AVE E	FREEMAN RD E	E815715	2018-07-26	20:44	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
VALLEY AVE E	FREEMAN RD E	EB62223	2021-08-05	09:29	Possible Injury	1	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
VALLEY AVE E	FREEMAN RD E	EB44462	2021-06-25	20:11	Possible Injury	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
VALLEY AVE E	FREEMAN RD E	EC61575	2022-06-28	20:34	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Starting in Traffic Lane
VALLEY AVE E	FREEMAN RD E	EC77231	2022-08-22	17:17	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
FREEMAN RD E	48TH ST E	EB10069	2018-06-19	7:40	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Backing	Stopped for Traffic
N LEEVE RD	FREEMAN RD E	EB26460	2018-08-02	15:52	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
N LEEVE RD	FREEMAN RD E	EB62222	2021-08-23	08:25	No Apparent Injury	0	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
N LEEVE RD	FREEMAN RD E	EC98282	2022-10-28	7:15	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
FREEMAN RD E	N LEEVE RD	EB46402	2018-10-04	17:53	Possible Injury	2	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
FREEMAN RD E	N LEEVE RD	ED10163	2022-11-30	8:48	No Apparent Injury	0	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
FREEMAN RD E	N LEEVE RD E	E964729	2019-09-20	20:27	Suspected Serious Injury	3	0	1	At Intersection and Related	Guardrail - Face	Going Straight Ahead	Slowing
N LEEVE RD	FREEMAN RD E	EC47071	2022-05-17	5:45	No Apparent Injury	0	0	0	Intersection Related but Not at Intersection	Guardrail - Face	Going Straight Ahead	
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EB75259	2018-12-16	18:20	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
N MERIDIAN (SR-161)	SR-167 ON-RAMP	E763548	2018-01-26	17:32	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
N MERIDIAN (SR-161)	SR-167 ON-RAMP	E919926	2019-05-13	16:07	No Apparent Injury	0	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EB47316	2021-07-11	18:30	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	E759580	2018-01-17	16:08	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	EA84225	2020-11-25	13:19	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	E785677	2018-03-29	20:41	Possible Injury	1	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	E806240	2018-06-01	4:58	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	EB75624	2021-10-07	17:26	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Stopped at Signal or Stop Sign	Stopped at Signal or Stop Sign
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	EC99733	2022-10-28	4:15	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
SR-167	N MERIDIAN (SR-161)	EB88938	2021-11-12	13:05	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
SR-167	N MERIDIAN (SR-161)	E934408	2019-06-26	18:33	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
SR-167	N MERIDIAN (SR-161)	EB86744	2019-01-25	15:18	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning right - one stopped - rear end	Making Right Turn	Stopped at Signal or Stop Sign
SR-167	N MERIDIAN (SR-161)	EB86499	2019-01-25	17:00	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning right - one stopped - rear end	Making Right Turn	Stopped for Traffic
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EB84915	2019-01-18	15:25	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - both moving - sideswipe	Changing Lanes	Changing Lanes
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	E907744	2019-04-03	12:33	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - sideswipe	Making Right Turn	Stopped at Signal or Stop Sign
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EB21336	2018-07-19	19:21	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - sideswipe	Making Left Turn	Stopped at Signal or Stop Sign
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EB98192	2021-12-07	18:46	No Apparent Injury	0	0	0	At Intersection and Related	From same direction - both going straight - one stopped - sideswipe	Slowing	Stopped at Signal or Stop Sign
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	E986318	2019-11-25	17:48	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning right - both moving - sideswipe	Making Right Turn	Making Right Turn
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	EB63259	2018-11-21	9:54	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning right - both moving - sideswipe	Making Right Turn	Making Right Turn
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	EC83336	2022-09-07	8:20	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning right - both moving - sideswipe	Making Right Turn	Making Right Turn
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	EC26815	2022-03-07	7:50	Possible Injury	1	0	0	At Intersection and Related	Same direction - both turning right - both moving - sideswipe	Making Right Turn	Making Right Turn
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EB79668	2018-12-20	17:02	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EB88357	2019-11-25	15:55	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EB02463	2021-01-25	06:50	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
SR-167	N MERIDIAN (SR-161)	EB16471	2018-07-10	18:09	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn
SR-167	N MERIDIAN (SR-161)	EB68744	2018-11-29	15:08	No Apparent Injury	0	0	0	At Intersection and Related	Same direction - both turning left - both moving - sideswipe	Making Left Turn	Making Left Turn

PRIMARY TRAFFICWAY	INTERSECTING TRAFFICWAY/ REFERENCE POINT NAME	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# I N J U R Y	# F A T A L I T Y	# P E D E S T R I A N	# V E H I C L E	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION
SR-167	N MERIDIAN (SR-161)	E753787	2018-01-01	2:14	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning left -- both moving -- sideswipe	Making Left Turn	Making Left Turn
SR-167	N MERIDIAN (SR-161)	EA13021	2020-02-06	11:45	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning left -- both moving -- sideswipe	Making Left Turn	Making Left Turn
SR-167	N MERIDIAN (SR-161)	E943867	2019-07-12	20:23	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning left -- both moving -- sideswipe	Making Left Turn	Making Left Turn
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EA46884	2020-06-29	18:01	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Left Turn	Making Left Turn
N MERIDIAN (SR-161)	SR-167 ON-RAMP	ED09418	2022-11-18	22:15	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EC61411	2022-07-03	20:09	No Apparent Injury	0	0	3	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	E857731	2018-11-06	22:38	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	E760421	2018-01-09	5:54	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Left Turn
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	E941473	2019-07-18	6:32	Possible Injury	1	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Right Turn
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	EA41074	2020-06-19	2:41	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Left Turn	Changing Lanes
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	EC01000	2021-12-11	16:01	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Right Turn
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	EB59703	2021-08-16	16:27	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	ED10635	2022-12-03	10:11	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	EC48865	2022-05-21	20:02	Possible Injury	1	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
SR-167	N MERIDIAN (SR-161)	E844183	2019-01-15	10:19	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
SR-167	N MERIDIAN (SR-161)	EA71685	2020-10-12	18:45	Suspected Serious Injury	2	0	2	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EC31219	2022-03-22	19:52	Possible Injury	1	0	2	0	At Intersection and Related	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn
SR-167	N MERIDIAN (SR-161)	EC42326	2022-05-02	7:30	Possible Injury	1	0	2	0	At Intersection and Related	From same direction - all others	Stopped at Signal or Stop Sign	Stopped for Traffic
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EB65670	2021-09-06	14:29	Possible Injury	2	0	2	0	At Intersection and Related	From same direction - all others	Making U-Turn	Going Straight Ahead
N MERIDIAN (SR-161)	SR-167 ON-RAMP	E807386	2018-06-12	13:20	No Apparent Injury	0	0	2	0	Intersection Related but Not at Intersection	From same direction - all others	Making Right Turn	Going Straight Ahead
SR-167	N MERIDIAN (SR-161)	E794238	2018-04-15	14:08	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - all others	Making U-Turn	Making Left Turn
SR-167	N MERIDIAN (SR-161)	E819456	2018-07-13	9:18	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - all others	Making U-Turn	Making Left Turn
SR-167	N MERIDIAN (SR-161)	EA95890	2021-01-05	21:25	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - all others	Making U-Turn	Making Left Turn
SR-167	N MERIDIAN (SR-161)	EB86021	2021-11-05	03:08	Suspected Serious Injury	1	0	1	1	At Intersection and Related	Vehicle Strikes Pedalcyclist		Making Left Turn
SR-167	N MERIDIAN (SR-161)	EB98987	2019-03-04	1:56	No Apparent Injury	0	0	2	0	At Intersection and Related	One parked--one moving	Making Left Turn	Illegally Parked, Unoccupied
N MERIDIAN (SR-161)	SR-167 OFF-RAMP	EB95056	2021-11-28	02:37	Unknown	0	0	1	0	At Intersection and Related	Roadway Ditch	Going Straight Ahead	
N MERIDIAN (SR-161)	SR-167 ON-RAMP	EC78895	2022-08-23	15:56	Suspected Minor Injury	1	0	1	0	At Intersection and Related	Vehicle overturned	Making Left Turn	
SR-167	N MERIDIAN (SR-161)	EB59365	2021-08-13	05:38	Suspected Minor Injury	1	0	1	0	At Intersection and Related	Vehicle overturned	Making Left Turn	
N LEVEE RD	N LEVEE RD	E831487	2018-08-23	16:50	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Merging (Entering Traffic)	Stopped for Traffic
N LEVEE RD	ACCESS RAMP	ED10423	2022-11-28	15:24	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
N LEVEE RD	SR-167	EC94854	2022-10-17	17:09	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
SR-167	N LEVEE RD	E930984	2019-06-16	18:46	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
SR-167	N LEVEE RD	E907906	2019-03-30	15:21	Possible Injury	1	0	2	0	At Intersection and Related	From same direction - both going straight - both moving - rear-end	Starting in Traffic Lane	Changing Lanes
N MERIDIAN (SR-161)	N LEVEE RD	E840444	2018-09-16	16:27	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
SR-167	N LEVEE RD	EB26032	2021-04-29	10:39	Possible Injury	1	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
SR-167	N LEVEE RD	EB32046	2021-05-18	16:43	Possible Injury	1	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
SR-167	N LEVEE RD	EC21370	2022-02-16	14:18	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Starting in Traffic Lane	Stopped for Traffic
SR-167	N LEVEE RD	EC20399	2022-02-10	7:44	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Slowing	Stopped at Signal or Stop Sign
SR-167	N LEVEE RD	EC45620	2022-05-03	16:21	Suspected Minor Injury	1	0	2	0	At Intersection and Related	Same direction -- both turning right -- one stopped -- rear end	Making Right Turn	Stopped for Traffic
SR-167	N LEVEE RD	ED20548	2022-12-16	12:40	Possible Injury	1	0	2	0	At Intersection and Related	Same direction -- both turning right -- one stopped -- rear end	Making Right Turn	Stopped at Signal or Stop Sign
SR-167	N LEVEE RD	E977306	2019-10-31	7:19	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning right -- one stopped -- rear end	Making Right Turn	Stopped for Traffic
N MERIDIAN (SR-161)	N LEVEE RD	E922395	2019-05-17	15:03	Possible Injury	1	0	2	0	At Intersection and Related	Same direction -- both turning right -- one stopped -- rear end	Making Right Turn	Making Right Turn
SR-167	N LEVEE RD	EA68783	2020-09-28	15:51	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning right -- both moving -- rear end	Making Right Turn	Stopped for Traffic
SR-167	N LEVEE RD	E984506	2019-11-19	16:56	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning right -- both moving -- sideswipe	Making Right Turn	Making Right Turn
N MERIDIAN (SR-161)	N LEVEE RD	E910985	2019-04-14	15:07	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning left -- both moving -- sideswipe	Making Left Turn	Making Left Turn
SR-167	N LEVEE RD	E941005	2019-07-17	15:13	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Stopped at Signal or Stop Sign
SR-167	N LEVEE RD	E993261	2019-12-13	17:28	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
SR-167	N LEVEE RD	E995211	2019-12-18	16:21	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
SR-167	N LEVEE RD	EC27800	2022-03-09	14:41	No Apparent Injury	0	0	2	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
SR-167	N LEVEE RD	EA79869	2020-11-10	14:16	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - one right turn - one straight	Going Straight Ahead	Stopped for Traffic
SR-167	N LEVEE RD	EC79622	2022-09-01	14:49	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - one right turn - one straight	Going Straight Ahead	Stopped for Traffic
SR-167	N LEVEE RD	EC71504	2022-07-31	19:25	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - one right turn - one straight	Going Straight Ahead	Making Right Turn
SR-167	N LEVEE RD	EA51021	2020-07-29	7:20	Possible Injury	1	0	1	1	At Intersection and Related	Vehicle Strikes Pedalcyclist	Making Right Turn	
N MERIDIAN (SR-161)	N LEVEE RD	E781115	2018-03-21	3:10	Unknown	0	0	1	0	At Intersection and Related	Guardrail - Through, Over or Under	Going Straight Ahead	
SR-167	N LEVEE RD	EC17983	2022-02-04	22:15	No Apparent Injury	0	0	1	0	At Intersection and Related	Light Curb	Making Right Turn	
RIVER ROAD	N MERIDIAN (SR-161)	E877778	2018-12-28	14:47	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
RIVER ROAD	N MERIDIAN (SR-161)	E822814	2018-07-27	12:50	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
RIVER ROAD	N MERIDIAN (SR-161)	E921331	2019-05-17	14:14	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
RIVER ROAD	N MERIDIAN (SR-161)	EA40123	2020-06-13	8:11	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
RIVER ROAD	N MERIDIAN (SR-161)	EA55043	2020-06-13	20:51	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
RIVER ROAD	N MERIDIAN (SR-161)	EA83442	2020-11-20	22:11	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
RIVER ROAD	N MERIDIAN (SR-161)	EA95467	2020-12-31	10:15	Possible Injury	2	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
RIVER ROAD	N MERIDIAN (SR-161)	EA13933	2020-02-11	5:27	Possible Injury	3	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
RIVER ROAD	N MERIDIAN (SR-161)	EC38730	2022-03-02	14:29	No Apparent Injury	0	0	2	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
RIVER ROAD	N MERIDIAN (SR-161)	ED05316	2022-11-17	7:18	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning right -- one stopped -- rear end	Making Right Turn	Stopped for Traffic
RIVER ROAD	N MERIDIAN (SR-161)	E801590	2018-05-24	7:43	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning right -- both moving -- rear end	Making Right Turn	Making Right Turn
RIVER ROAD	N MERIDIAN (SR-161)	EB96188	2021-12-01	07:16	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning right -- both moving -- rear end	Making Right Turn	Making Right Turn
RIVER ROAD	N MERIDIAN (SR-161)	E966918	2019-10-03	7:00	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning left -- one stopped -- sideswipe	Making Left Turn	Stopped for Traffic
RIVER ROAD	N MERIDIAN (SR-161)	EB53064	2021-07-29	12:28	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning left -- both moving -- sideswipe	Making Left Turn	Making Left Turn
RIVER ROAD	N MERIDIAN (SR-161)	EB50749	2021-05-07	15:20	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning left -- both moving -- sideswipe	Making Left Turn	Making Left Turn
RIVER ROAD	N MERIDIAN (SR-161)	EB59959	2021-08-20	05:35	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning left -- both moving -- sideswipe	Making Left Turn	Making Left Turn
RIVER ROAD	N MERIDIAN (SR-161)	EC13101	2022-01-17	19:45	No Apparent Injury	0	0	2	0	At Intersection and Related	Same direction -- both turning left -- both moving -- sideswipe	Making Left Turn	Making Left Turn

PRIMARY TRAFFICWAY	INTERSECTING TRAFFICWAY/ REFERENCE POINT NAME	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# I N J	# F A T	# V E H	# P E D	# B I K E	JUNCTION RELATIONSHIP	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION
RIVER ROAD	N MERIDIAN (SR-161)	E799355	2018-05-09	20:30	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Making Right Turn
RIVER ROAD	N MERIDIAN (SR-161)	E759286	2018-01-16	10:26	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Stopped at Signal or Stop Sign
RIVER ROAD	N MERIDIAN (SR-161)	E853645	2018-10-27	9:07	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Starting in Traffic Lane
RIVER ROAD	N MERIDIAN (SR-161)	E951827	2019-08-19	22:28	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
RIVER ROAD	N MERIDIAN (SR-161)	E989612	2019-12-03	20:02	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
RIVER ROAD	N MERIDIAN (SR-161)	E997525	2019-12-25	15:46	Died in Hospital	0	1	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
RIVER ROAD	N MERIDIAN (SR-161)	EA35895	2020-05-23	6:41	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
RIVER ROAD	N MERIDIAN (SR-161)	EB54374	2021-08-02	00:21	Possible Injury	2	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
RIVER ROAD	N MERIDIAN (SR-161)	EB12629	2021-03-09	22:23	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
RIVER ROAD	N MERIDIAN (SR-161)	EC17445	2022-01-20	21:53	Possible Injury	1	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
RIVER ROAD	N MERIDIAN (SR-161)	EC28963	2022-03-11	1:20	Suspected Serious Injury	1	0	2	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
RIVER ROAD	N MERIDIAN (SR-161)	EC64175	2022-07-08	9:21	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Making Left Turn	Going Straight Ahead
RIVER ROAD	N MERIDIAN (SR-161)	EB41946	2021-06-22	15:45	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Merging (Entering Traffic)	Going Straight Ahead
RIVER ROAD	N MERIDIAN (SR-161)	EA11280	2020-02-02	10:46	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Going Straight Ahead	Making Left Turn
RIVER ROAD	N MERIDIAN (SR-161)	EB64088	2021-09-03	08:24	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From same direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
RIVER ROAD	N MERIDIAN (SR-161)	E938876	2019-07-10	20:10	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From same direction - all others	Making Left Turn	Making Left Turn
RIVER ROAD	N MERIDIAN (SR-161)	E796378	2018-04-30	7:30	No Apparent Injury	0	0	3	0	0	Intersection Related but Not at Intersection	From same direction - all others	Stopped in Roadway	Starting in Traffic Lane
RIVER ROAD	N MERIDIAN (SR-161)	ED16007	2022-12-18	2:34	No Apparent Injury	0	0	1	0	0	At Intersection and Related	Signal Pole	Going Straight Ahead	
RIVER ROAD	N MERIDIAN (SR-161)	EB66350	2021-09-09	11:34	Possible Injury	1	0	1	0	0	At Intersection and Related	Street Light Pole or Base	Making Left Turn	
W STEWART	N MERIDIAN (SR-161)	EC38250	2022-04-15	13:15	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
W STEWART	N MERIDIAN (SR-161)	EA76277	2020-10-28	17:44	Unknown	0	0	2	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped for Traffic
W STEWART	N MERIDIAN (SR-161)	EA21436	2020-03-06	23:57	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
N MERIDIAN (SR-161)	W STEWART	EA05121	2020-01-20	14:07	No Apparent Injury	0	0	2	0	0	Intersection Related but Not at Intersection	From same direction - both going straight - both moving - sideswipe	Changing Lanes	Going Straight Ahead
N MERIDIAN (SR-161)	E STEWART AVE	EC61697	2022-06-29	0:47	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
N MERIDIAN (SR-161)	E STEWART AVE	E922127	2019-05-19	13:38	Possible Injury	2	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
N MERIDIAN (SR-161)	W STEWART	EB17987	2021-03-30	21:15	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
N MERIDIAN (SR-161)	W STEWART	EC65546	2022-07-18	5:00	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
W STEWART	N MERIDIAN (SR-161)	EC71206	2022-08-05	12:56	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Making Right Turn	Going Straight Ahead
E STEWART AVE	N MERIDIAN (SR-161)	EC45408	2022-05-11	0:34	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
E STEWART AVE	N MERIDIAN (SR-161)	EB31190	2021-05-17	05:38	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From opposite direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
N MERIDIAN (SR-161)	W STEWART	EA74835	2020-10-25	10:57	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From same direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
N MERIDIAN (SR-161)	E STEWART AVE	E893993	2019-02-15	19:25	Possible Injury	1	0	1	0	0	At Intersection and Related	Vehicle turning left hits pedestrian	Making Left Turn	
N MERIDIAN (SR-161)	E STEWART AVE	ED10621	2022-12-03	18:55	Suspected Minor Injury	1	0	1	0	0	At Intersection and Related	Vehicle turning left hits pedestrian	Making Left Turn	
N MERIDIAN (SR-161)	E STEWART AVE	EA52183	2020-06-02	8:03	No Apparent Injury	0	0	1	0	0	At Intersection and Related	Linear Curb	Going Straight Ahead	
N MERIDIAN (SR-161)	E STEWART AVE	E863264	2018-11-21	9:45	No Apparent Injury	0	0	2	0	0	At Intersection and Related	One parked-one moving	Making Left Turn	Legally Parked, Unoccupied
2ND ST NE	E STEWART AVE	E952693	2019-08-21	17:43	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From same direction - both going straight - one stopped - rear-end	Going Straight Ahead	Stopped at Signal or Stop Sign
2ND ST NE	E STEWART AVE	E794457	2018-05-03	4:18	Possible Injury	1	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
2ND ST NE	E STEWART AVE	EA28686	2020-04-06	17:30	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
2ND ST NE	E STEWART AVE	EC01099	2021-12-14	22:00	No Apparent Injury	0	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Going Straight Ahead
2ND ST NE	E STEWART AVE	ED11575	2022-11-04	18:22	Possible Injury	2	0	2	0	0	At Intersection and Related	Entering at angle	Going Straight Ahead	Starting in Traffic Lane
2ND ST NE	E STEWART AVE	E933273	2019-06-21	12:40	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From same direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
2ND ST NE	E STEWART AVE	EA87704	2020-12-08	18:52	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From same direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
2ND ST NE	E STEWART AVE	EB37475	2021-06-09	07:42	Possible Injury	2	0	2	0	0	At Intersection and Related	From same direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
2ND ST NE	E STEWART AVE	EB70885	2021-09-21	18:29	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From same direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
2ND ST NE	E STEWART AVE	EC51289	2022-05-31	17:54	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From same direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
2ND ST NE	E STEWART AVE	EC79621	2022-08-31	18:46	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From same direction - one left turn - one straight	Going Straight Ahead	Making Left Turn
2ND ST NE	E STEWART AVE	EC37164	2022-04-13	12:23	No Apparent Injury	0	0	2	0	0	At Intersection and Related	From same direction - one left turn - one straight	Making Left Turn	Going Straight Ahead
E STEWART AVE	2ND ST NE	E998714	2019-12-20	16:39	Suspected Minor Injury	1	0	1	0	0	Intersection Related but Not at Intersection	Vehicle going straight hits pedestrian	Going Straight Ahead	
E STEWART AVE	2ND ST NE	E920855	2019-05-15	21:10	Suspected Minor Injury	2	0	1	2	0	At Intersection and Related	Vehicle turning left hits pedestrian	Making Left Turn	
2ND ST NE	E STEWART AVE	E770934	2018-02-16	7:03	Possible Injury	1	0	1	0	0	At Intersection and Related	Vehicle turning left hits pedestrian	Making Left Turn	
2ND ST NE	E STEWART AVE	EB89724	2021-11-12	19:09	Suspected Serious Injury	4	0	1	4	0	At Intersection and Related	Vehicle turning left hits pedestrian	Making Left Turn	
2ND ST NE	E STEWART AVE	E755487	2018-01-05	4:19	No Apparent Injury	0	0	1	0	0	At Intersection and Related	Signal Pole	Making Right Turn	

APPENDIX I
SITE PLAN & TRUCK TURNS

PROJECT DATA

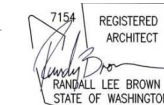
SITE AREA	978,882 SF
BUILDING AREA	505,436 SF
COVERAGE	51.4%
BUILDING A PARKING REQUIRED	115.5
12,000 SF OFFICE @ 1:300	40.0
226,525 SF W/SE @ 1:3000	75.5
PARKING PROVIDED	123
BUILDING B PARKING REQUIRED	127.9
13,000 SF OFFICE @ 1:300	43.3
253,911 SF W/SE @ 1:3000	84.6
PARKING PROVIDED	137

- ▲ 9'x10' DOCK DOOR 66
- GRADE ACCESS DOORS (SIZE VARIES) 7

REVISIONS

ISSUE NO.	DATE	ITEM
▲	06 14 24	SEPA RESUBMITTAL
▲	11 27 23	SEPA RESUBMITTAL
▲	10 14 22	SEPA RESUBMITTAL
D	11 01 21	DESIGN REVIEW APPLICATION
C	09 15 21	PRELIMINARY BID
B	03 19 21	SEPA APPLICATION
A	01 05 21	PRE-APPLICATION

PROFESSIONAL STAMP



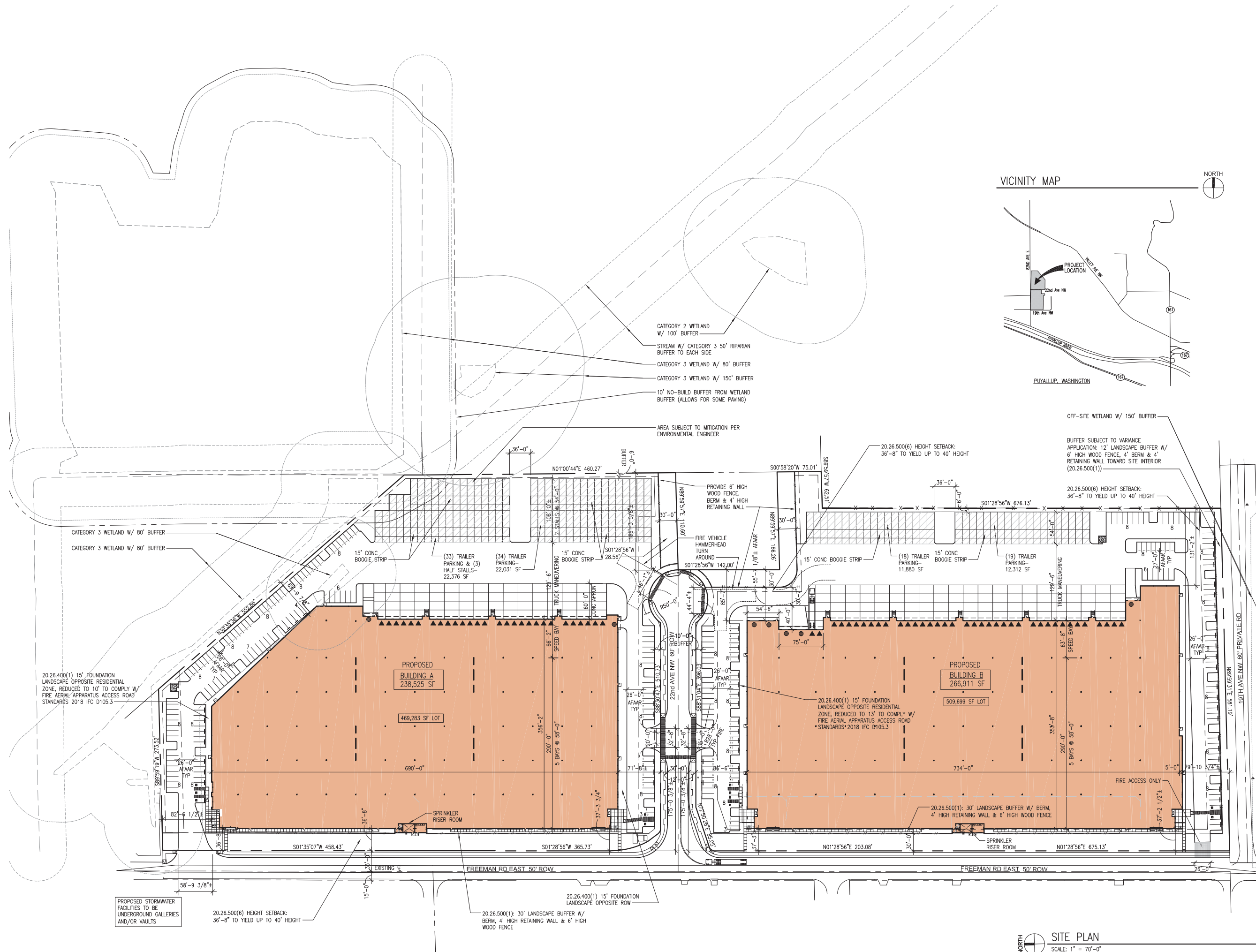
Digitally signed by
Randy Brown
Date:
2024.06.14
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-07'00'

PROJECT INFORMATION

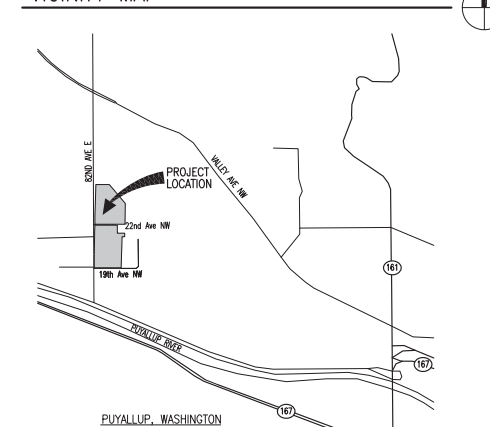
BUILDING A & B
Freeman Road Logistics
Puyallup, WA

SHEET INFORMATION

RELEASE FOR:	PERMIT SUBMITTAL
TITLE:	SITE PLAN
DESIGNED BY:	DRAWN BY:
REVIEWED BY:	APPROVED BY:
DATE:	01 05 21
SHEET NO.:	A1.1
PROJECT NO.:	201401.13.031



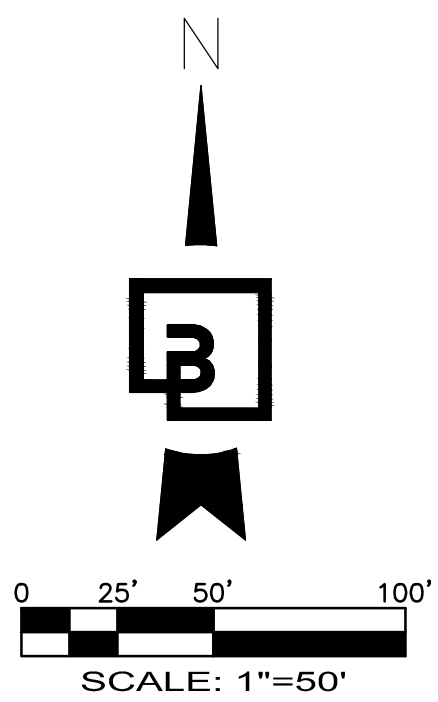
VICINITY MAP



SITE PLAN

SCALE: 1" = 70'-0"

P:\2024\13\201401.13.031 - Puget\031 - Freeman Road Logistics\031\Site Plan.dwg, 01/05/21 10:01 AM

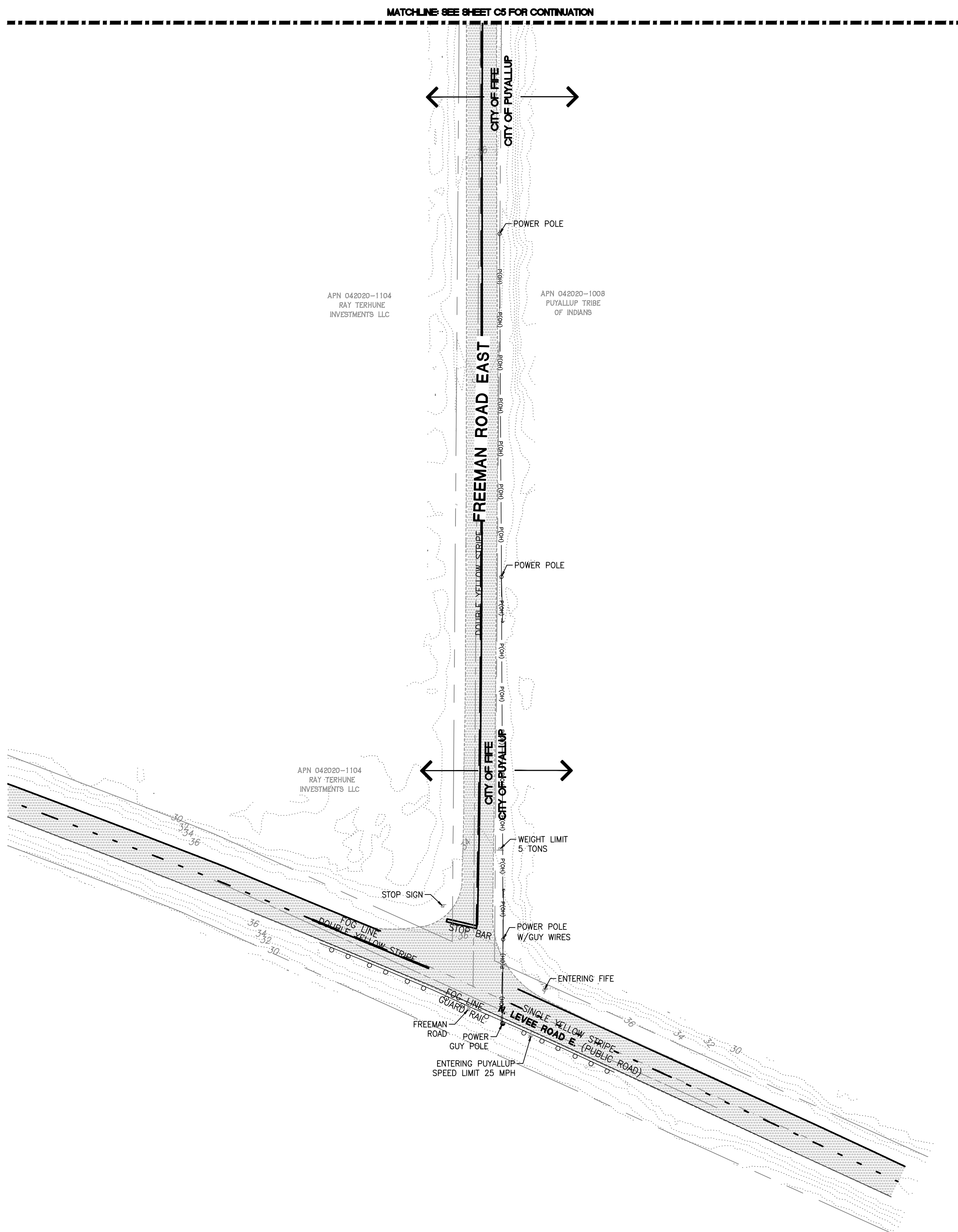


EXISTING CONDITIONS

OF

FREEMAN LOGISTICS

PTNS. OF THE SE1/4, OF SEC. 17, TWP. 20 N., RGE 4 EAST, W. M.
AND PTNS. OF THE NE1/4, OF SEC. 20, TWP. 20 N., RGE 4 EAST, W. M.
PIERCE COUNTY, WASHINGTON



LEGEND

(NOTE: NOT ALL SYMBOLS MAY APPEAR ON THE MAP)

- SURVEY MONUMENT (AS NOTED)
- SECTION CORNER (AS NOTED)
- SET REBAR/CAP (LS#45789 OR #41282)
- FOUND REBAR/CAP (AS NOTED)
- SET 2"x2" HUB/TACK LINE STAKE
- NAG/WASHER OR LEAD/TACK (AS NOTED)
- LUMINAIRE (LUM.)
- YARD LIGHT
- ORNAMENTAL LIGHT
- POWER METER (PM)
- POWER POLE (PP)
- JUNCTION BOX (AS NOTED)
- TELEPHONE MANHOLE (TM)
- TELEPHONE RISER (TR)
- CATCH BASIN (CB)
- STORM MANHOLE (SDMH)
- SANITARY SEWER MANHOLE (SSMH)
- GAS METER (GM)
- GAS VALVE (GV)
- WATER VALVE (WV)
- FAUCET
- FIRE HYDRANT (FH)
- WATER MANHOLE
- WATER METER (WM)
- WELL
- SIGN
- IRRIGATION VALVE (IV)
- DIRECTIONAL ARROW
- MAILBOX (MB)
- CHAIN LINK FENCE
- WOOD FENCE
- HOGWIRE FENCE
- VINYL FENCE
- WATER LINE
- GAS LINE
- TELEPHONE LINE (OH) OR (UG)
- POWER LINE (OH) OR (UG)
- STORM LINE
- SEWER LINE
- ROCKERY
- KEYSTONE WALL
- DECIDUOUS TREE
- CONIFEROUS TREE
- TREE DRIPLINE
- CONCRETE
- GRAVEL/SAND (AS NOTED)
- ASPHALT
- BUILDING LINE
- ROCK
- MATCH LINE

ABBREVIATIONS

- (R#) REFERENCE SURVEYS
- (OH) OVERHEAD
- (UG) UNDERGROUND
- (TYP) TYPICAL
- (C) CALCULATED
- (M) MEASURED
- (GIS) GEOGRAPHICAL INFORMATION SYSTEMS
- (REF) PER REFERENCE INFORMATION
- (H) HIGH
- (V) IRRIGATION VALVE

No.	Date	By	Clkd.	Appr.	REVISIONS PER CITY COMMENTS
4	6/14/24				

EXISTING CONDITIONS
FOR
FREEMAN LOGISTICS

FOR:
VECTOR DEVELOPMENT COMPANY
11411 NE 124TH STREET
SUITE 190
KIRKLAND, WA 98034

Scale:
Horizontal
1"=50'
Vertical
N/A

Designed	___JSM
Drawn	___DTC
Checked	___JSM
Approved	___BHE
Date	6/19/24

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Job Number
21585
Sheet
C6 of **47**

APPROVED

BY _____
CITY OF PUYALLUP
DEVELOPMENT ENGINEERING

DATE _____

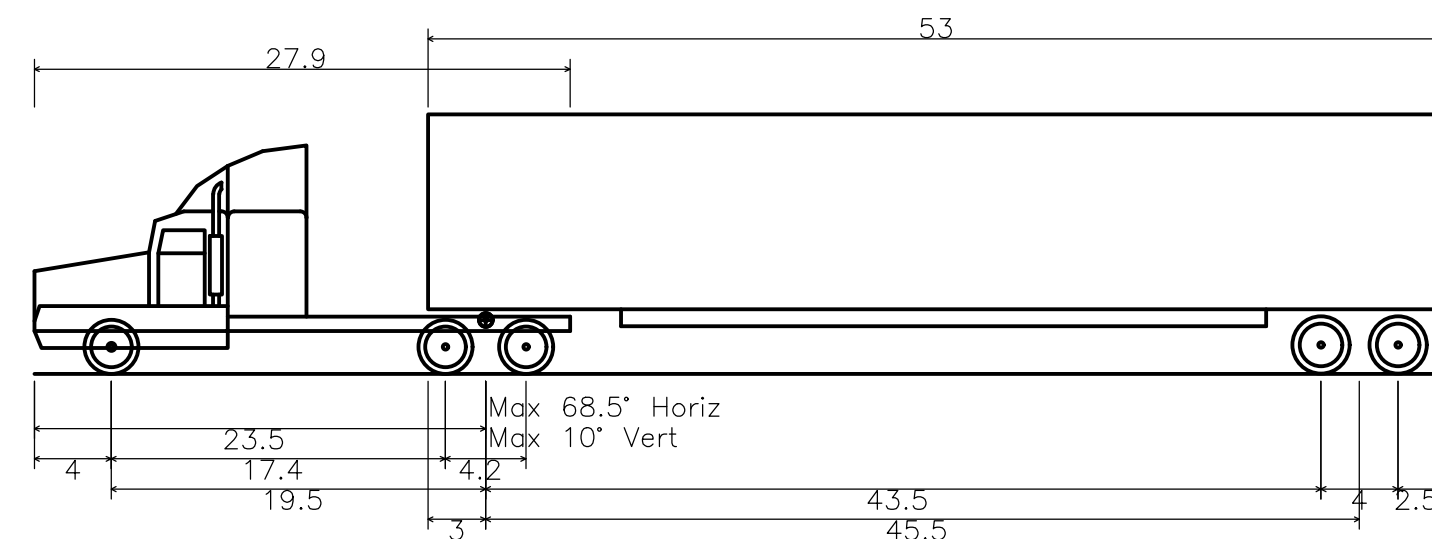
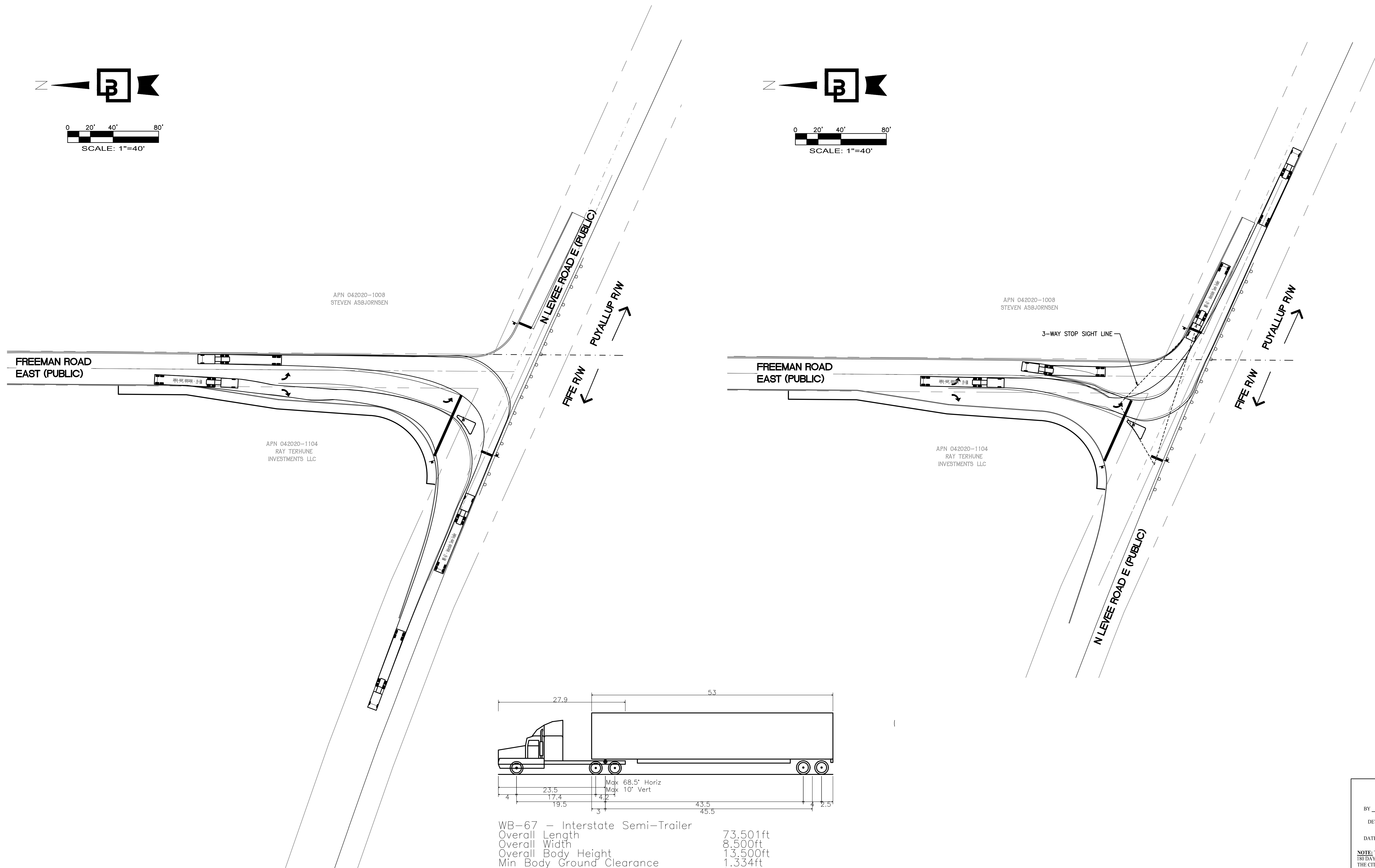
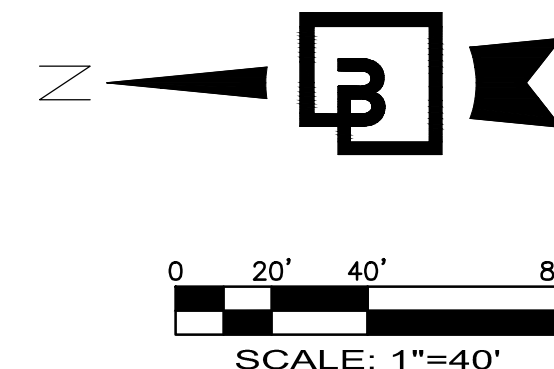
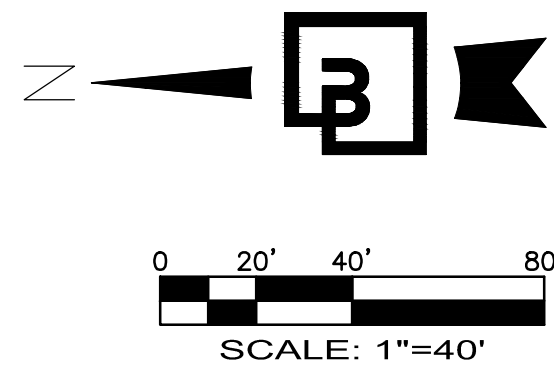
NOTE: THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE. THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE DEVELOPMENT ENGINEERING MANAGER.

PRELIMINARY TRUCK TURN EXHIBIT FREEMAN & LEVEE

OF

FREEMAN LOGISTICS

PTNS. OF THE SE1/4, OF SEC. 17, TWP. 20 N., RGE 4 EAST, W. M.
AND PTNS. OF THE NE1/4, OF SEC. 20, TWP. 20 N., RGE 4 EAST, W. M.
PIERCE COUNTY, WASHINGTON

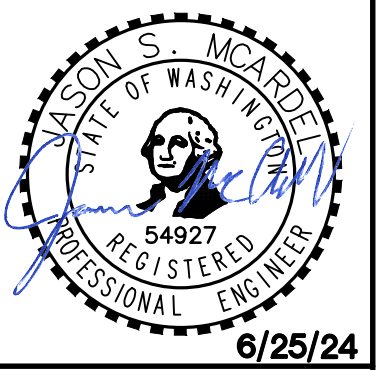


WB-67 - Interstate Semi-Trailer
Overall Length 73.50ft
Overall Width 8.50ft
Overall Body Height 13.50ft
Min Body Ground Clearance 1.334ft
Max Track Width 8.50ft
Lock-to-lock time 6.00s
Max Steering Angle (Virtual) 28.40°

No.	Date	By	Appr.	Revisions Per City Comments
4	6/25/24	DTC	JSM	JSM

Title:
**PRELIMINARY TRUCK TURN
EXHIBIT FREEMAN & LEVEE
FOR
FREEMAN LOGISTICS**

For:
**VECTOR DEVELOPMENT COMPANY
11411 NE 124TH STREET
SUITE 190
KIRKLAND, WA 98034**



Designed	Drawn	Checked	Approved	Date
JSM	DTC	JSM	JSM	6/25/24

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

APPROVED
BY _____
CITY OF PUYALLUP
DEVELOPMENT ENGINEERING
DATE _____
NOTE: THIS APPROVAL IS VOID AFTER 180 DAYS FROM APPROVAL DATE. THE CITY WILL NOT BE RESPONSIBLE FOR ERRORS AND/OR OMISSIONS ON THESE PLANS. FIELD CONDITIONS MAY DICTATE CHANGES TO THESE PLANS AS DETERMINED BY THE DEVELOPMENT ENGINEERING MANAGER.

Job Number
21585
Sheet
C45 of **47**