

The Hub Hermiston

Traffic Impact Analysis
Hermiston, Oregon

Date:

April 7th, 2025

Prepared by:

Tegan Enloe, PE



CHAPTER 1: INTRODUCTION AND SUMMARY

The Hub Hermiston, LLC, proposes developing its land located on the south side of Jennie Ave on a vacant parcel to the east of Wilde Electric Motor Supply. The development proposes 270 apartment units and 22,000 SQFT of mini-warehouse storage. The development will have access to the surrounding network via two driveways on Diagonal Blvd and one on E Jeannie Ave.

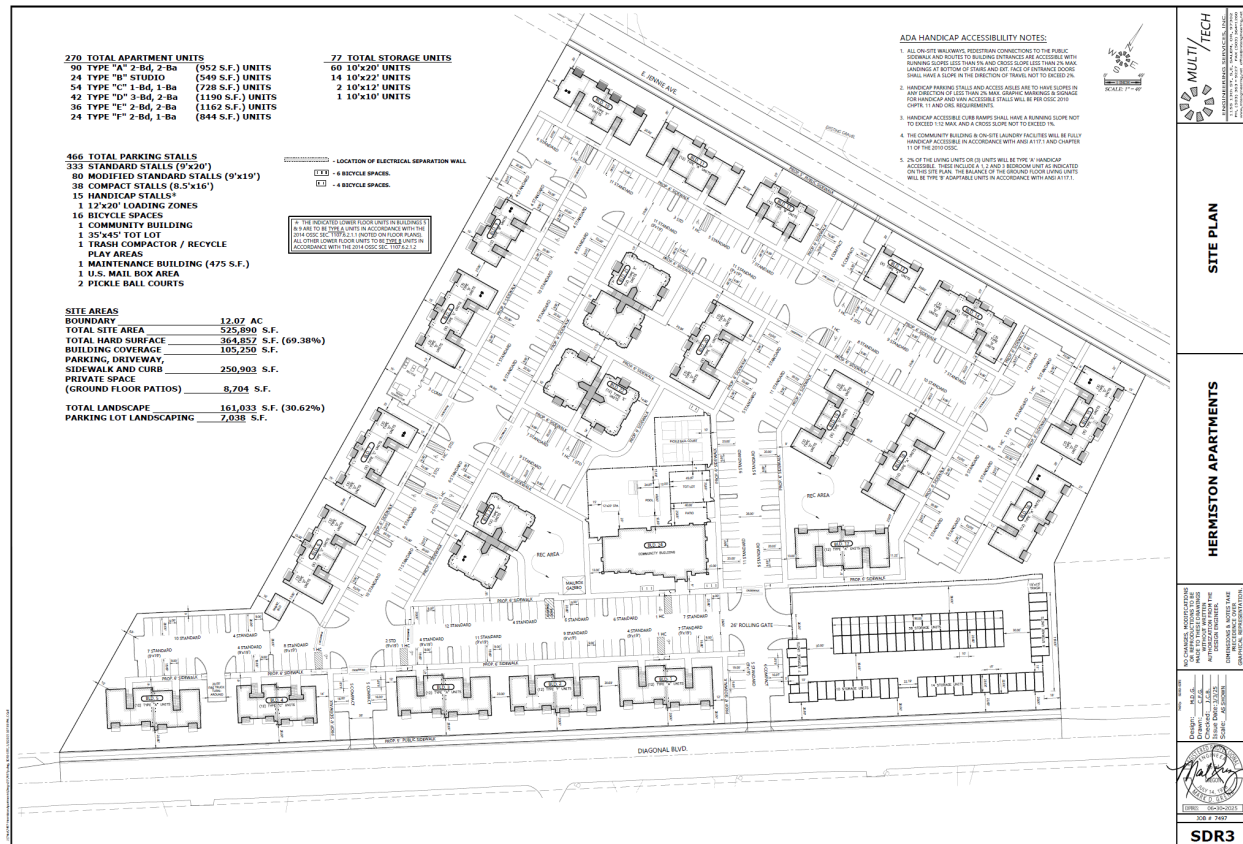


Figure 1: Draft Site Plan

Enloe Consulting, LLC has contracted with the applicant to prepare the traffic analysis for their proposed development as part of their land use application. The analysis will include information that addresses the traffic impact analysis (TIA) land use requirements. This analysis is focused on intersections identified as being in the study area below and shown in **Figure 2**.

- 1 US 395/ Hwy 207
- 2 US 395/Jennie Ave
- 3 Jennie Ave/4th St
- 4 Jennie Ave/North Driveway
- 5 Main St/4th St
- 6 Main St/Diagonal/7th St
- 7 Diagonal/West Access
- 8 Diagonal/East Access
- 9 US395/4th St

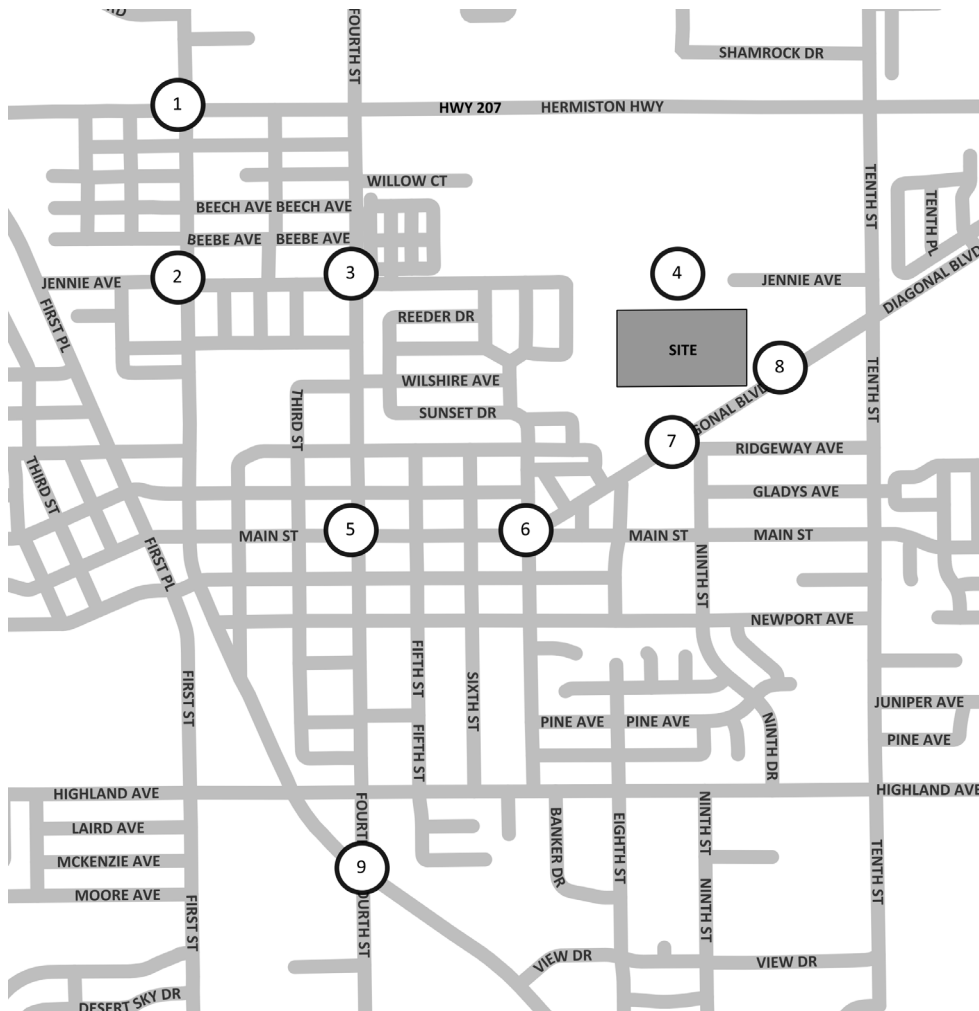


Figure 2: Study Area

Appendix A provides the site plan of the proposed development. **Table 1** lists important characteristics of the study area and proposed project.

Table 1: Key Study Area and Proposed Development Characteristics

Characteristics	Information
Study Area	
Number of Study Intersections	Nine
Analysis Period	Weekday AM & PM Peak Hour
Analysis Scenarios	2025 Existing Conditions, AM & PM Peak Hour 2026 Background Traffic, AM & PM Peak Hour 2026 Total Traffic (Background + Site), AM & PM Peak Hour
Project Site	
Existing Land Use	Vacant
Proposed Development	270 Apartments 22,000 SQFT of mini-warehouse
Project Access	The development will have access to the surrounding network via two driveways on Diagonal Blvd and one on E Jeannie Ave.

Existing Conditions and Intersection Operations

Transportation operations for the existing roadway network are evaluated to establish a baseline of performance. **Table 2** shows the existing intersection operations at the study intersections. All locations meet applicable mobility standards.

Table 2: 2025 Existing Traffic at Study Intersection Operations

No.	Intersection	Traffic Control	Operating Standard	AM Peak Hour	PM Peak Hour
1	US 395/ Hwy 207	Signalized	0.90 V/C	0.77 V/C	0.86 V/C
2	US 395/Jennie Ave	Signalized	0.90 V/C	0.46 V/C	0.54 V/C
3	Jennie Ave/4th St	Unsignalized (All way stop)	LOS D	LOS B (SB)	LOS B (SB)
5	Main St/4th St	Signalized	LOS D	0.49 V/C	0.50 V/C
6	Main St/Diagonal/7 th St	Unsignalized (Two way stop)	LOS D	ICU LOS A	ICU LOS A
9	US395/4th St	Signalized	0.90 V/C	0.44 V/C	0.65 V/C

V/C = Volume to Capacity Ratio

LOS = Level of Service of Worst Movement

ICU = Intersection Capacity Utilization

Locations exceeding mobility standards are shown with ***bold/italicized***

Project Traffic Impact

The development is expected to be completed in 2026. To determine whether the proposed project will result in off-site traffic impacts, future traffic volumes are estimated. **Tables 3 and 4** provide the intersection operations for future scenarios with and without project traffic. All locations meet applicable mobility standards with the addition of the proposed development.

Table 3: 2026 Background Intersection Operations (Without Project)

No.	Intersection	Traffic Control	Operating Standard	AM Peak Hour	PM Peak Hour
1	US 395/ Hwy 207	Signalized	0.90 V/C	0.82 V/C	0.92 V/C
2	US 395/Jennie Ave	Signalized	0.90 V/C	0.46 V/C	0.55 V/C
3	Jennie Ave/4th St	Unsignalized (All way stop)	LOS D	LOS B (SB)	LOS B (SB)
5	Main St/4th St	Signalized	LOS D	0.50 V/C	0.51 V/C
6	Main St/Diagonal/7 th St	Unsignalized (Two way stop)	LOS D	ICU LOS A	ICU LOS A
9	US395/4th St	Signalized	0.90 V/C	0.48 V/C	0.69 V/C

V/C = Volume to Capacity Ratio

LOS = Level of Service of Worst Movement

ICU = Intersection Capacity Utilization

Locations exceeding mobility standards are shown with ***bold/italicized***

Table 4: 2026 Total Intersection Operations (With Project)

No.	Intersection	Traffic Control	Operating Standard	AM Peak Hour	PM Peak Hour
1	US 395/ Hwy 207	Signalized	0.90 V/C	0.85 V/C	0.95 V/C
2	US 395/Jennie Ave	Signalized	0.90 V/C	0.48 V/C	0.57 V/C
3	Jennie Ave/4th St	Unsignalized (All way stop)	LOS D	LOS B (SB)	LOS C (SB)
4	Jennie Ave/North Driveway	Unsignalized (Two way stop)	LOS D	LOS A (NB)	LOS A (NB)
5	Main St/4th St	Signalized	LOS D	0.51 V/C	0.53 V/C
6	Main St/Diagonal/7 th St	Unsignalized (Two way stop)	LOS D	ICU LOS A	ICU LOS A
7	Diagonal/West Access	Unsignalized (Two way stop)	LOS D	LOS A (SB)	LOS A (SB)
8	Diagonal/East Access	Unsignalized (Two way stop)	LOS D	LOS B (SB)	LOS B (SB)
9	US395/4th St	Signalized	0.90 V/C	0.50 V/C	0.71 V/C

V/C = Volume to Capacity Ratio

LOS = Level of Service of Worst Movement

ICU = Intersection Capacity Utilization

Locations exceeding mobility standards are shown with ***bold/italicized***

Key Findings

Key findings associated with the proposed development include the following items:

- The proposed development would generate 109 (27 in, 82 out) AM peak hour trips and 140 (87 in, 53 out) PM peak hour trips.
- All study intersections are expected to operate within mobility standards with the addition of the proposed site for the 2026 opening year for the AM and PM peak hours.

CHAPTER 2: EXISTING CONDITIONS

This chapter provides documentation of existing study area conditions, including the project site, study area roadway network, and existing traffic volumes and operations.

Project Site

The Hub Hermiston, LLC, proposes developing its land located on the south side of Jennie Ave on a vacant parcel to the east of Wilde Electric Motor Supply. The development proposes 270 apartment units and 22,000 SQFT of mini-warehouse storage. **Figure 1** provides a draft layout of the proposed site plan. The development will have access to the surrounding network via two driveways on Diagonal Blvd and one on E Jeannie Ave.

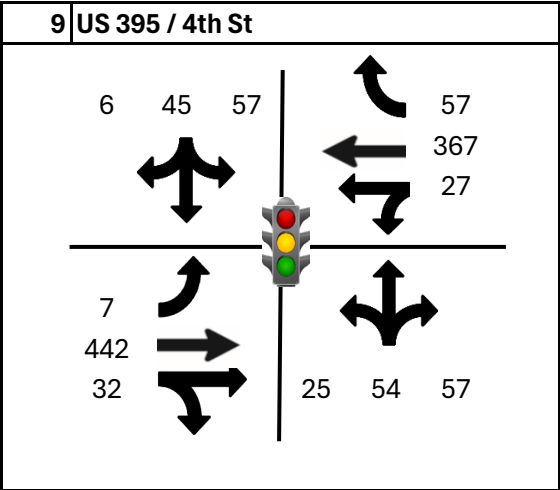
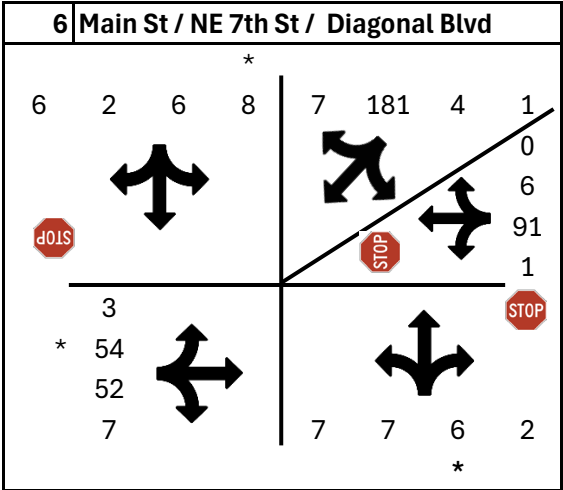
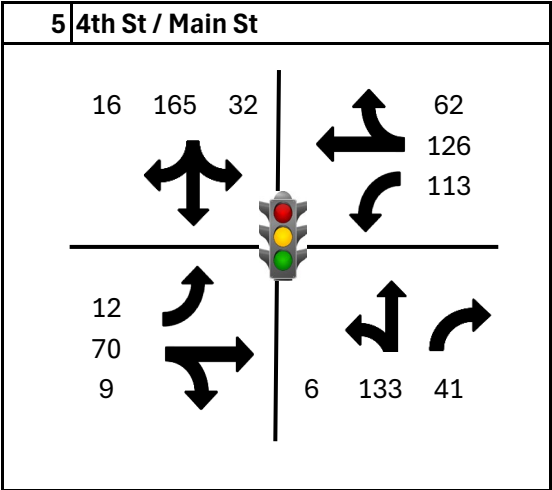
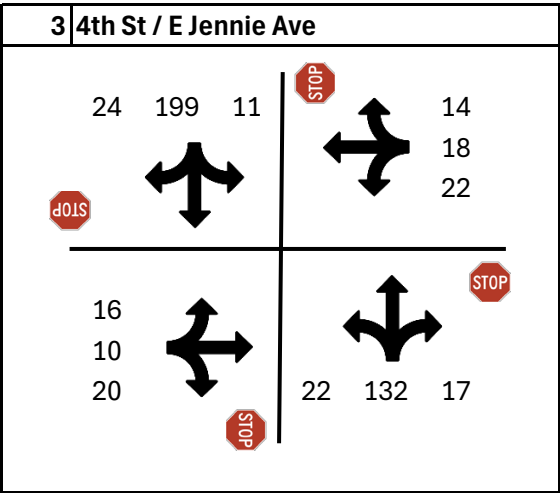
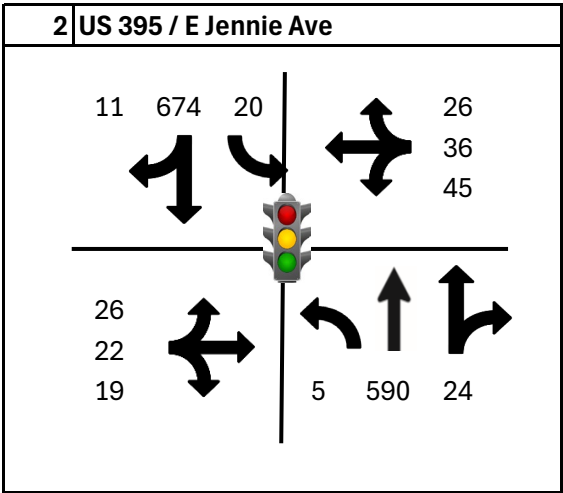
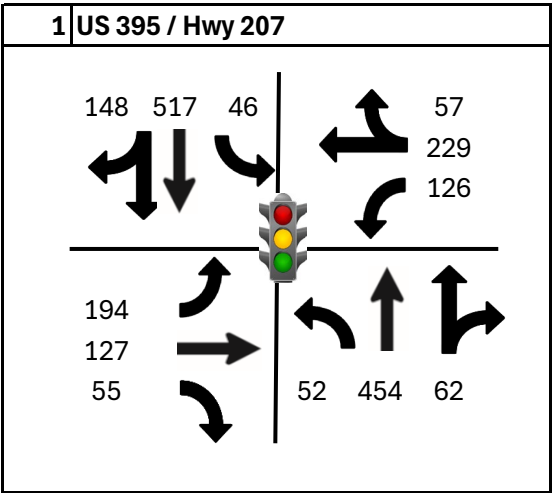
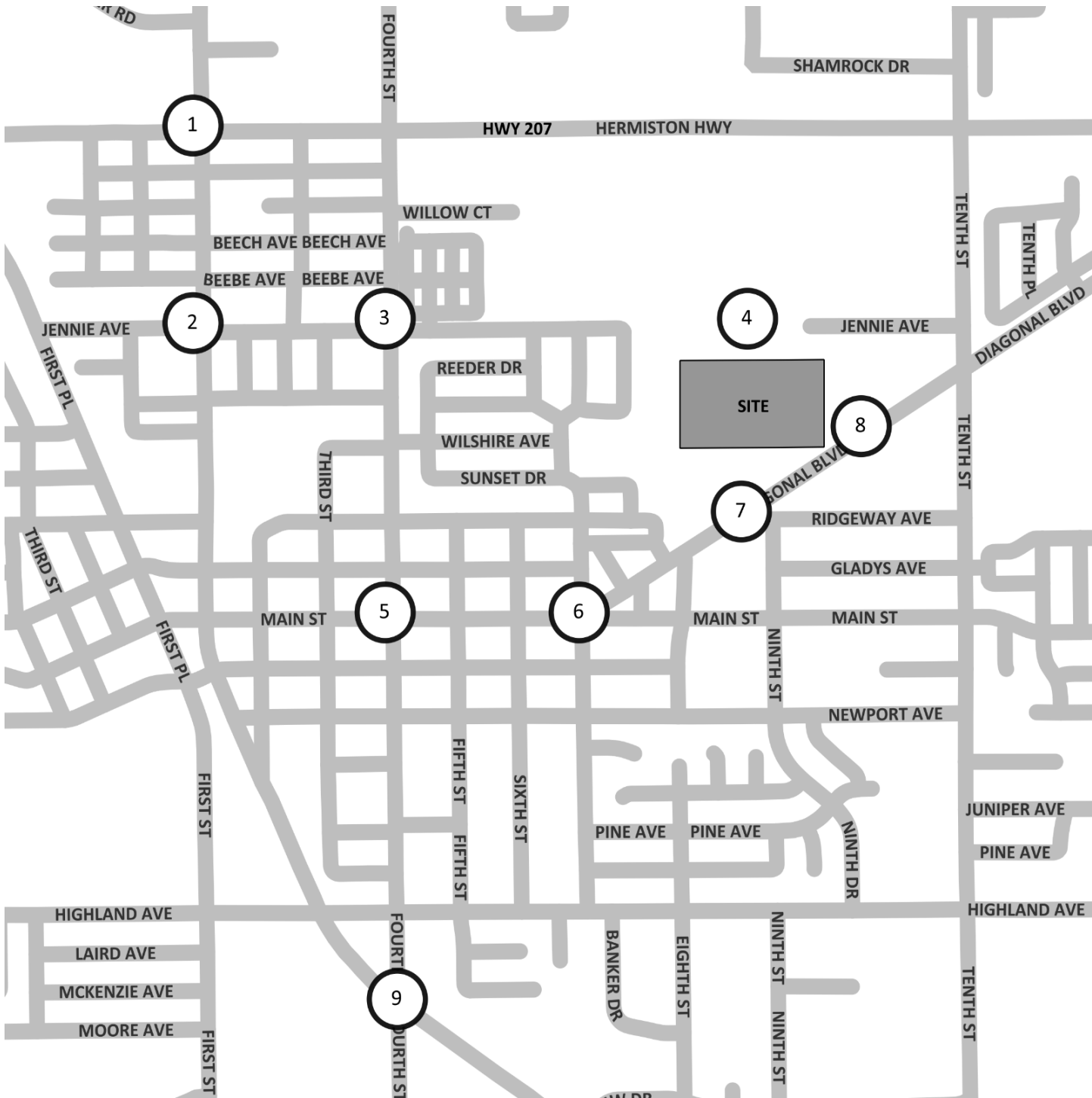
Existing Traffic Volumes and Operations

Existing AM and PM peak hour traffic operations are analyzed at the following study intersections:

- 1 US 395/ Hwy 207
- 2 US 395/Jennie Ave
- 3 Jennie Ave/4th St
- 5 Main St/4th St
- 6 Main St/Diagonal/7th St
- 9 US395/4th St

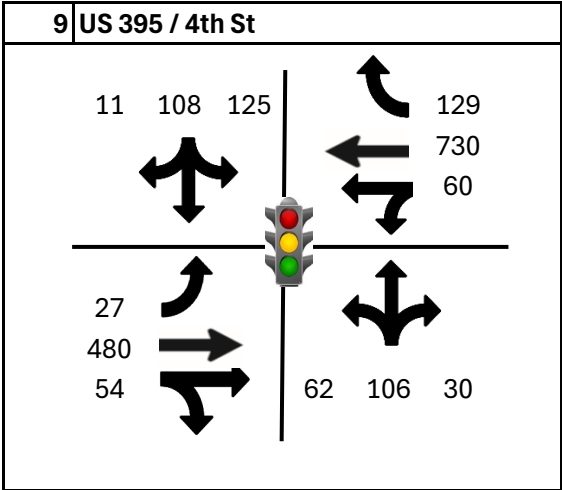
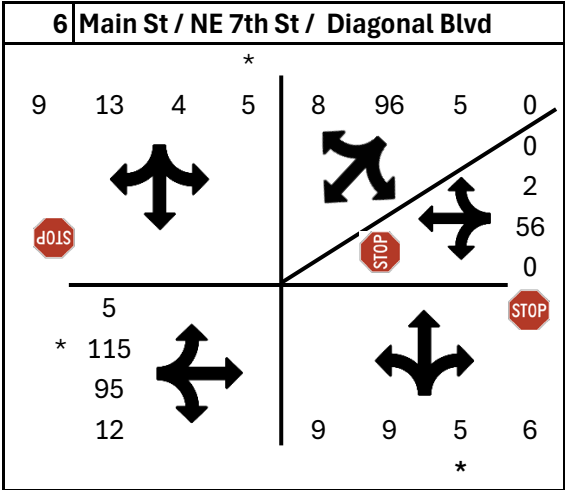
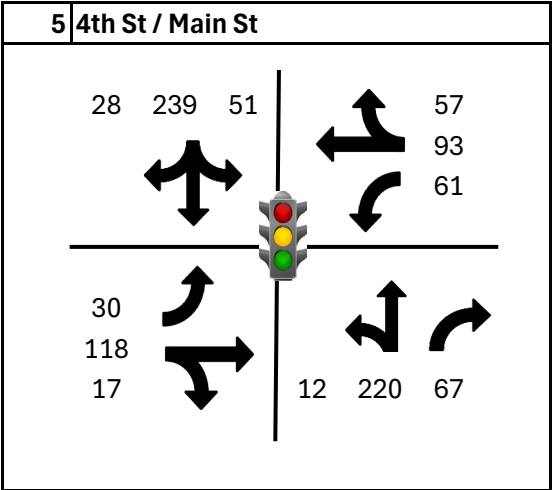
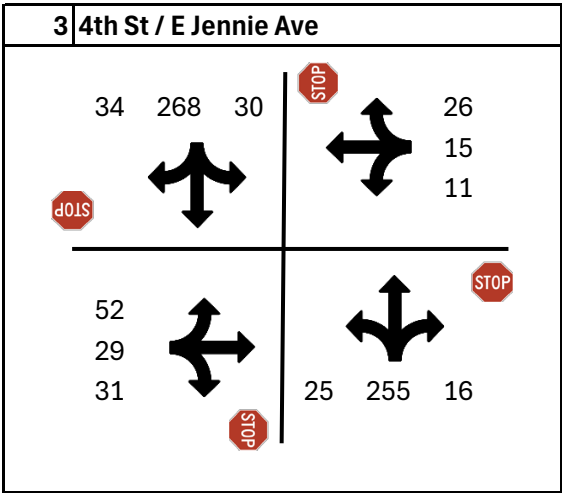
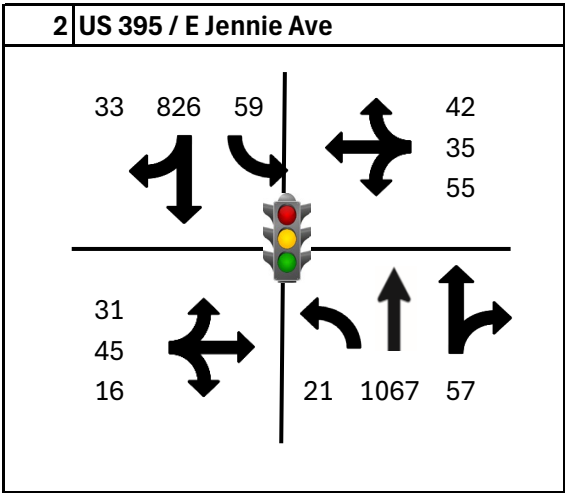
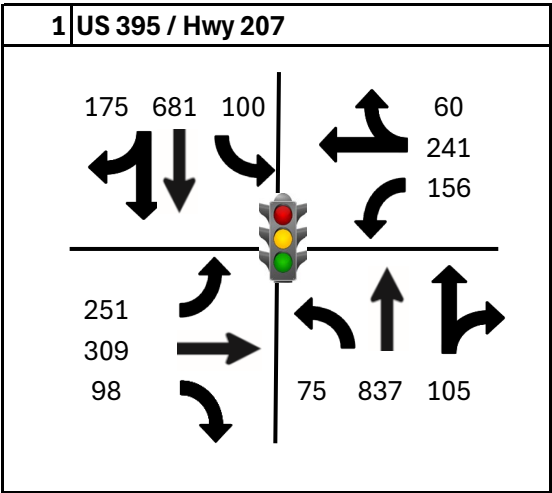
Traffic counts were collected in March 2025 for use in this study. The AM peak hour for the network is identified as 7:30 AM – 8:30 AM. The PM peak hour for the network is 3:35 – 4:35 PM. A 1.07% seasonal adjustment factor is applied to the count data to account for seasonal variation in travel patterns. Additional details on seasonal adjustment factor calculations can be found in **Appendix D**. The peak hour traffic volumes analyzed under existing conditions are shown in **Figures 3 and 4**, with the detailed traffic counts included in **Appendix B**.

Figure 3: 2025 Existing Volumes AM Peak Hour



* denotes movement to/from Diagonal Blvd

Figure 4: 2025 Existing Volumes PM Peak Hour



* denotes movement to/from Diagonal Blvd

Existing Operating Conditions

Existing traffic operations at the project study intersections are evaluated for the AM and PM peak hours. The estimated operational results of each study intersection are shown in **Table 5**. The 2016 Highway Capacity Manual (HCM) methodology¹ is used to evaluate operations at two-way and all-way stop controlled study intersections. The intersection of Main St/Diagonal Blvd/7th St is has a unique configuration with five intersection approaches, which means the HCM analysis cannot be applied. Instead, the Intersection Capacity Utilization (ICU) is used to estimate operations at this location. Signalized intersections are evaluated using the HCM 2000 methodology.

Appendix C provides detailed reports summarizing these results. **Appendix D** provides information on how the volumes were developed for analysis. All study intersections meet existing mobility standards during the AM and PM peak hours.

Table 5: 2025 Existing Traffic at Study Intersection Operations

No.	Intersection	Traffic Control	Operating Standard	AM Peak Hour	PM Peak Hour
1	US 395/ Hwy 207	Signalized	0.90 V/C	0.77 V/C	0.86 V/C
2	US 395/Jennie Ave	Signalized	0.90 V/C	0.46 V/C	0.54 V/C
3	Jennie Ave/4th St	Unsignalized (All way stop)	LOS D	LOS B (SB)	LOS B (SB)
5	Main St/4th St	Signalized	LOS D	0.49 V/C	0.50 V/C
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9	US395/4th St	Signalized	0.90 V/C	0.44 V/C	0.65 V/C

V/C = Volume to Capacity Ratio

LOS = Level of Service of Worst Movement

ICU = Intersection Capacity Utilization

Locations exceeding mobility standards are shown with ***bold/italicized***

¹ Highway Capacity Manual 6th Edition: A Guide for Multimodal Mobility Analysis, Transportation Research Board, Washington DC, 2016.

Crash Analysis

The five most recent years of crash records (Jan 1, 2012- Dec 31, 2022) for the study area were obtained from Oregon Department of Transportation (ODOT's) online database. A copy of these records is provided in **Appendix E**. Crashes identified by ODOT as intersectional for the two cross streets and/or occurred within 500 feet of the study intersection were included in the analysis for the study intersections.

Crash rates are calculated for the study intersections. Intersection crash rates are compared with ODOT's 90th percentile crash rates from Exhibit 4-1 of ODOT's Analysis Procedures Manual (APM) and are summarized in **Table 6**. All study intersections with recorded crash data have crash rates below the corresponding 90% Percentile Crash Rate.

Three pedestrian crashes are recorded in the study area. The intersection of US 395/Hwy 207 has one pedestrian crash recorded in 2019 that resulted in an "injury c- minor injury". The intersection of US 395/Jennie Ave has one pedestrian crash recorded in 2019 that resulted in an "injury b- moderate injury", and another in 2022 that resulted in an "injury c- minor injury".

There was one "injury a- severe injury" crash recorded in the study area in 2018. It occurred at the intersection of US 395/Hwy 207 during an angle crash.

Table 6: Crash Rate Analysis

No.	Intersection	AADT	5 Year Crash Total (2018-2022)	Crash Rate (crashes/MEV)	Intersection Type	90 th Percentile Crash Rate
1	US 395/ Hwy 207	28,860	40	0.759	4SG	0.860
2	US 395/Jennie Ave	21,370	16	0.410	4SG	0.860
3	Jennie Ave/4th St	7,390	3	0.222	4ST	0.408
5	Main St/4th St	9,280	5	0.295	4SG	0.860
6	Main St/Diagonal/7 th St	4,540	-	-	4ST	0.408
9	US395/4th St	17,960	8	0.244	4SG	0.860

Note: AADT is estimated assuming the intersection PM Peak Hour traffic is approximately 10% of the AADT.

Locations exceeding 90th percentile crash rates are shown with ***bold/italicized***

1 – The intersection of Main St/Diagonal/7th St is a unique configuration with 5 legs, 3 of which are stop controlled. The closest match for the critical crash rate data provided by ODOT is for a 4ST classification, which is applied for the purposes of this study.

CHAPTER 3: BACKGROUND TRAFFIC

The development is expected to be completed in 2026. To account for traffic growth a 1.5% growth rate is used to forecast the existing traffic volumes to future background traffic volumes on roads within the study area. Additional details on growth rate calculations can be found in **Appendix D**. The City has identified the Diamond Run development as an in-process development and requested it be included in the background conditions analysis. The Diamond Run traffic impact analysis provided PM Peak Hour volumes. AM Peak Hour volumes were generated using current ITE Trip Generation manual methodology for use in this study. Background traffic volumes are shown in **Figures 5 and 6**.

Background Intersection Operations

The background traffic operations of each study intersection are shown in **Table 7**. The 2016 Highway Capacity Manual (HCM) methodology² is used to evaluate operations at two-way and all-way stop controlled study intersections. The intersection of Main St/Diagonal Blvd/7th St has a unique configuration with five intersection approaches, which means the HCM analysis cannot be applied. Instead, the Intersection Capacity Utilization (ICU) is used to estimate operations at this location. Signalized intersections are evaluated using the HCM 2000 methodology.

Appendix F provides detailed reports summarizing these results. All study intersections meet existing mobility standards during the AM and PM peak hours.

Table 7: 2026 Background Intersection Operations (Without Project)

No.	Intersection	Traffic Control	Operating Standard	AM Peak Hour	PM Peak Hour
1	US 395/ Hwy 207	Signalized	0.90 V/C	0.82 V/C	0.92 V/C
2	US 395/Jennie Ave	Signalized	0.90 V/C	0.46 V/C	0.55 V/C
3	Jennie Ave/4th St	Unsignalized (All way stop)	LOS D	LOS B (SB)	LOS B (SB)
5	Main St/4th St	Signalized	LOS D	0.50 V/C	0.51 V/C
6	Main St/Diagonal/7 th St	Unsignalized (Two way stop)	LOS D	ICU LOS A	ICU LOS A
9	US395/4th St	Signalized	0.90 V/C	0.48 V/C	0.69 V/C

V/C = Volume to Capacity Ratio

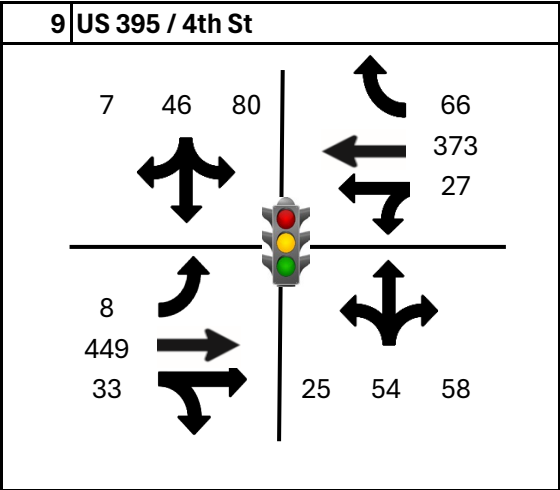
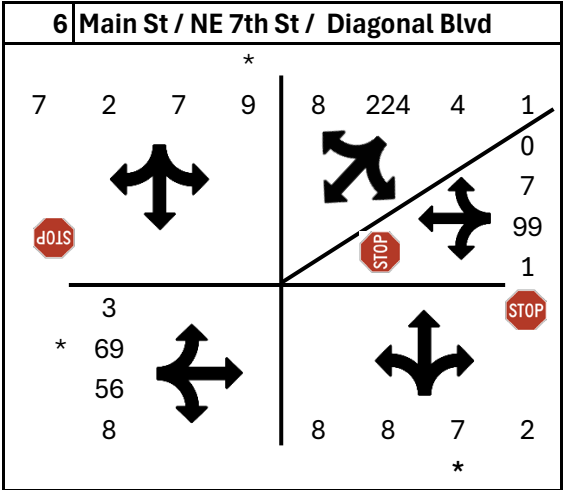
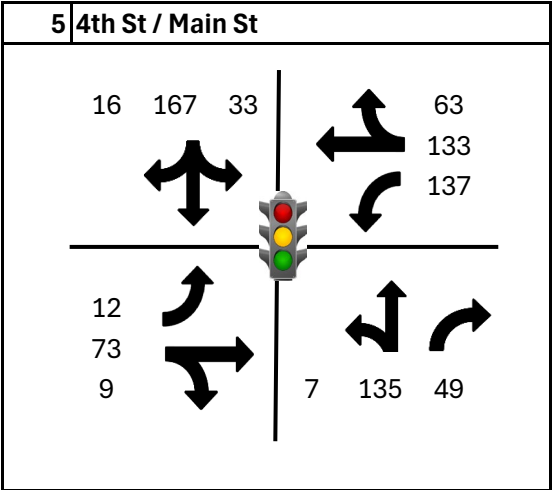
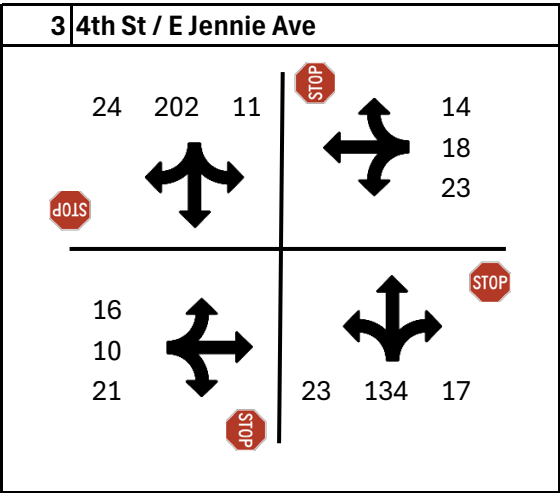
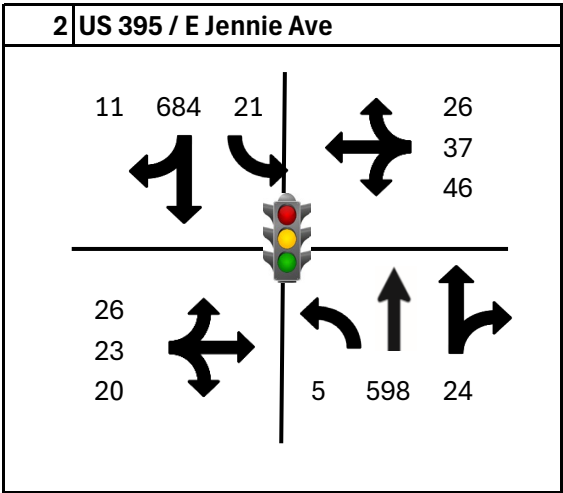
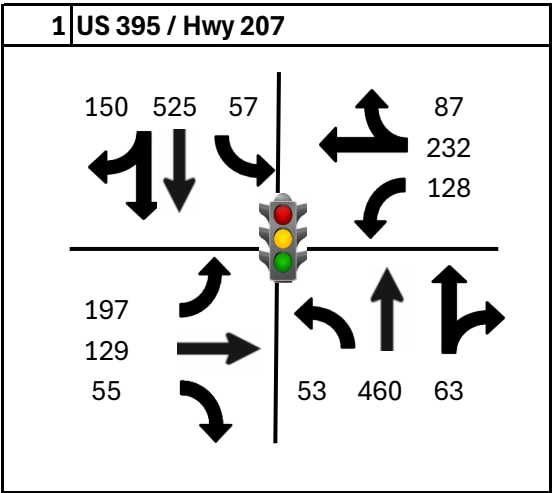
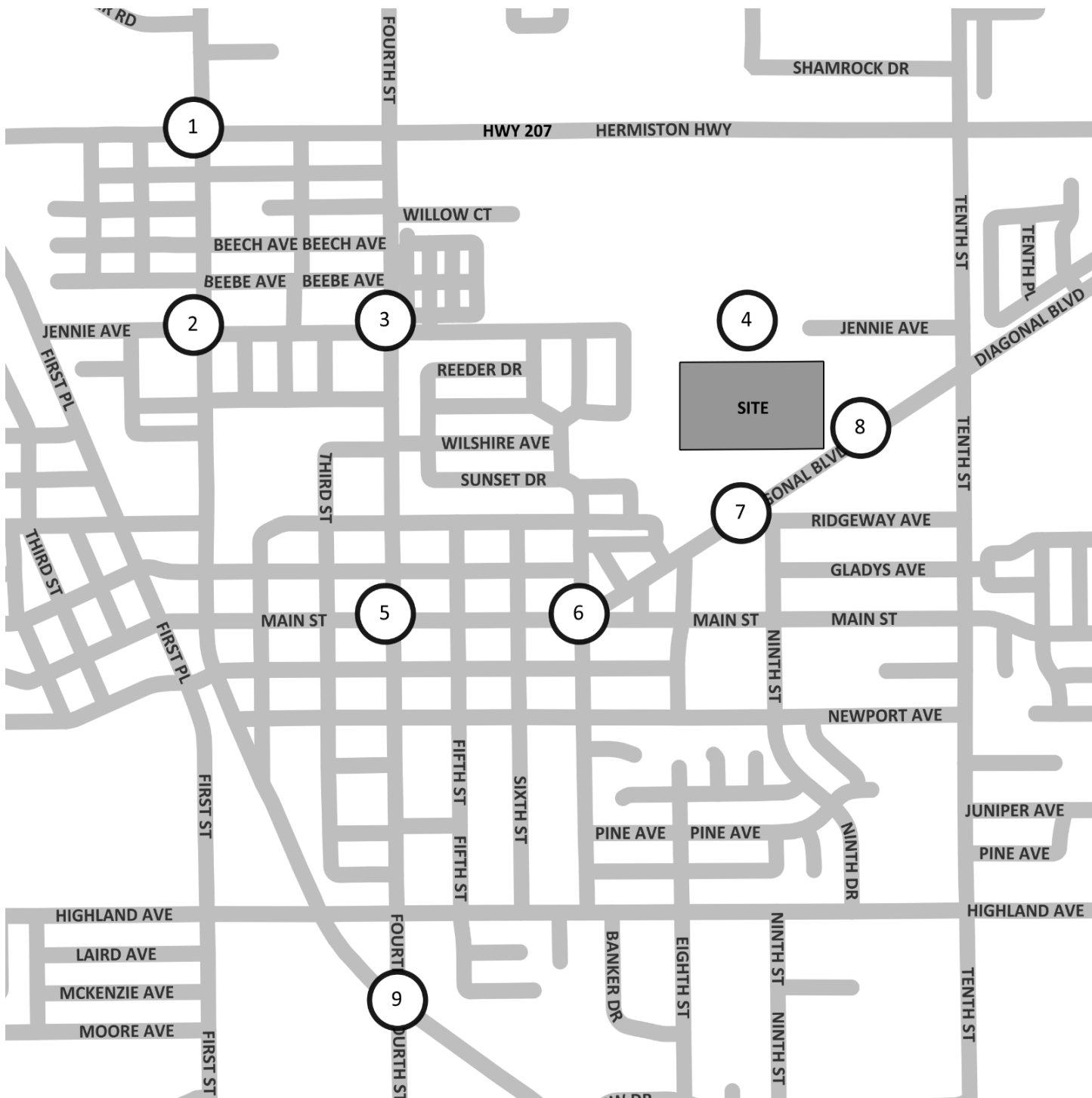
LOS = Level of Service of Worst Movement

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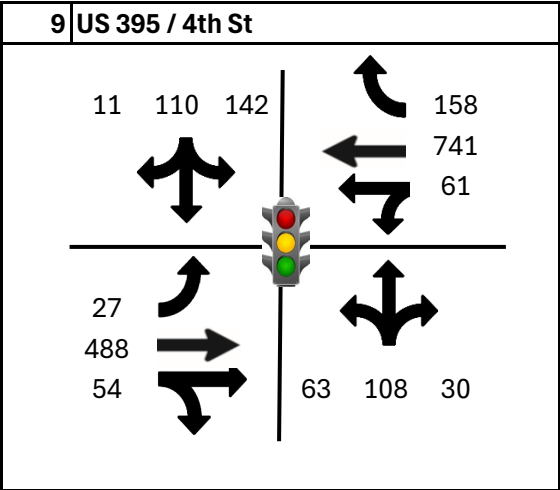
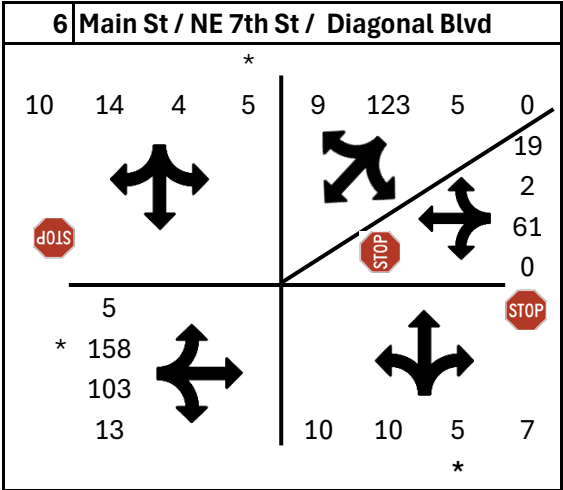
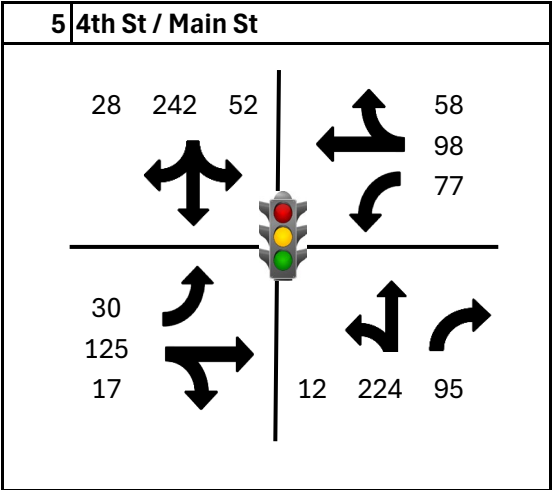
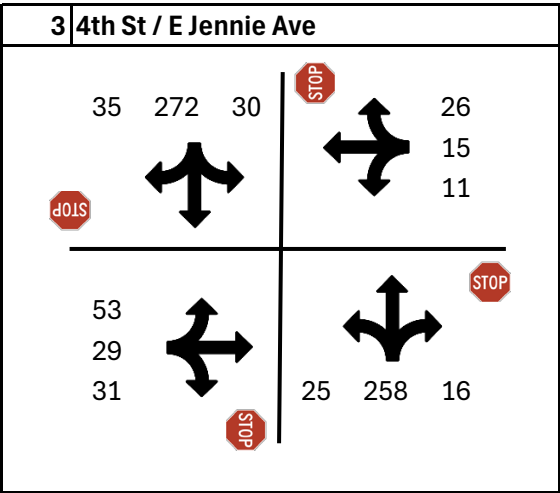
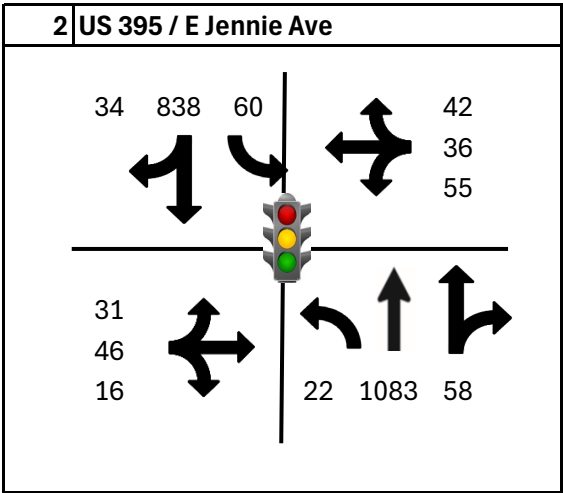
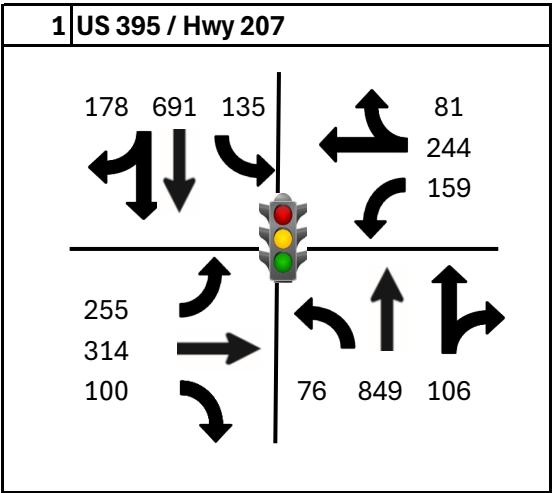
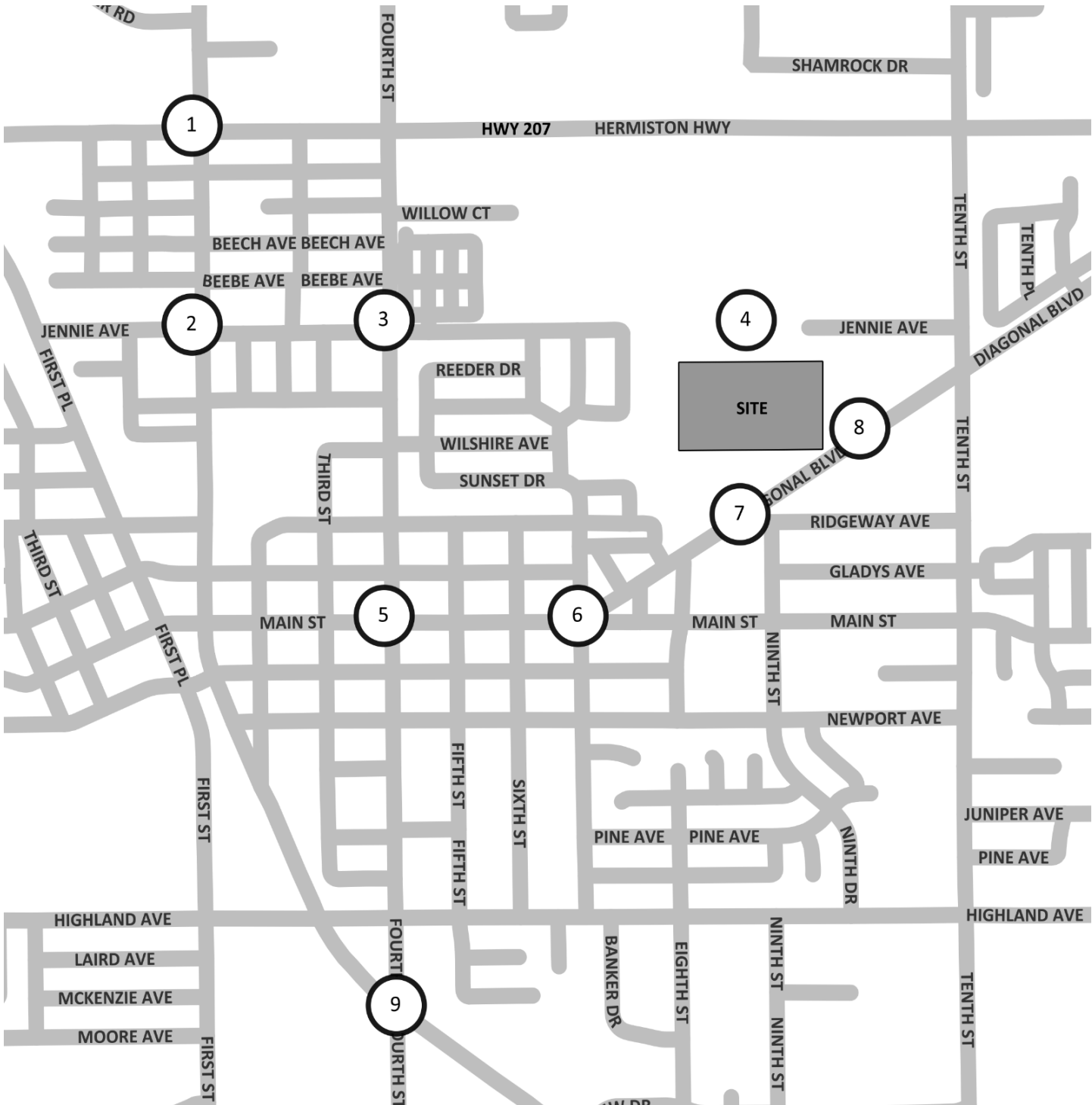
² Highway Capacity Manual 6th Edition: A Guide for Multimodal Mobility Analysis, Transportation Research Board, Washington DC, 2016.

Figure 5: 2026 Background Volumes AM Peak Hour



* denotes movement to/from Diagonal Blvd

Figure 6: 2026 Background Volumes PM Peak Hour



CHAPTER 4: PROJECT IMPACTS

This chapter reviews the impacts that the proposed development would have on the study area transportation system. The focus of the impact analysis is on the following study intersections:

- 1 US 395/ Hwy 207
- 2 US 395/Jennie Ave
- 3 Jennie Ave/4th St
- 4 Jennie Ave/North Driveway
- 5 Main St/4th St
- 6 Main St/Diagonal/7th St
- 7 Diagonal/West Access
- 8 Diagonal/East Access
- 9 US395/4th St

Trip Generation

Trip generation is used to estimate the number of vehicle trips added to the roadway network by a development during a specified period. In this case, the AM and PM peak hour periods are studied. Trip generation estimates are established using data and methodology provided by the Institute of Transportation Engineers (ITE).³

Trip generation values for the proposed development are estimated using the ITE Trip Generation Manual, 11th Edition. Land Use Code 220: Multi-Family Low-Rise is used to estimate trips for the proposed apartment units. Land Use Code 151: Mini-Ware is used to estimate trips for the proposed storage units. Trip generation values are provided in **Table 8**.

Table 8: Trip Generation Summary

Land Use	Size	AM Peak Hour Trips			PM Peak Hour Trips		
		In	Out	Total	In	Out	Total
Multifamily Housing Low Rise (220)	270 Units	26	81	107	86	51	137
Mini-Warehouse (151)	22k SQFT	1	1	2	1	2	3
TOTAL		27	82	109	87	53	140

³ *Trip Generation, 11th Edition*, Institute of Transportation Engineers, 2021.
Enloe Consulting, LLC

Trip Distribution

Trip distribution provides an estimation of where trips from the development originate and end on the study area network. This is represented as percentages where large portions of the trips generated enter and exit the project study area. The trip distribution percentages are included in **Appendix D**. **Figures 7 and 8** show the trips generated by the study distributed on the network.

Figure 7: Site Generated Volumes AM Peak Hour

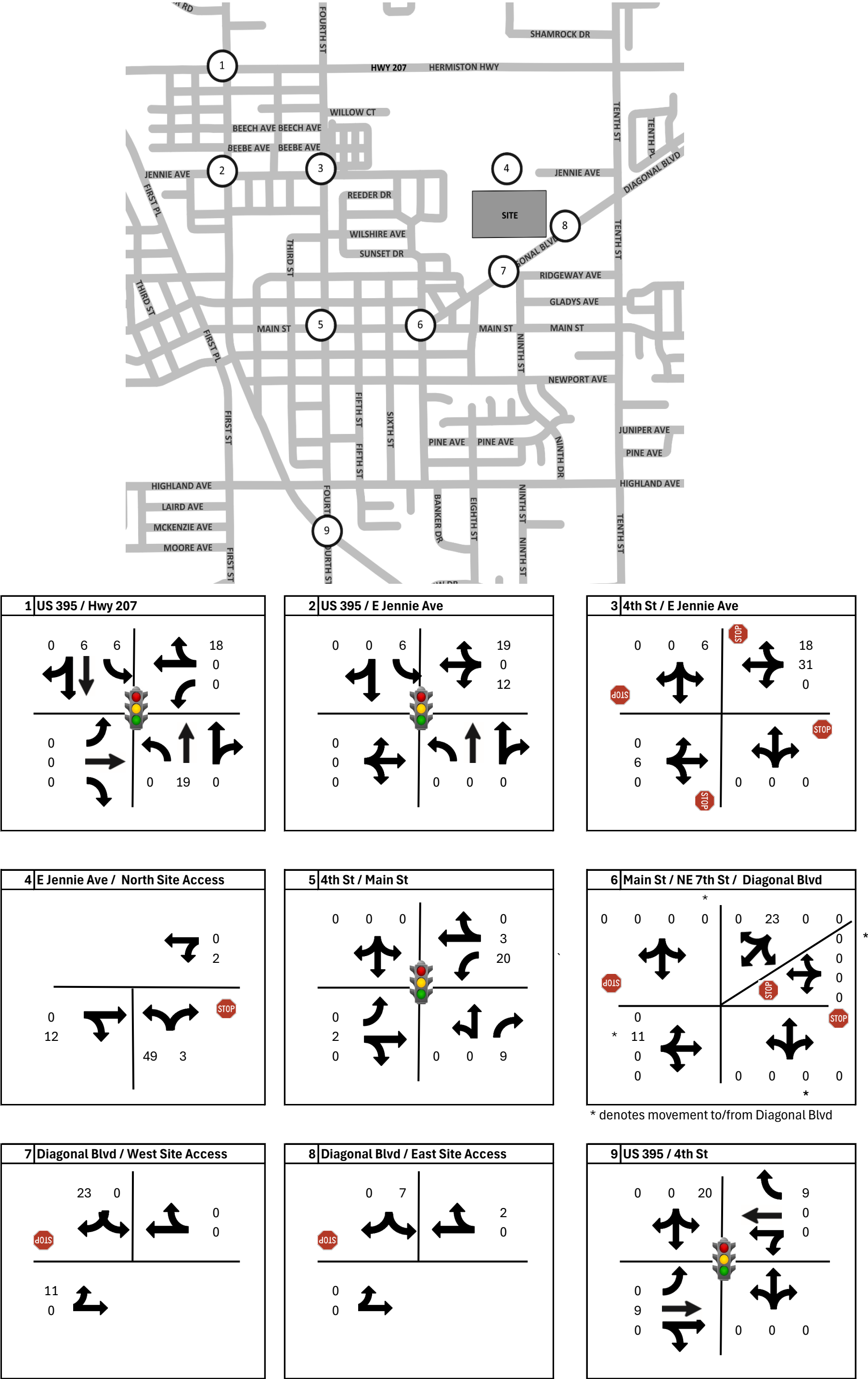
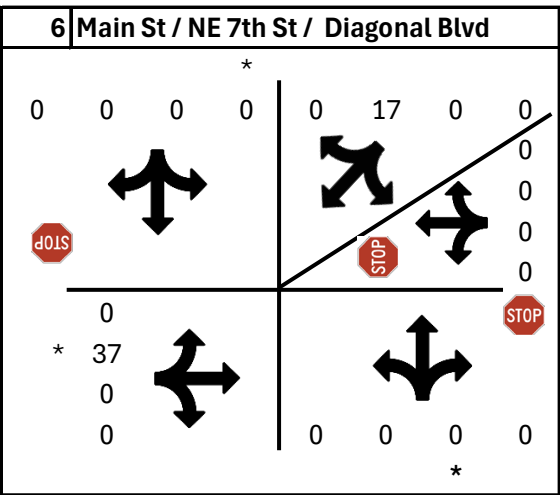
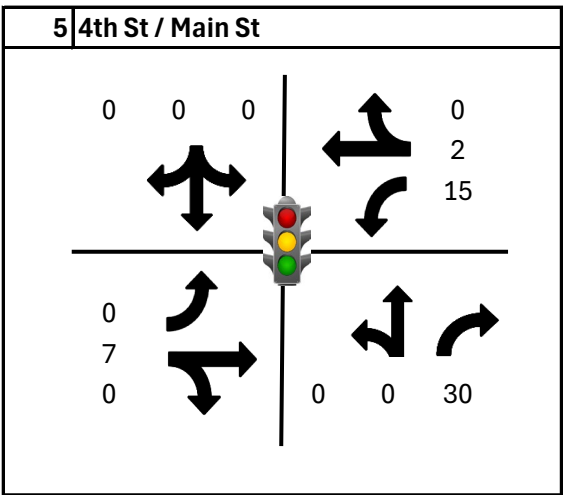
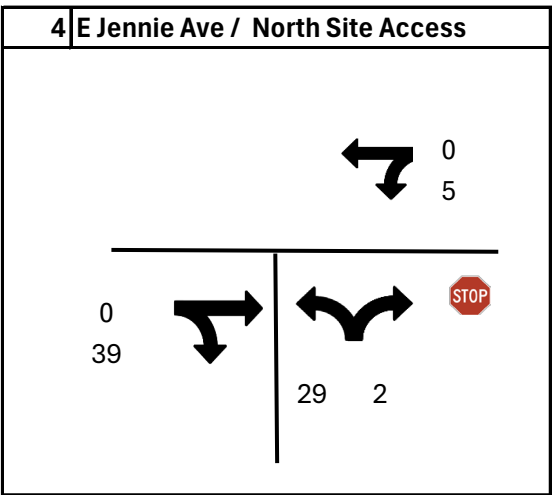
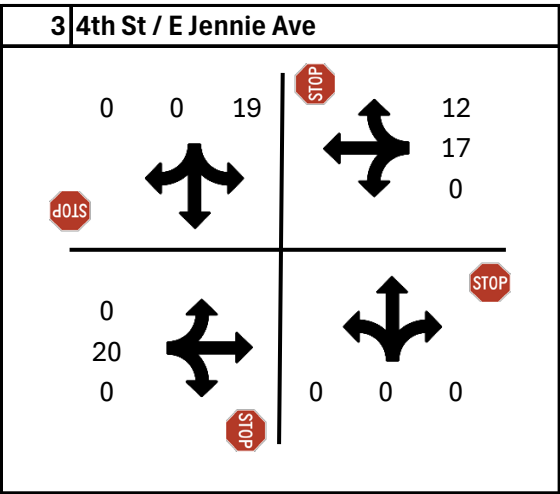
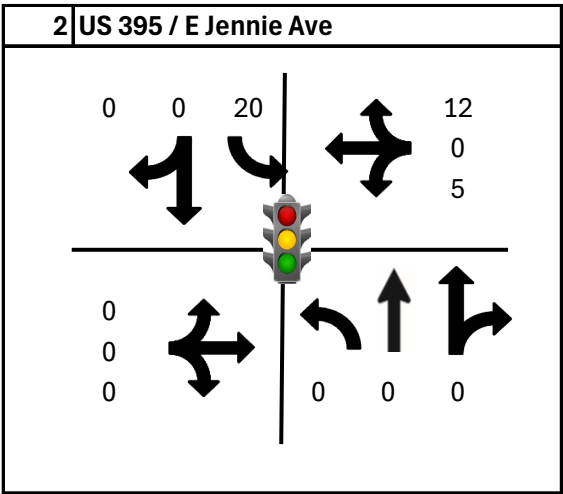
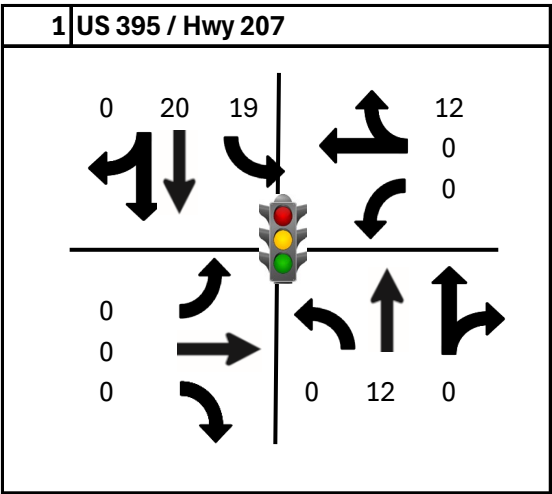
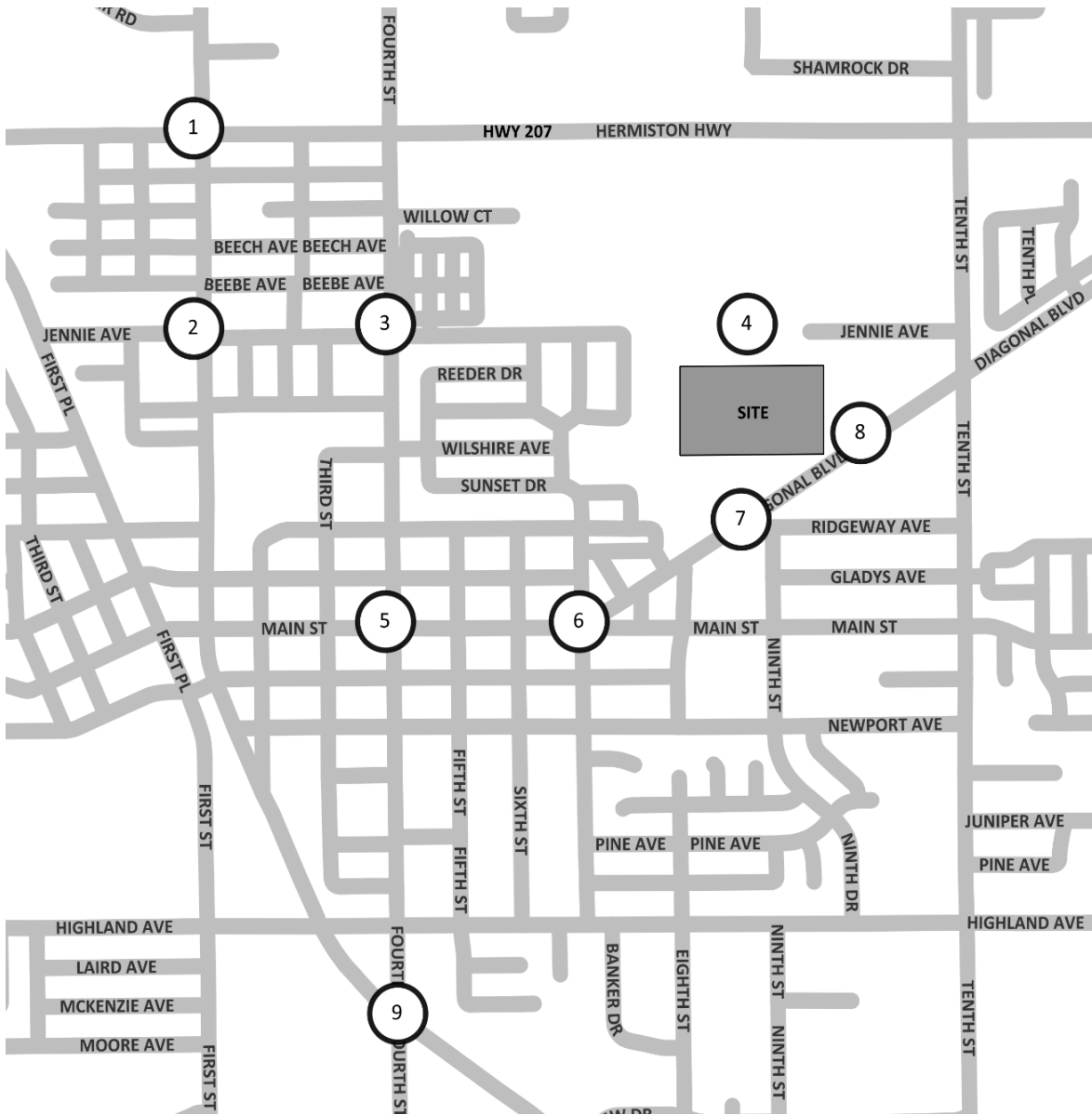
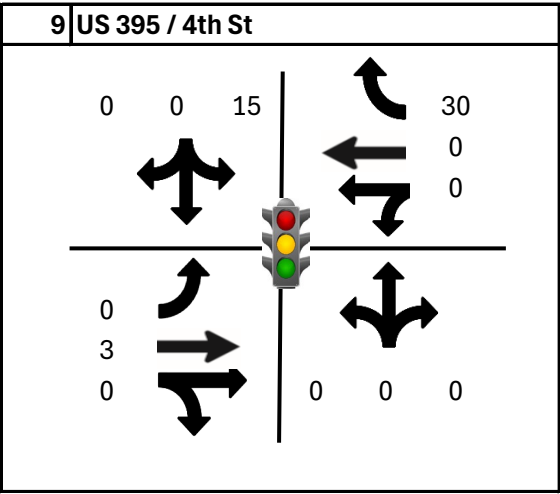
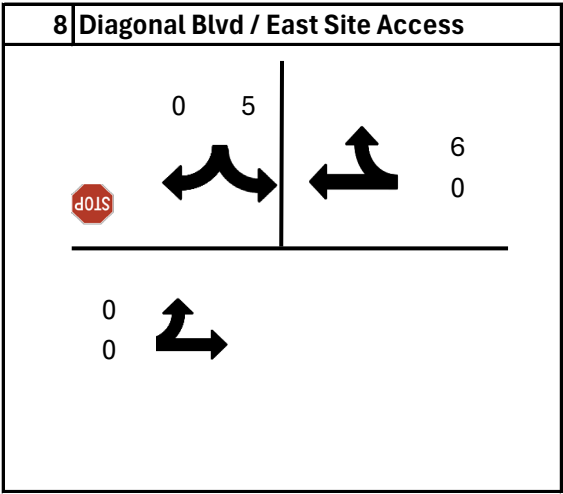
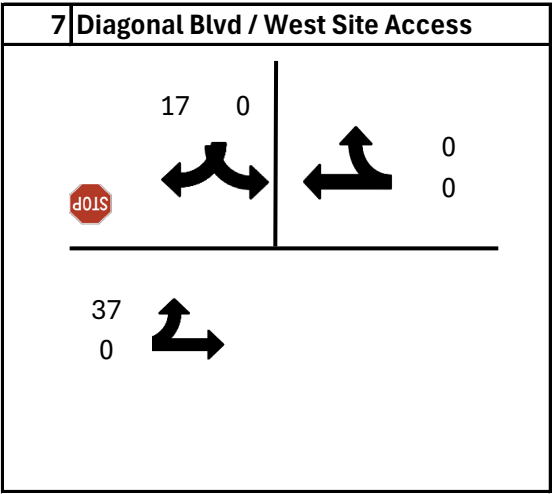


Figure 8: Site Generated Volumes PM Peak Hour



* denotes movement to/from Diagonal Blvd



Future Traffic Volumes with the Proposed Development

The estimated trips associated with the proposed development are added to the background volumes to estimate the total traffic scenario volumes. **Figures 9 and 10** show the 2026 total traffic volumes used for the opening year analysis.

Table 9 lists the study intersection total traffic operating conditions for the AM and PM peak hours. The 2016 Highway Capacity Manual (HCM) methodology⁴ is used to evaluate operations at two-way and all-way stop controlled study intersections. The intersection of Main St/Diagonal Blvd/7th St is has a unique configuration with five intersection approaches, which means the HCM analysis cannot be applied. Instead, the Intersection Capacity Utilization (ICU) is used to estimate operations at this location. Signalized intersections are evaluated using the HCM 2000 methodology.

Appendix G provides detailed reports for the operational results. All study intersections meet mobility standards in the AM and PM peak hours.

Table 9: 2026 Total Intersection Operations (With Project)

No.	Intersection	Traffic Control	Operating Standard	AM Peak Hour	PM Peak Hour
1	US 395/ Hwy 207	Signalized	0.90 V/C	0.85 V/C	0.95 V/C
2	US 395/Jennie Ave	Signalized	0.90 V/C	0.48 V/C	0.57 V/C
3	Jennie Ave/4th St	Unsignalized (All way stop)	LOS D	LOS B (SB)	LOS C (SB)
4	Jennie Ave/North Driveway	Unsignalized (Two way stop)	LOS D	LOS A (NB)	LOS A (NB)
5	Main St/4th St	Signalized	LOS D	0.51 V/C	0.53 V/C
6	Main St/Diagonal/7 th St	Unsignalized (Two way stop)	LOS D	ICU LOS A	ICU LOS A
7	Diagonal/West Access	Unsignalized (Two way stop)	LOS D	LOS A (SB)	LOS A (SB)
8	Diagonal/East Access	Unsignalized (Two way stop)	LOS D	LOS B (SB)	LOS B (SB)
9	US395/4th St	Signalized	0.90 V/C	0.50 V/C	0.71 V/C

V/C = Volume to Capacity Ratio

LOS = Level of Service of Worst Movement

ICU = Intersection Capacity Utilization

Locations exceeding mobility standards are shown with ***bold/italicized***

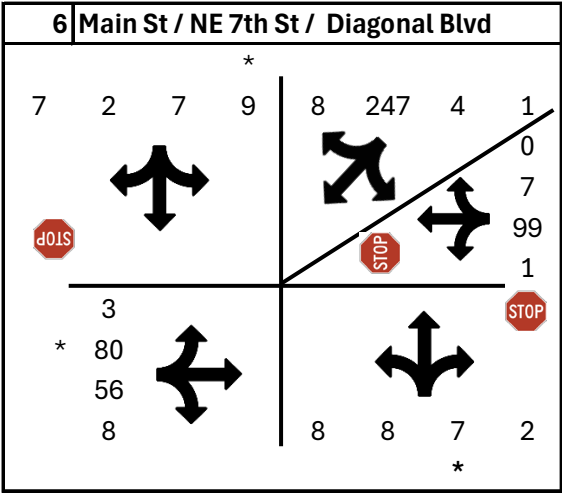
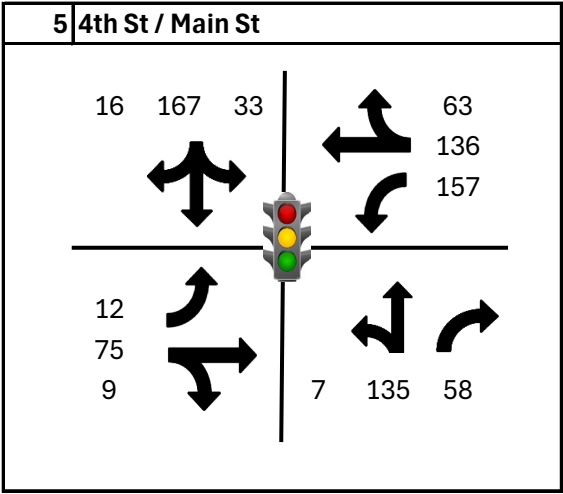
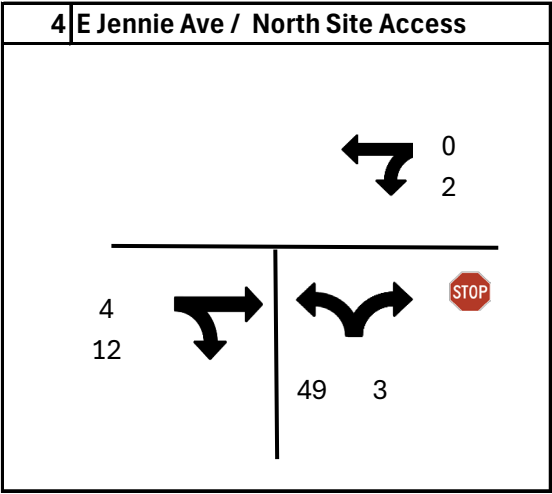
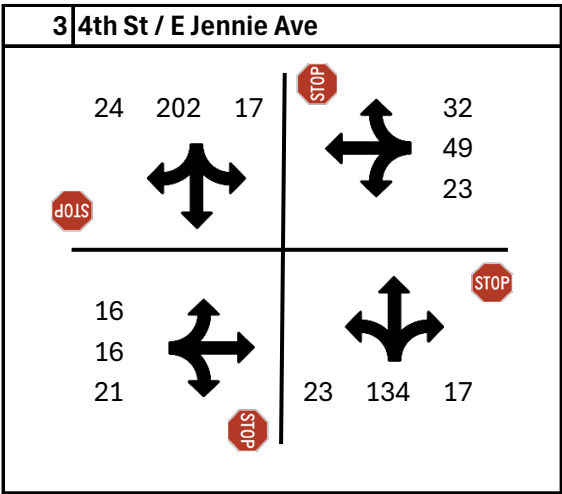
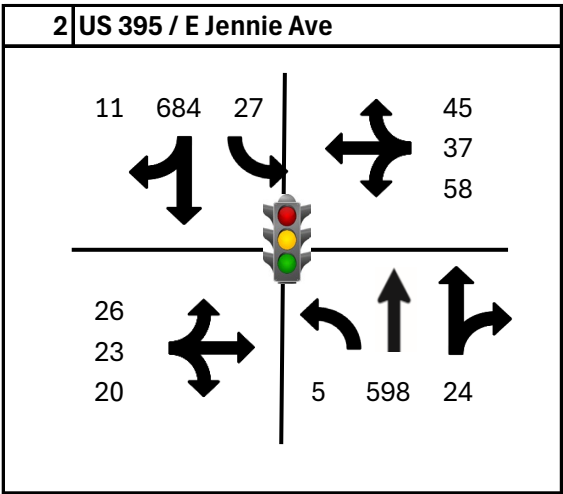
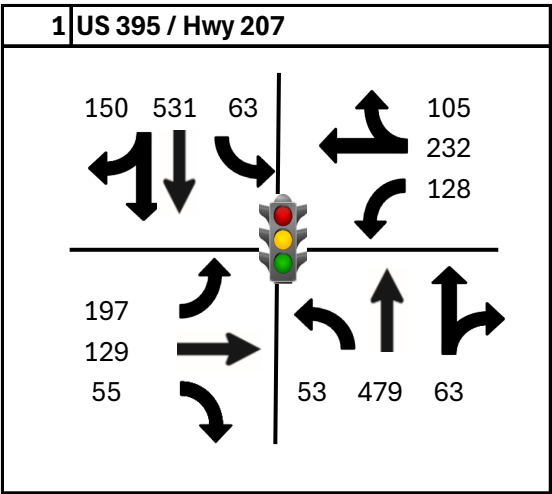
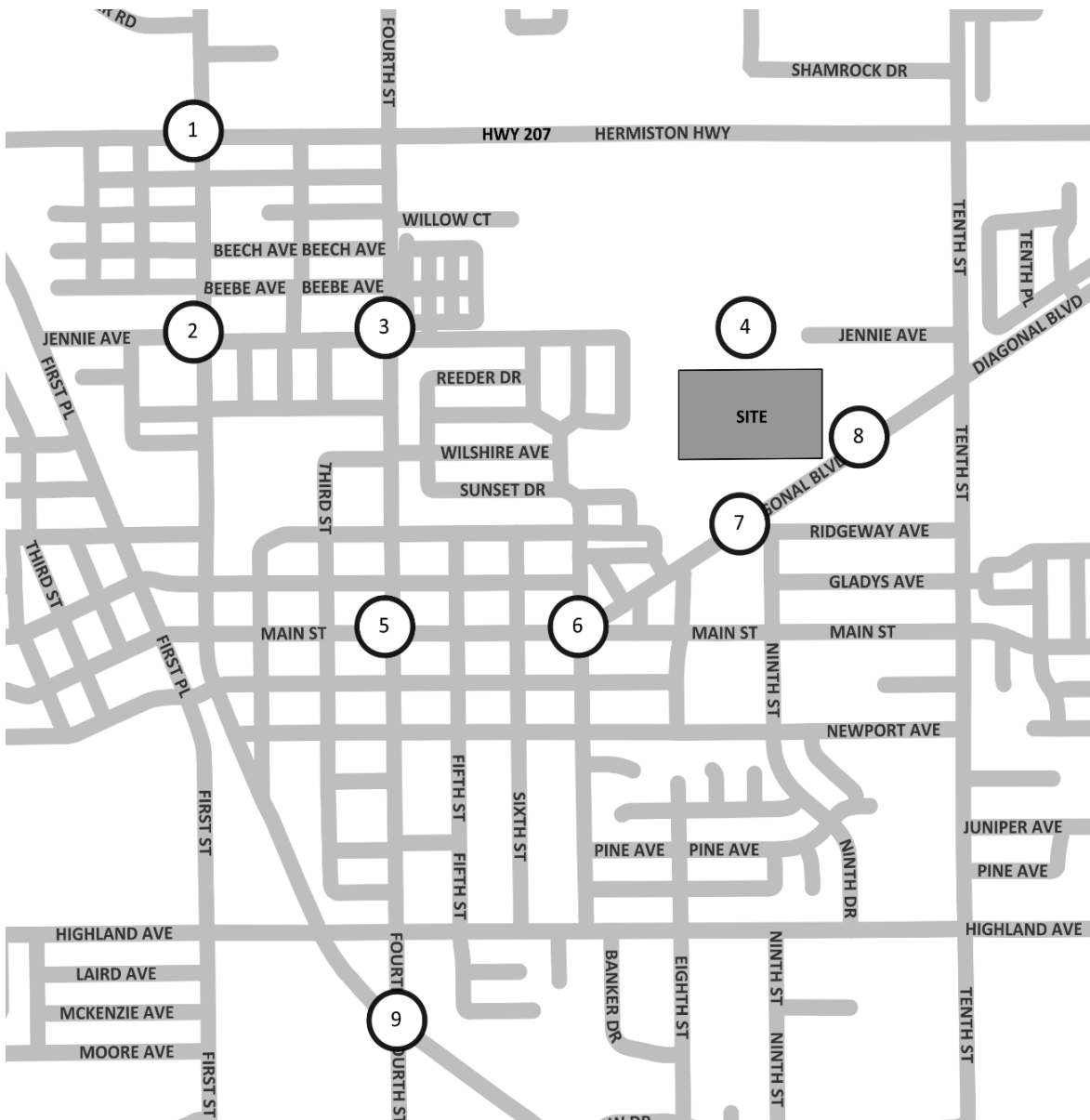
⁴ Highway Capacity Manual 6th Edition: A Guide for Multimodal Mobility Analysis, Transportation Research Board, Washington DC, 2016.

Key Findings

Key findings associated with the proposed development include the following items:

- The proposed development would generate 109 (27 in, 82 out) AM peak hour trips and 140 (87 in, 53 out) PM peak hour trips.
- All study intersections are expected to operate within mobility standards with the addition of the proposed site for the 2026 opening year for the AM and PM peak hours.

Figure 9: 2026 Total Volumes AM Peak Hour



* denotes movement to/from Diagonal Blvd

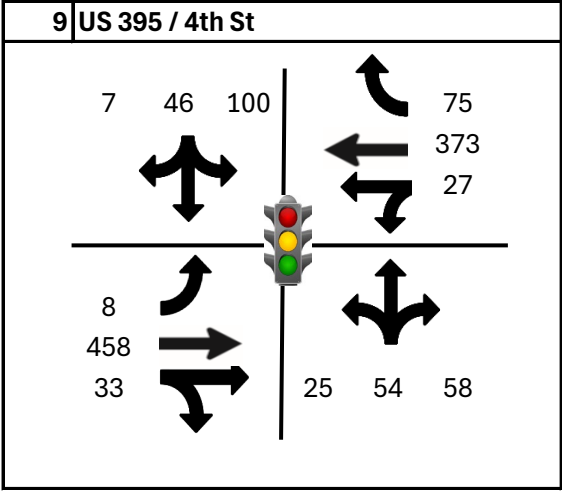
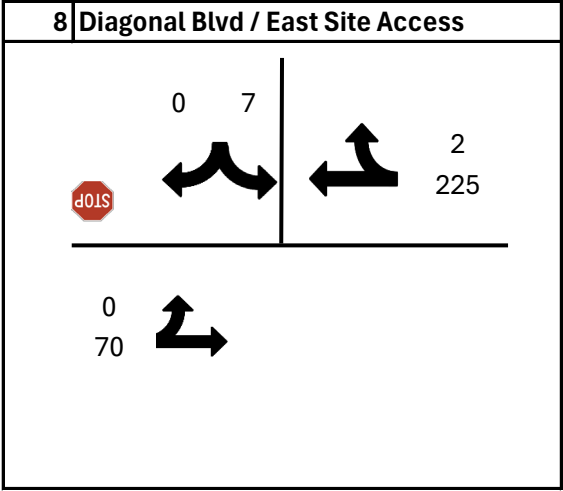
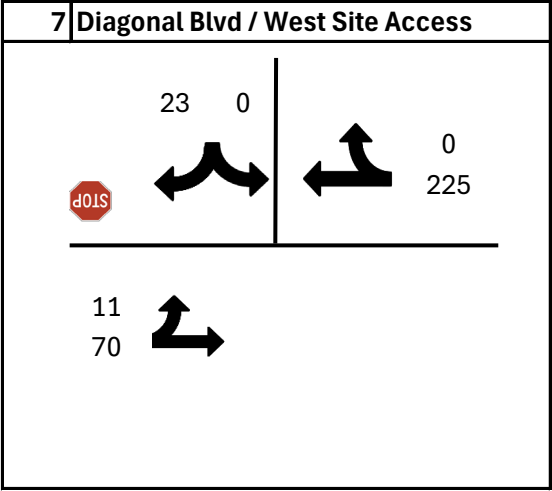
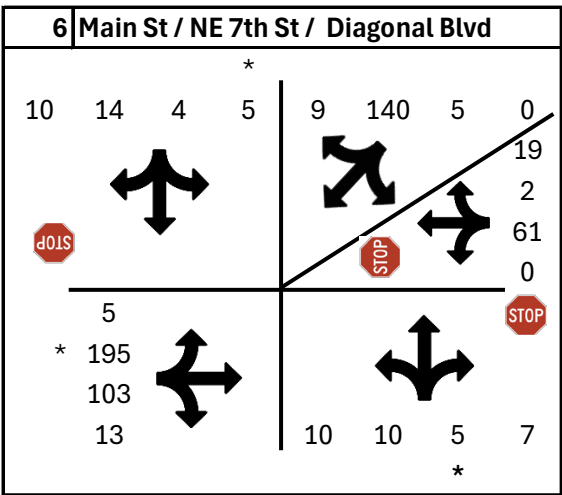
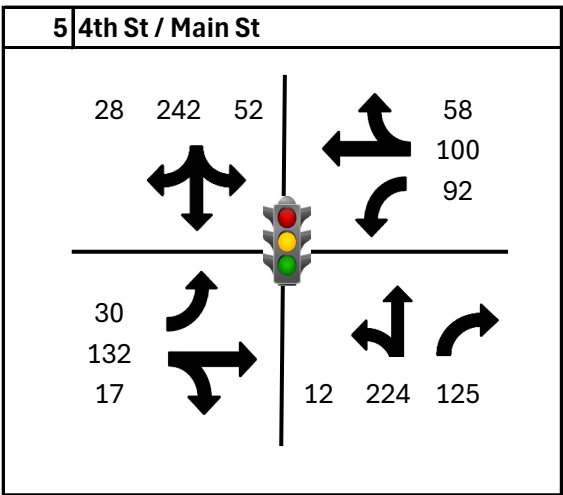
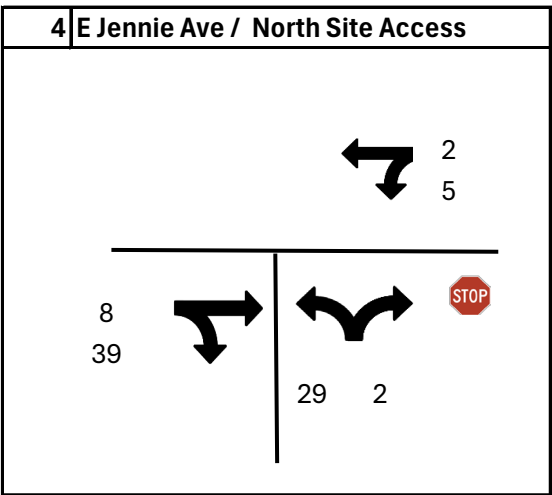
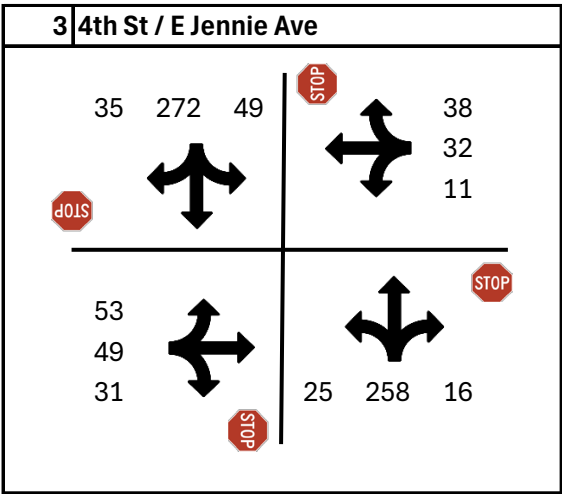
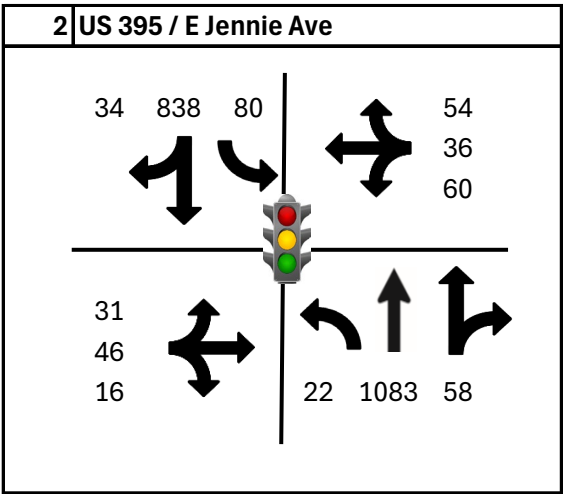
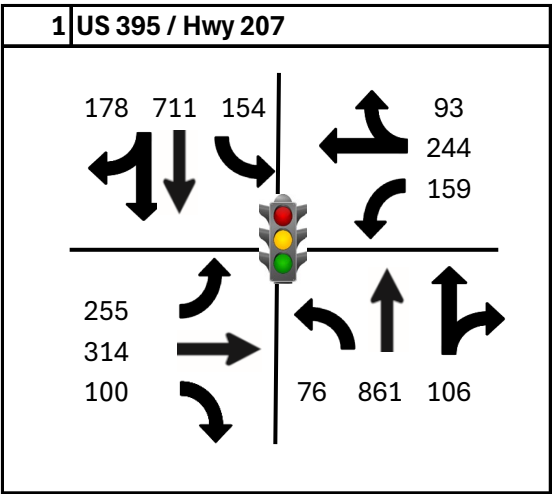
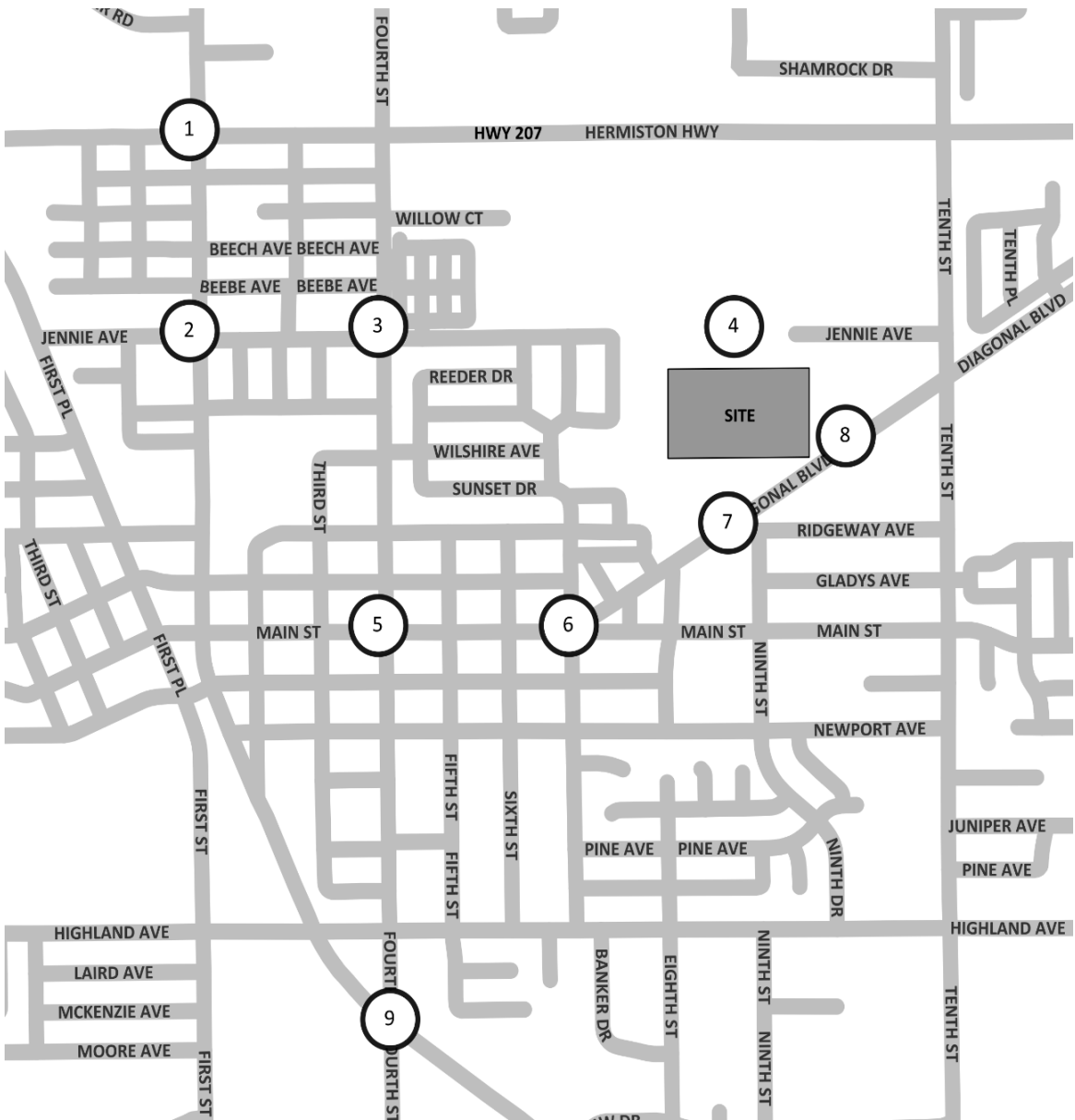


Figure10: 2026 Total Volumes PM Peak Hour



* denotes movement to/from Diagonal Blvd

